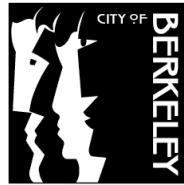


AGENDA



BERKELEY CITY COUNCIL MEETING

Tuesday, December 3, 2019

6:00 PM

SCHOOL DISTRICT BOARD ROOM - 1231 ADDISON STREET, BERKELEY, CA 94702

JESSE ARREGUIN, MAYOR

Councilmembers:

DISTRICT 1 – RASHI KESARWANI
DISTRICT 2 – CHERYL DAVILA
DISTRICT 3 – BEN BARTLETT
DISTRICT 4 – KATE HARRISON

DISTRICT 5 – SOPHIE HAHN
DISTRICT 6 – SUSAN WENGRAF
DISTRICT 7 – RIGEL ROBINSON
DISTRICT 8 – LORI DROSTE

This meeting will be conducted in accordance with the Brown Act, Government Code Section 54953. Any member of the public may attend this meeting. Questions regarding this matter may be addressed to Mark Numainville, City Clerk, (510) 981-6900.

The City Council may take action related to any subject listed on the Agenda. The Mayor may exercise a two minute speaking limitation to comments from Councilmembers. Meetings will adjourn at 11:00 p.m. - any items outstanding at that time will be carried over to a date/time to be specified.

Preliminary Matters

Roll Call:

Ceremonial Matters: *In addition to those items listed on the agenda, the Mayor may add additional ceremonial matters.*

1. Recognition of Berkeley High School Girls Tennis
2. Recognition of NAACP Youth
3. Recognition of Starry Plough

City Manager Comments: *The City Manager may make announcements or provide information to the City Council in the form of an oral report. The Council will not take action on such items but may request the City Manager place a report on a future agenda for discussion.*

Public Comment on Non-Agenda Matters: *Persons will be selected by lottery to address matters not on the Council agenda. If five or fewer persons submit speaker cards for the lottery, each person selected will be allotted two minutes each. If more than five persons submit speaker cards for the lottery, up to ten persons will be selected to address matters not on the Council agenda and each person selected will be allotted one minute each. Persons wishing to address the Council on matters not on the*

Council agenda during the initial ten-minute period for such comment, must submit a speaker card to the City Clerk in person at the meeting location and prior to commencement of that meeting. The remainder of the speakers wishing to address the Council on non-agenda items will be heard at the end of the agenda. Speaker cards are not required for this second round of public comment on non-agenda matters.

Consent Calendar

The Council will first determine whether to move items on the agenda for “Action” or “Information” to the “Consent Calendar”, or move “Consent Calendar” items to “Action.” Items that remain on the “Consent Calendar” are voted on in one motion as a group. “Information” items are not discussed or acted upon at the Council meeting unless they are moved to “Action” or “Consent”.

No additional items can be moved onto the Consent Calendar once public comment has commenced. At any time during, or immediately after, public comment on Information and Consent items, any Councilmember may move any Information or Consent item to “Action.” Following this, the Council will vote on the items remaining on the Consent Calendar in one motion.

For items moved to the Action Calendar from the Consent Calendar or Information Calendar, persons who spoke on the item during the Consent Calendar public comment period may speak again at the time the matter is taken up during the Action Calendar.

Public Comment on Consent Calendar and Information Items Only: *The Council will take public comment on any items that are either on the amended Consent Calendar or the Information Calendar. Speakers will be entitled to two minutes each to speak in opposition to or support of Consent Calendar and Information Items. A speaker may only speak once during the period for public comment on Consent Calendar and Information items.*

Additional information regarding public comment by City of Berkeley employees and interns: Employees and interns of the City of Berkeley, although not required, are encouraged to identify themselves as such, the department in which they work and state whether they are speaking as an individual or in their official capacity when addressing the Council in open session or workshops.

Consent Calendar

- 1. Amend BMC Chapter 14.52 Adding the North Shattuck Metered Parking Area to the goBerkeley Program**
From: City Manager
Recommendation: Adopt second reading of Ordinance No. 7,679-N.S. amending Berkeley Municipal Code (BMC) Chapter 14.52 to add the North Shattuck metered parking area to the goBerkeley parking program.
First Reading Vote: Ayes – Kesarwani, Davila, Bartlett, Hahn, Wengraf, Robinson, Droste, Arreguin; Noes – None; Abstain – None; Absent – Harrison (recused).
Financial Implications: See report
Contact: Phillip Harrington, Public Works, (510) 981-6300

Consent Calendar

- 2. Emergency Standby Officers for the Mayor and Councilmembers**
From: City Manager
Recommendation: Adopt a Resolution confirming the appointment of Standby Officers for the Mayor and each Councilmember to serve in the event the elected official is unavailable during an emergency, and rescinding Resolution No. 68,454-N.S.
Financial Implications: None
Contact: Mark Numainville, City Clerk, (510) 981-6900
- 3. Contract: Michael Arcega for San Pablo Park Measure T1 Public Art Commission**
From: City Manager
Recommendation: Adopt a Resolution authorizing the City Manager to execute a contract for an amount not to exceed \$210,000, and any amendments thereto, with Michael Arcega for a public art commission for San Pablo Park.
Financial Implications: Measure T1 Bond Fund - \$210,000
Contact: Jordan Klein, Economic Development, (510) 981-7530
- 4. Formal Bid Solicitations and Request for Proposals Scheduled for Possible Issuance After Council Approval on December 3, 2019**
From: City Manager
Recommendation: Approve the request for proposals or invitation for bids (attached to staff report) that will be, or are planned to be, issued upon final approval by the requesting department or division. All contracts over the City Manager's threshold will be returned to Council for final approval.
Financial Implications: Various Funds - \$2,871,500
Contact: Henry Oyekanmi, Finance, (510) 981-7300
- 5. Contract with Berkeley Food & Housing Project**
From: City Manager
Recommendation: Adopt a Resolution authorizing the City Manager or her designee to execute a contract and any amendments with vendor Berkeley Food & Housing Project (BFHP) to provide administrative services for Berkeley Mental Health (BMH) Flexible Spending Programs and the Russell Street Residence through June 30, 2021 in an amount not to exceed \$357,000.
Financial Implications: See report
Contact: Kelly Wallace, Housing and Community Services, (510) 981-5400

Consent Calendar

- 6. Contract Amendment: Bay Area Hearing Voices Network for Hearing Voices Support Groups**
From: City Manager
Recommendation: Adopt a Resolution authorizing the City Manager or her designee to execute a contract and any amendments with vendor Bay Area Hearing Voices Network (BAHVN) to provide Hearing Voices Support Groups through June 30, 2020 in an amount not to exceed \$68,442.
Financial Implications: See report
Contact: Kelly Wallace, Housing and Community Services, (510) 981-5400
- 7. Contract Amendment: Youth Spirit Artworks for Transition Age Youth (TAY) Case Management and Linkage Services**
From: City Manager
Recommendation: Adopt a Resolution authorizing the City Manager or her designee to execute a contract and any amendments with vendor Youth Spirit Artworks (YSA) to provide Transition Age Youth (TAY) case management and linkage services through June 30, 2020 in an amount not to exceed \$100,000.
Financial Implications: \$100,000
Contact: Kelly Wallace, Housing and Community Services, (510) 981-5400
- 8. Contract: Trip Stop Sidewalk Repair, Inc. for FY2020 Sidewalk Inspection and Shaving Services**
From: City Manager
Recommendation: Adopt a Resolution authorizing the City Manager to execute a contract and any amendments, extensions or other change orders with Trip Stop Sidewalk Repair, Inc. for FY2020 Sidewalk Inspection and Shaving Services, Specification No. 20-11345-C; for an amount not to exceed \$450,000.
Financial Implications: See report
Contact: Phillip Harrington, Public Works, (510) 981-6300
- 9. Contract No. 31900082 Amendment: Silva Business Consulting Agreement for Provision of Real Property Management Consulting Services**
From: City Manager
Recommendation: Adopt a Resolution authorizing the City Manager to amend Contract No. 31900082 with David L. Silva d.b.a. Silva Business Consulting for provision of various real property management services, increasing the contract by \$220,000 for a total not to exceed \$270,000. If approved, the amended contract will terminate January 31, 2022 or when funding limit is reached.
Financial Implications: See report
Contact: Phillip Harrington, Public Works, (510) 981-6300

Consent Calendar

- 10. Reimbursement Agreement with Wareham Development for Wareham's Construction of Public Facilities**
From: City Manager
Recommendation: Adopt a Resolution authorizing the City Manager to execute a reimbursement agreement (Attachment 1) and any amendments with Wareham Development for reimbursement of City's share of construction of a traffic signal at the intersection of San Pablo Avenue and Parker Street, and lane re-striping and associated signing and parking restrictions at the intersection of San Pablo Avenue and Dwight Street.
Financial Implications: See report
Contact: Phillip Harrington, Public Works, (510) 981-6300
- 11. Transfer Tax Refund for 1638 Stuart Street**
From: Housing Advisory Commission
Recommendation: The Commission recommends that the City Council authorize the City Manager to grant a transfer tax refund of an estimated \$10,260 to the Bay Area Community Land Trust (BACLT) refund in support of the renovation of 1638 Stuart Street and BACLT's operation of the property as affordable housing.
Financial Implications: See report
Contact: Amy Davidson, Commission Secretary, (510) 981-5400
- 12. Authorization for Additional Public Works Commission Meeting in 2019**
From: Public Works Commission
Recommendation: Adopt a Resolution authorizing one additional meeting of the Public Works Commission Meeting in 2019.
Financial Implications: None
Contact: Nisha Patel, Commission Secretary, (510) 981-6300

Council Consent Items

- 13. Reaffirming the Arctic National Wildlife Refuge Resolution**
From: Mayor Arreguin and Councilmembers Hahn, Wengraf, and Davila
Recommendation: Adopt a Resolution reaffirming Berkeley's position as supporting the preservation of the Arctic National Wildlife Refuge and refrain the City from conducting business with companies that purchases, leases, or develops oil fields within the Refuge.
Financial Implications: None
Contact: Jesse Arreguin, Mayor, (510) 981-7100

Council Consent Items

- 14. Reappointment of Dr. P. Robert Beatty to the Alameda County Mosquito Abatement District Board of Trustees**
From: Mayor Arreguin
Recommendation: Adopt a Resolution reappointing Dr. P. Robert Beatty to the Board of Trustees of the Alameda County Mosquito Abatement District for a two-year term ending on January 1, 2022.
Financial Implications: None
Contact: Jesse Arreguin, Mayor, (510) 981-7100
- 15. Oppose the Transportation and Handling of Coal and Petcoke in Our Communities**
From: Councilmembers Davila, Hahn, and Harrison
Recommendation: Adopt a resolution opposing the transportation of coal through our community and send a Letter to the Richmond and Oakland City Councils, including California State Assemblymember Buffy Wicks and State Senator Nancy Skinner, in support of their efforts for a No Coal ordinance.
Financial Implications: None
Contact: Cheryl Davila, Councilmember, District 2, (510) 981-7120
- 16. Adopt an Ordinance adding a new Chapter 9.50 to the Berkeley Municipal Code Requiring Legal Rights for Legal Tender** *(Reviewed by the Land Use, Housing & Economic Development Policy Committee)*
From: Councilmembers Harrison, Hahn, Davila, and Bartlett
Recommendation: Adopt an ordinance adding a new Chapter 9.50 to the Berkeley Municipal Code requiring legal rights for legal tender, requiring that all covered businesses accept cash.
Financial Implications: See report
Contact: Kate Harrison, Councilmember, District 4, (510) 981-7140
- 17. Berkeley Public Library Foundation 18th Annual Authors Dinner: Relinquishment of Council Office Budget Funds to General Fund and Grant of Such Funds**
From: Councilmembers Hahn, Wengraf, Davila, and Mayor Arreguin
Recommendation: Adopt a resolution approving the expenditure of an amount not to exceed \$600 per Councilmember, including \$100 from Councilmember Hahn, to the Berkeley Public Library Foundation's 18th Annual Authors Dinner with funds relinquished to the City's general fund for this purpose from the discretionary Council office budget of Councilmember Hahn, and any other Councilmembers who would like to contribute. The Berkeley Public Library Foundation raises funds to support and enhance facilities, programs and services of the Berkeley Public Library. Proceeds from this event will subsidize library programs and fulfill the municipal public purpose of the library.
Financial Implications: See report
Contact: Sophie Hahn, Councilmember, District 5, (510) 981-7150

Council Consent Items

18. Urging the CPUC to Address Its Failure of Oversight and to Transform PG&E Into A Mutual Benefit Corporation

From: Councilmembers Robinson, Harrison, Bartlett and Mayor Arreguin

Recommendation: Adopt a resolution urging the California Public Utilities Commission to address past failures of oversight and transform PG&E into a mutual benefit corporation with the long-term goal of public ownership.

Financial Implications: None

Contact: Rigel Robinson, Councilmember, District 7, (510) 981-7170

Action Calendar

The public may comment on each item listed on the agenda for action as the item is taken up. For items moved to the Action Calendar from the Consent Calendar or Information Calendar, persons who spoke on the item during the Consent Calendar public comment period may speak again at the time the matter is taken up during the Action Calendar.

The Presiding Officer will request that persons wishing to speak line up at the podium to determine the number of persons interested in speaking at that time. Up to ten (10) speakers may speak for two minutes. If there are more than ten persons interested in speaking, the Presiding Officer may limit the public comment for all speakers to one minute per speaker. Speakers are permitted to yield their time to one other speaker, however no one speaker shall have more than four minutes. The Presiding Officer may, with the consent of persons representing both sides of an issue, allocate a block of time to each side to present their issue.

Action items may be reordered at the discretion of the Chair with the consent of Council.

Action Calendar – Public Hearings

Staff shall introduce the public hearing item and present their comments. This is followed by five-minute presentations each by the appellant and applicant. The Presiding Officer will request that persons wishing to speak, line up at the podium to be recognized and to determine the number of persons interested in speaking at that time.

Up to ten (10) speakers may speak for two minutes. If there are more than ten persons interested in speaking, the Presiding Officer may limit the public comment for all speakers to one minute per speaker. Speakers are permitted to yield their time to one other speaker, however no one speaker shall have more than four minutes. The Presiding Officer may with the consent of persons representing both sides of an issue allocate a block of time to each side to present their issue.

Each member of the City Council shall verbally disclose all ex parte contacts concerning the subject of the hearing. Councilmembers shall also submit a report of such contacts in writing prior to the commencement of the hearing. Written reports shall be available for public review in the office of the City Clerk.

Action Calendar – Public Hearings

19. Adoption of the 2019 California Fire Code with Local Amendments – Second Reading

From: City Manager

Recommendation: Conduct a public hearing and upon conclusion adopt the second reading of Ordinance No.7,680-N.S. repealing and reenacting the Berkeley Fire Code, including amendments to the California Fire Code as outlined in the proposed ordinance, plus Appendix Chapters B (as amended by BMC 19.48.020, Amendments to the California Fire Code), D, E, F, L (as amended by BMC 19.48.020, Amendments to the California Fire Code) and O published by the International Code Council not included in the California Building Standards Code, as Berkeley Municipal Code Chapter 19.48.

First Reading Vote: All Ayes.

Financial Implications: See report

Contact: David Brannigan, Fire, (510) 981-3473

20. Adoption of Berkeley Building Codes, including Local Amendments to California Building Standards Code

From: City Manager

Recommendation: Conduct a public hearing, and upon conclusion adopt the second reading of Ordinance No. 7,678-N.S. repealing and reenacting the Berkeley Building, Residential, Electrical, Mechanical, Plumbing, Energy and Green Building Standards Codes in BMC Chapters 19.28, 19.29, 19.30, 19.32, 19.34, 19.36 and 19.37, and adopting related procedural and stricter provisions.

First Reading Vote: All Ayes.

Financial Implications: See report

Contact: Timothy Burroughs, Planning and Development, (510) 981-7400

21. Milvia Bikeway Project Conceptual Design

From: City Manager

Recommendation: Conduct a public hearing and upon conclusion, adopt a Resolution approving the conceptual design of the Milvia Bikeway Project, including installation of a protected bikeway and the removal or modification of traffic lanes and on-street parking, and specified changes from two-way to one-way traffic operations, as necessary, and directing the City Manager to direct staff to proceed with the detailed engineering design of the project.

Financial Implications: None

Contact: Phillip Harrington, Public Works, (510) 981-6300

Action Calendar – Old Business

- 22. Surveillance Technology Report, Surveillance Acquisition Report, and Surveillance Use Policy for Automatic License Plate Readers, GPS Trackers, and Body Worn Cameras** *(Item contains supplemental materials. Item continued from November 12, 2019)*
From: City Manager
Recommendation: Adopt a Resolution accepting the Surveillance Technology Report, Surveillance Acquisition Report, and Surveillance Use Policy for Automatic License Plate Readers, GPS Trackers, and Body Worn Cameras submitted pursuant to Chapter 2.99 of the Berkeley Municipal Code.
Financial Implications: None
Contact: Andrew Greenwood, Police, (510) 981-5900; Dave White, City Manager's Office, (510) 981-7000
- 23. City Council Rules of Procedure and Order Revisions** *(Reviewed by the Agenda & Rules Committee. Continued from November 19, 2019. Item contains revised and supplemental material.)*
From: City Manager
Recommendation: Adopt a Resolution revising the City Council Rules of Procedure and Order to integrate the previously adopted regulations for policy committees and make associated changes to other sections; update outdated references and practices; conform to the Open Government Ordinance; make other technical corrections; and rescinding any preceding amendatory resolutions.
Financial Implications: None
Contact: Mark Numainville, City Clerk, (510) 981-6900
- 24. FY 2019 Year-End Results and FY 2020 First Quarter Budget Update** *(Continued from November 19, 2019)*
From: City Manager
Recommendation: Discuss and determine funding allocations for FY 2020 based on the FY 2019 General Fund Excess Equity and Excess Property Transfer Tax for the following: 1) the General Fund Reserves 2) the Mayor's June 25, 2019, Supplemental Budget Recommendations approved by the Council and 3) the Council's Budget Referrals approved during FY 2020 to be considered in November 2019.
Financial Implications: See report
Contact: Teresa Berkeley-Simmons, Budget Manager, (510) 981-7000

Action Calendar – Old Business

- 25. Amendment: FY 2020 Annual Appropriations Ordinance** *(Continued from November 19, 2019)*
From: City Manager
Recommendation: Adopt first reading of an Ordinance amending the FY 2020 Annual Appropriations Ordinance No. 7,669–N.S. for fiscal year 2020 based upon recommended re-appropriation of committed FY 2019 funding and other adjustments authorized since July 1, 2019, in the amount of \$136,730,924 (gross) and \$130,267,144 (net).
Financial Implications: See report
Contact: Teresa Berkeley-Simmons, Budget Manager, (510) 981-7000
- 26. goBerkeley Residential Shared Parking Pilot Project Update** *(Continued from November 19, 2019)*
From: City Manager
Recommendation: Receive a presentation providing an update on the Residential Shared Parking Pilot project, and offer any comments to staff on the implementation of the project.
Financial Implications: None
Contact: Phillip Harrington, Public Works, (510) 981-6300
- 27a. Recommendations for Allocation of FY19/20 Measure P Funds** *(Continued from November 19, 2019)*
From: Homeless Services Panel of Experts
Recommendation: Approve recommendations for the allocation of FY19/20 General Funds at least commensurate with resources accrued to date from the passage of Measure P. Refer to the City Manager to produce data regarding the percentage of those transported with County Emergency Mental Health Transport who are homeless, and other sources that could be used to cover this cost.
Financial Implications: See report
Contact: Peter Radu, Commission Secretary, (510) 981-5400

Action Calendar – Old Business

27b. **Companion Report: Recommendations for Allocation of FY19/20 Measure P Funds** *(Continued from November 19, 2019)*

From: City Manager

Recommendation: The City Manager recommends that Council:

1. Approve the Homeless Services Panel of Experts' recommendation for the allocation of FY20 General Funds (Measure P) in the following investment areas: a. Immediate Street conditions & Hygiene; b. Flexible Housing Subsidies; and c. Infrastructure. For any allocation of "Flexible Housing Subsidies" to families, limit eligibility to those who are imminently at-risk of homelessness, and allow the City Manager to sole-source contracts for the implementation of these subsidies.
2. Refer discussion of the recommendations pertaining to the following areas to the Council Budget & Finance Policy Committee: a. Permanent Housing, b. Shelter & Temporary Accommodations, and c. Supportive Services. The City Manager recommends that the Policy Committee consider the following pertaining to these funding areas: - Allow the "permanent subsidies" allocation to fund tenancy sustaining services, and dedicate 10% of total funding to homeless families. - Allow the "Shelter and temporary accommodations" allocation to fund the creation of new programs (including for new RV parking programs) or maintenance of existing shelter programs funded by HEAP, when that funding is exhausted. - Authorize the City Manager to award any funding for shelter expansion and tenancy sustaining services to agencies that have already responded to the FY20-23 Community Agency Request for Proposals (RFP). - Authorize the City Manager to release one or more RFPs for an RV parking program that would require a non-profit operator and for any supportive services including street medicine, substance abuse treatment or mental health outreach.

Financial Implications: See report

Contact: Kelly Wallace, Housing and Community Services, (510) 981-5400

Action Calendar – New Business

28. **Recommendation to Immediately Fund and Implement the Safe Passages Program and Additional Actions to Ensure Emergency Equipment Access to All Parts of the City**

From: Disaster and Fire Safety Commission

Recommendation: The recommendation as stated above from the Disaster and Fire Safety Commission (DFSC) to the Council includes the following seven components:

1. Allocate full funding of the Fire Department's Safe Passages Program;
2. Initiate immediate action;
3. Recognize that parking restrictions are necessary on some streets for the health and well-being of Berkeley residents;
4. Establish priorities for enacting parking restrictions;
5. Develop a departmental coordinated team effort;
6. Inform the public; and
7. Document and distribute the extent of the access and egress problem.

Financial Implications: See report

Contact: Keith May, Commission Secretary, (510) 981-3473

Action Calendar – New Business

- 29a. Taxi scripts to be provided to residents of Pathways/the STAIR Center**
From: Homeless Commission
Recommendation: The Homeless Commission recommends that taxi scripts be provided to persons referred to Pathways/ the STAIR Center and that continued taxi scripts be provided to Pathways/STAIR residents, during their stay, in order to insure safe, accessible transport.
Alternatively, the Commission recommends that transportation arrangements be made with ride share services such as Lyft or Uber, or a public shuttle system coordinated by the City of Berkeley and Alameda County.
Financial Implications: See report
Contact: Peter Radu, Commission Secretary, (510) 981-5400
- 29b. Companion Report: Taxi scripts to be provided to residents of Pathways/the STAIR Center**
From: City Manager
Recommendation: The City Manager will ensure that STAIR Center staff are incorporating applications and access to existing community transportation programs, such as East Bay Paratransit and Berkeley Rides for Seniors and the Disabled, into routine provision of services to mobility-impaired STAIR guests.
Financial Implications: Staff time
Contact: Kelly Wallace, Housing and Community Services, (510) 981-5400
- 30a. Public Works Commission Recommendation for the Five-Year Paving Plan**
From: Public Works Commission
Recommendation: Adopt a resolution that recommends approval of the Five-Year Paving Plan for FY2020 to FY2024 as proposed by Staff and recommends the creation of a Long-Term Paving Master Plan.
Financial Implications: See report.
Contact: Nisha Patel, Commission Secretary, (510) 981-6300
- 30b. Companion Report: Public Works Commission Recommendation for the Five-Year Street Rehabilitation Plan**
From: City Manager
Recommendation: Adopt a Resolution updating the City's Five-Year Street Rehabilitation Plan for FY 2020 to FY 2024 and refer to the City Manager consideration of a Long-Term Paving Master Plan to be started after the completion of the public process of T1 Phase 2. The City Council may consider the information put forth by the Public Works Commission relevant to adoption of the recommended plan.
Financial Implications: See report
Contact: Phillip Harrington, Public Works, (510) 981-6300

Council Action Items

31. **Considering Multi-year Bidding Processes for Street Paving** *(Reviewed by the Facilities, Infrastructure, Transportation, Environment & Sustainability Committee)*
From: Mayor Arreguin, Councilmembers Hahn, Harrison, and Davila
Recommendation: 1. Restate the recommendation approved at the December 11, 2018 Council meeting to create a two-year bidding process for street paving to realize savings by (a) reducing by 50% City staff time devoted to bidding and contracting processes over each two year period and (b) benefitting from reduced pricing which may be available for larger contracts that offer greater economies of scale and reduce contractors' bidding and contracting costs.
2. Short-term referral to the City Manager to explore the possibility, feasibility, costs, and benefits of bidding in increments of up to 5 years to encompass entire 5-year paving plans, or other ideas to more rationally and cost-effectively align the paving plan with budget cycles and reduce costs associated with frequent bid cycles for relatively small contracts.
Financial Implications: See report
Contact: Jesse Arreguin, Mayor, (510) 981-7100

Information Reports

32. **Condominium Conversion Program – Annual Report**
From: City Manager
Contact: Kelly Wallace, Housing and Community Services, (510) 981-5400
33. **Small Sites Program Update**
From: City Manager
Contact: Kelly Wallace, Housing and Community Services, (510) 981-5400
34. **Equal Pay: Classification and Compensation Process City Employees**
From: City Manager
Contact: LaTanya Bellow, Human Resources, (510) 981-6800
35. **LPO NOD: 1581 Le Roy/#LMSAP2019-0004**
From: City Manager
Contact: Timothy Burroughs, Planning and Development, (510) 981-7400
36. **LPO NOD: 2234 Haste Street/#LMSAP2016-0002**
From: City Manager
Contact: Timothy Burroughs, Planning and Development, (510) 981-7400

Public Comment – Items Not Listed on the Agenda

Adjournment

NOTICE CONCERNING YOUR LEGAL RIGHTS: *If you object to a decision by the City Council to approve or deny a use permit or variance for a project the following requirements and restrictions apply: 1) No lawsuit challenging a City decision to deny (Code Civ. Proc. §1094.6(b)) or approve (Gov. Code 65009(c)(5)) a use permit or variance may be filed more than 90 days after the date the Notice of Decision of the action of the City Council is mailed. Any lawsuit not filed within that 90-day period will be barred. 2) In any lawsuit that may be filed against a City Council decision to approve or deny a use permit or variance, the issues and evidence will be limited to those raised by you or someone else, orally or in writing, at a public hearing or prior to the close of the last public hearing on the project.*

Live captioned broadcasts of Council Meetings are available on Cable B-TV (Channel 33), via internet accessible video stream at <http://www.cityofberkeley.info/CalendarEventWebcastMain.aspx> and KPFB Radio 89.3.

Archived indexed video streams are available at <http://www.cityofberkeley.info/citycouncil>. Channel 33 rebroadcasts the following Wednesday at 9:00 a.m. and Sunday at 9:00 a.m.

Communications to the City Council are public record and will become part of the City's electronic records, which are accessible through the City's website. **Please note: e-mail addresses, names, addresses, and other contact information are not required, but if included in any communication to the City Council, will become part of the public record.** If you do not want your e-mail address or any other contact information to be made public, you may deliver communications via U.S. Postal Service or in person to the City Clerk Department at 2180 Milvia Street. If you do not want your contact information included in the public record, please do not include that information in your communication. Please contact the City Clerk Department for further information.

Any writings or documents provided to a majority of the City Council regarding any item on this agenda will be made available for public inspection at the public counter at the City Clerk Department located on the first floor of City Hall located at 2180 Milvia Street as well as posted on the City's website at <http://www.cityofberkeley.info>.

Agendas and agenda reports may be accessed via the Internet at <http://www.cityofberkeley.info/citycouncil> and may be read at reference desks at the following locations:

City Clerk Department
2180 Milvia Street
Tel: 510-981-6900
TDD: 510-981-6903
Fax: 510-981-6901
Email: clerk@cityofberkeley.info

Libraries:
Main - 2090 Kittredge Street
Claremont Branch – 2940 Benvenue
West Branch – 1125 University
North Branch – 1170 The Alameda
South Branch – 1901 Russell

COMMUNICATION ACCESS INFORMATION:

This meeting is being held in a wheelchair accessible location.

To request a disability-related accommodation(s) to participate in the meeting, including auxiliary aids or services, please contact the Disability Services specialist at (510) 981-6418 (V) or (510) 981-6347 (TDD) at least three business days before the meeting date.

Attendees at public meetings are reminded that other attendees may be sensitive to various scents, whether natural or manufactured, in products and materials. Please help the City respect these needs.



Captioning services are provided at the meeting, on B-TV, and on the Internet. In addition, assisted listening devices for the hearing impaired are available from the City Clerk prior to the meeting, and are to be returned before the end of the meeting.

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*I hereby certify that the agenda for this meeting of the Berkeley City Council was posted at the display case located near the walkway in front of the Maudelle Shirek Building, 2134 Martin Luther King Jr. Way, as well as on the City's website, on November 21, 2019.*



Mark Numainville, City Clerk

## Communications

*Council rules limit action on Communications to referral to the City Manager and/or Boards and Commissions for investigation and/or recommendations. All communications submitted to Council are public record. Copies of individual communications are available for viewing at the City Clerk Department and through [Records Online](#).*

### **Item 21: Recommendation to Immediately Fund and Implement the Safe Passages Program and Additional Actions to Ensure Emergency Equipment Access to All Parts of the City**

1. David Levy

#### **Healthy Checkout**

2. Katrina Peters, on behalf of the Alameda-Contra Costa Medical Association
3. Janus Norman, on behalf of the California Medical Association

#### **PG&E Public Safety Power Shutoff**

4. Maxina Ventura

#### **Fair Housing Measure**

5. Joel Gerwein

#### **Cal Student Safety**

6. Karen Thornton
7. Elise Wing
8. Qiang Lu
9. Ningyan Fang
10. Seema Varma
11. Alisa Bunnapradist
12. Yan Ye
13. Charleson Liu & Vicky Li
14. Mbaporia@
15. Sue-z Lopez

#### **Police Review Commission Charter**

16. Marc Staton

17. Rani Cochran

**Honesty at ZAB Meetings**

18. Janis Ching (2)

**Indigenous Peoples Festival Grant**

19. Indigenous Peoples Day Committee

**#WhereDoWeGoBerk**

20. Margy Wilkinson

**Cashless Businesses**

21. Carol Denney

**Collision at Shattuck and Woolsey**

22. Sallie Hannarhyne

23. Audrey Ichinose

**Homelessness, Encampments and RV's**

24. Summi Kaipa

25. 311 Customer Service

26. Sage Linda Spatz

27. Carole Kennerly

28. Isabelle Gaston

**5G and Wireless**

29. Meaveen O'Connor

30. Phoebe Anne Sorgen (2)

31. Arthur Stopes III

32. Brent Green

**Community Choice Electricity**

33. Thomas Lord

**Game Day Parking**

34. Sam Nickelsen

**Harriet Tubman Terrace Safety**

35. Harriet Tubman Tenant Council Steering Committee

36. Councilmember Bartlett

**Telegraph Avenue Restroom**

37. Gabriel Brugger

**Housing Framework**

38. Katharine Bierce



39. Josh Daniels, Chair, Measure O Bond Oversight Commission

**Greenway Vision Plan**

40. Pam Speich (2)

**Criminal Checks on Rental Forms**

41. Pam Speich

42. Bryce Nesbitt

**ZAB – Bachesso Property**

43. Esther Lerman

**Fossil Fuel Free Berkeley**

44. Ben Paulos

**Funding for the Arts**

45. Janice Murota

**E-Bikes**

46. Tom Lent

**Codornices Creek Fence**

47. Susan Schwartz, on behalf of Friends of Five Creeks

**Bicyclist Policy**

48. George Saksa

**Supplemental Communications and Reports**

*Items received by the deadlines for submission will be compiled and distributed as follows. If no items are received by the deadline, no supplemental packet will be compiled for said deadline.*

- **Supplemental Communications and Reports 1**  
Available by 5:00 p.m. five days prior to the meeting.
- **Supplemental Communications and Reports 2**  
Available by 5:00 p.m. the day before the meeting.
- **Supplemental Communications and Reports 3**  
Available by 5:00 p.m. two days following the meeting.



## ORDINANCE NO. 7,679-N.S.

AMENDING BERKELEY MUNICIPAL CODE CHAPTER 14.52 TO ADD METERS IN  
NORTH SHATTUCK COMMERCIAL AREA TO GOBERKELEY PROGRAM

BE IT ORDAINED by the Council of the City of Berkeley as follows:

Section 1. That Berkeley Municipal Code Chapter 14.52.010 is amended to read as follows:

**14.52.010 Parking meter zones.**

A. Parking meter zones are those streets or portions of streets in the City hereinafter described as zones within which the parking of motor vehicles shall be controlled, regulated and inspected with the aid of parking meters, pay-and-display stations and/or a City-approved software application that processes pay-by-phone payments from a mobile phone, consisting of:

Acton Street, both sides, from 150 feet north of University Avenue to University Avenue.  
 Adeline Street, east side, from Ward to Stuart Street.  
 Adeline Street, both sides, from Stuart Street to Oregon Street.  
 Adeline Street, east side, from Oregon Street to Russell Street.  
 Adeline Street, both sides, from Russell Street to Ashby Avenue.  
 Alcatraz Avenue, south side, from 75 feet east of College Avenue to College Avenue.  
 Ashby Avenue, both sides, from Domingo Avenue to Claremont Avenue.  
 Blake Street, both sides, from Telegraph Avenue to 125 feet west of Telegraph Avenue.  
 Bonar Street, east side, from University Avenue to 150 feet south of University Avenue.  
 Bonar Street, west side, from University Avenue to Addison Street.  
 California Street, both sides, from 100 feet north of University Avenue to 100 feet south of University Avenue.  
 Camelia Street, north side, from Ninth Street to Tenth Street.  
 Camelia Street, north side, from San Pablo Avenue to 100 feet west of San Pablo Avenue.  
 Claremont Avenue, east side, from Russell Street to Ashby Avenue.  
 Claremont Avenue, west side, from Russell Street to Claremont Boulevard.  
 Colby Street, west side, from Webster Street to South Hospital Drive.  
 College Avenue, east side, from 150 feet north of Alcatraz Avenue to Berkeley-Oakland city limits south of Alcatraz Avenue.  
 College Avenue, west side, from Alcatraz Avenue to Berkeley-Oakland city limit, south of Alcatraz Avenue.  
 Colusa Avenue, east side, from 225 feet south of Solano Avenue to Catalina Avenue.  
 Colusa Avenue, west side, from 180 feet south of Solano Avenue to Catalina Avenue.  
 Curtis Street, both sides, from 100 feet north of University Avenue to University Avenue.  
 Derby Street, north side, from 150 feet east of Telegraph Avenue to 50 feet west of Telegraph Avenue.  
 Derby Street, south side, from 150 feet east of Telegraph Avenue to Telegraph Avenue.  
 Derby Street, south side from Milvia Street to 300 feet east of Milvia Street.  
 Domingo Avenue, both sides, from Berkeley-Oakland city limit to Ashby Avenue.

Dwight Way, north side, from San Pablo Avenue extending 40 feet east of San Pablo Avenue.

Ensenada Avenue, east side, from 90 feet south of Solano Avenue, to 66 feet north of Solano Avenue.

Fresno Avenue, east side, from 69 feet south of Solano Avenue to Solano Avenue.

Grayson Street, south side, from San Pablo Avenue extending 60 feet west of San Pablo Avenue.

Grove Street, both sides, from Allston Way to Berkeley Way.

Hearst Avenue, north side, from Third Street to Fifth Street.

Hearst Avenue, south side, from Third Street to Sixth Street.

McKinley Avenue, east side, from approximately 110 feet from Allston Way to 155 feet, Monday through Friday, nine a.m. to six p.m.

Milvia Street, east side from Derby Street to Ward Street.

Modoc Street, east side, from 90 feet south of Solano Avenue to Solano Avenue.

Modoc Street, west side, from 66 feet south of Solano Avenue to Solano Avenue.

Oregon Street, north side, from 75 feet east of Telegraph Avenue to 50 feet west of Telegraph Avenue.

Oregon Street, south side, from 175 feet east of Telegraph Avenue to Telegraph Avenue.

Oregon Street, both sides, from Adeline Street to Shattuck Avenue.

Page Street, north side, from San Pablo Avenue to Tenth Street.

Pardee Street, south side, from San Pablo Avenue extending 60 feet west of San Pablo Avenue.

Parker Street, both sides, from 200 feet west of Regent Street to 100 feet west of Telegraph Avenue.

Peralta Avenue, both sides, from Solano Avenue to Capistrano Avenue.

Regent Street, west side, from Ashby Avenue to South Hospital Drive.

Regent Street, east side, from Ashby Avenue to 125 feet south of Webster Street.

Russell Street, south side, from 75 feet east of Telegraph Avenue to 100 feet west of Telegraph Avenue.

San Pablo Avenue, both sides, from Hearst Avenue to Allston Way.

San Pablo Avenue, both sides, from Harrison Street to Gilman Street.

San Pablo Avenue, east side, from Gilman Street to Camelia Street.

San Pablo Avenue, both sides, from Camelia Street to Virginia Street.

San Pablo Avenue, both sides, from Virginia Street to Delaware Street.

San Pablo Avenue, both sides, from Delaware Street to Hearst Avenue.

San Pablo Avenue, both sides, from Allston Way to Channing Way.

San Pablo Avenue, east side, from Channing Way to Parker Street.

San Pablo Avenue, both sides, from Parker Street to Heinz Street.

San Pablo Avenue, east side, from Russell Street to Burnett Street.

San Pablo Avenue, west side, from Bancroft Way to Ashby Avenue.

Shattuck Avenue, both sides, from Carleton Street to Ashby Avenue.

Solano Avenue, both sides, from Tulare Avenue to The Alameda.

Solano Avenue, north side, from 140 feet to 184 feet east of The Alameda.

South Hospital Drive, south side, from Colby Street to 75 feet west of Colby Street.

Stuart Street, south side, from 50 feet east of Telegraph Avenue to Telegraph Avenue.

Stuart Street, north side, from Adeline Street to 70 feet east of Shattuck Avenue.

Tacoma Avenue, both sides, from Solano Avenue to 66 feet north of Solano Avenue.  
Telegraph Avenue, west side, from Dwight Way to Prince Street.  
Telegraph Avenue, east side, from Dwight Way to Woolsey Street.  
The Alameda, east side, from Los Angeles Avenue to Solano Avenue.  
Tenth Street, both sides, from Gilman Street to Camelia Street.  
The Alameda, west side, from 220 feet north of Los Angeles Avenue to 90 feet north of Solano Avenue.  
Tulare Avenue, east side, from 90 feet south of Solano Avenue to Solano Avenue.  
University Avenue, both sides, from McGee Avenue to Third Street.  
Ward Street, north side from Milvia Street to 300 feet east of Milvia Street.  
Webster Street, north side, from Bateman Street to Regent Street.  
Webster Street, north side, from Colby Street to 150 feet west of Telegraph Avenue.  
Webster Street, south side, from Colby Street to 100 feet west of Telegraph Avenue.  
Fifth Street, both sides, from Addison Street to Hearst Avenue.  
Fifth Street, west side, from Hearst Street to Virginia Street.  
Fourth Street, east side, from Addison Street to Virginia Street.  
Fourth Street, west side, from Addison Street to Cedar Street.  
Sixth Street, east side, Addison Street to University Avenue.  
Seventh Street, east side, from University Avenue to 150 feet south of University Avenue.  
Eighth Street, west side, from 100 feet north of University Avenue to 200 feet south of University Avenue.  
Ninth Street, west side, from 75 feet north of University Avenue to 150 feet south of University Avenue.  
Ninth Street, east side from Gilman Street to 300 feet north of Gilman Street.  
Tenth Street, east side, from 100 feet north of University Avenue to 100 feet south of University Avenue.  
Tenth Street, west side from Gilman Street to 300 feet north of Gilman Street.

B. goBerkeley Program parking meter zones are those streets or portions of streets in the City located within the goBerkeley Areas hereinafter described as zones within which the parking of motor vehicles shall be controlled, regulated and inspected with the aid of parking meters, pay-and-display stations, and/or a City-approved software application that processes pay-by-phone payments from a mobile phone at fees set in 14.52.120(B):

Addison Street, north side, from Martin Luther King Jr. Way to 170 feet west of Martin Luther King Jr. Way.  
Allston Way, both sides, from Harold Way to Shattuck Avenue.  
Allston way, south side, from Oxford Street to Martin Luther King Jr. Way.  
Ashby Avenue, north side, from College Avenue to Benvenue Avenue.  
Ashby Avenue, south side, from Benvenue Avenue to Elmwood Avenue.  
Ashby Place, east side, from Ashby Avenue to a point 80 feet north of Ashby Avenue.  
Bancroft Way, both sides, from Piedmont Avenue to Fulton Street.  
Bancroft Way, both sides, from Fulton Street to Milvia Street.  
Benvenue Avenue, west side, from Ashby Avenue to 100 feet south of Ashby Avenue.  
Berkeley Way, south side, from Oxford Street to 385 feet west of Shattuck Avenue.  
Berkeley Way, north side, from Oxford Street to Henry Street.

Blake Street, south side, from 80 feet west of Shattuck Avenue to Shattuck Avenue.  
Bonita Avenue, east side, from University Avenue to Berkeley Way.  
Bowditch Street, east side, from Bancroft Way to Dwight Way.  
Center Street, north side, from Oxford Street to Martin Luther King Jr. Way.  
Center Street, south side, from Oxford Street to Martin Luther King Jr. Way.  
Channing Way, north side, from 200 feet west of Dana Street to College Avenue.  
Channing Way, north side, beginning 250 feet west of Shattuck Avenue to Shattuck Avenue.  
College Avenue, east side, from 75 feet south of Webster Street to 175 feet north of Russell Street.  
College Avenue, west side, from 140 feet north of Russell Street to Webster Street.  
College Avenue, east side, from Bancroft Way to 200 feet south of Dwight Way.  
College Avenue, west side, from Bancroft Way to Dwight Way.  
Dana Street, west side, between Bancroft Way and Channing Way.  
Dana Street, west side, from Haste Street to 150 feet south of Haste Street.  
Delaware Street, south side, from Shattuck Avenue to 60 feet east of Shattuck Avenue.  
Durant Avenue, north side, from Ellsworth Street to College Avenue.  
Durant Avenue, south side, from Ellsworth Street to College Avenue.  
Durant Avenue, both sides, from Milvia Street to Fulton Street.  
Dwight Way, both sides, from Milvia Street to Fulton Street.  
Dwight Way, south side, from Hillegass Avenue to Benvenue Street.  
Dwight Way, north side, from 300 feet east of Dana Street to 300 feet east of Telegraph Avenue.  
Dwight Way, south side, beginning 325 feet west of Telegraph Avenue and extending 125 feet east of Regent Street.  
Dwight Way, north side, from Bowditch Street to College Avenue.  
Grant Street, both sides, from 100 feet north of University Avenue to 100 feet south of University Avenue.  
Euclid Avenue, west side, beginning at Hearst Avenue and extending 130 feet north of Ridge Road.  
Euclid Avenue, east side, beginning at Hearst Avenue and extending 135 feet north of Ridge Road.  
Francisco Street, both sides, from Shattuck Avenue to 100 feet west of Shattuck Avenue.  
Fulton Street, both sides, from Bancroft Way to Kittredge Street.  
Fulton Street, west side, beginning at Durant Avenue and extending south for 80 feet.  
Fulton Street, east side, from Bancroft Way to Durant Avenue.  
Harold Way, both sides, from Allston Way to Kittredge Street.  
Haste Street, both sides, from Milvia Street to 250 feet east of Shattuck Avenue.  
Haste Street, north side, from College Avenue to Dana Street.  
Haste Street, south side, beginning 350 feet west of Telegraph Avenue to 300 feet east of Telegraph Avenue.  
Haste Street, south side, from Bowditch Street to College Avenue.  
Hearst Avenue, north side, from Oxford Street to Shattuck Avenue.  
Hearst Avenue, south side, from Shattuck Avenue to Oxford Street  
Hearst Avenue, south side, from Oxford Street to Arch Street  
Hearst Avenue, north side, from Scenic Avenue to LaLoma Avenue.

Hearst Avenue, south side, from Euclid Avenue to Gayley Road.  
Kittredge Street, both sides, from Shattuck Avenue to Oxford Street.  
LaLoma Avenue, both sides, from Hearst Avenue to Ridge Road.  
LeRoy Avenue, both sides, from Hearst Avenue to Ridge Road.  
Lincoln Street, south side, from Shattuck Avenue to 150 feet west of Shattuck Avenue.  
Martin Luther King Jr. Way, both sides, from Center Street to Addison Street.  
Milvia Street, both sides, from Berkeley Way to Addison Street.  
Oxford Street, west side, from Hearst Avenue to University Avenue.  
Ridge Road, north side, beginning 250 feet west of Euclid Avenue and extending 100 feet east of Euclid Avenue.  
Ridge Road, south side, from 250 feet west of Euclid Avenue to LeRoy Avenue.  
Rose Street, north side, from 100 feet east of Shattuck Avenue to 100 feet west of Henry Street.  
Rose Street, south side, from Walnut Street to Shattuck Place.  
Russell Street, north side, from 85 feet east of College Avenue to 175 feet west of College Avenue.  
Russell Street, south side, from 200 feet west of College Avenue to 120 feet east of College Avenue.  
Scenic Avenue, east side, from Hearst Avenue to Ridge Road.  
Shattuck Avenue, east side, from Rose Street to Vine Street.  
Shattuck Avenue, both sides, from 100 feet north of Rose Street to University Avenue.  
Shattuck Avenue, both sides, of the west roadway, from University Avenue to Addison Street (Shattuck Square).  
Shattuck Avenue, both sides, of the east roadway, from University Avenue to Addison Street (Shattuck Square).  
Shattuck Avenue, both sides, of the west roadway, from Addison Street to Center Street (Berkeley Square).  
Shattuck Avenue, both sides, of the east roadway, from Addison Street to Center Street (Berkeley Square).  
Shattuck Place, west side, from Rose Street to Shattuck Avenue.  
University Avenue, both sides, from Oxford Street to McGee Avenue.  
Webster Street, north side, from 125 feet east of College Avenue to 100 feet west of College Avenue.  
Webster Street, south side, from 100 feet west of College Avenue to 125 feet east of College Avenue.  
Addison Street, both sides, from Milvia Street to Oxford Street.  
Allston Way, both sides, from MLK Jr. Way to Oxford Street.  
Berkeley Square, both sides, from Addison Street to Center Street.  
Center Street, both sides, from MLK Jr. Way to Oxford Street.  
Harold Way, both sides, from Allston Way to Kittredge Street.  
Kittredge Street, both sides, from Milvia Street to Shattuck Avenue.  
Milvia Street, east side, from Kittredge Street to Center Street.  
Milvia Street, both sides, from Center Street to Addison Street.  
MLK Jr. Way, both sides, from Center Street to Allston Way.  
Oxford Street, both sides, from University Avenue to Kittredge Street.  
Oxford Street, east side, from Hearst Street to University Avenue.

Parker Street, both sides, from 100 feet west of Shattuck Avenue to Shattuck Avenue.  
Parker Street, north side, from 100 feet east of Shattuck Avenue to Shattuck Avenue.  
Shattuck Avenue, both sides, from Center Street to Carleton Street.  
Telegraph Avenue, both sides, from Dwight Way to Bancroft Way.  
Vine Street, north side, from 75 feet east of Walnut Street to 100 feet east of Henry Street.  
Vine Street, south side, from 100 feet east of Henry Street to 150 feet east of Walnut Street.  
Virginia Street, north side, from 150 feet east of Shattuck Avenue to 150 feet west of Shattuck Avenue.  
Virginia Street, south side, from Shattuck Avenue to 125 feet west of Shattuck Avenue.  
Walnut Street, both sides, from University Avenue to Berkeley Way.  
Walnut Street, west side, from Rose Street to 200 feet south of Vine Street.  
Walnut Street, east side, from 75 feet north of Vine Street to 125 feet south of Vine Street.

C. The City Traffic Engineer shall cause parking meters and pay-and-display stations to be installed and maintained in all parking meter zones and goBerkeley Program parking meter zones.

Section 2. Copies of this Ordinance shall be posted for two days prior to adoption in the display case located near the walkway in front of the Maudelle Shirek Building, 2134 Martin Luther King Jr. Way. Within 15 days of adoption, copies of this Ordinance shall be filed at each branch of the Berkeley Public Library and the title shall be published in a newspaper of general circulation.

At a regular meeting of the Council of the City of Berkeley held on November 12, 2019, this Ordinance was passed to print and ordered published by posting by the following vote:

Ayes: Bartlett, Davila, Droste, Hahn, Kesarwani, Robinson, Wengraf, and Arreguin.

Noes: None.

Recused: Harrison.

Absent: None.





Office of the City Manager

CONSENT CALENDAR  
December 3, 2019

To: Honorable Mayor and Members of the City Council  
From: Dee Williams-Ridley, City Manager  
Submitted by: Mark Numainville, City Clerk  
Subject: Emergency Standby Officers for the Mayor and Councilmembers

RECOMMENDATION

Adopt a Resolution confirming the appointment of Standby Officers for the Mayor and each Councilmember to serve in the event the elected official is unavailable during an emergency, and rescinding Resolution No. 68,454-N.S.

FISCAL IMPACTS OF RECOMMENDATION

None.

CURRENT SITUATION AND ITS EFFECTS

On April 23, 2019, the Council adopted Resolution No. 68,830-N.S. (Attachment 3), updating the procedure for the qualification and nomination of Standby Officers for the Mayor and City Councilmembers in the event of an emergency.

The new policy for standby officers includes the following requirements:

- City government experience.
- Filing of a Form 700 Statement of Economic Interest at the time of nomination.
- Trainings in the following areas (within six months of confirmation): AB1234 (Ethics), Harassment prevention, Brown Act, Conflict of Interest, and roles and responsibilities in an emergency.
- The standby officer be 18 years of age or older and a registered voter.
- No convictions for the crimes of bribery, malfeasance in office, violation of Government Code Section 1090 or the Political Reform Act.

The City Clerk Department and Human Resources Department have all the necessary steps to verify the qualification of the nominated standby officers against the criteria outlined above. The nominees that have completed all the requirements are listed by name in the resolution. In Attachment 1 all nominees are listed by name with the status of their qualification noted.

BACKGROUND

On March 14, 1995, the Council adopted Resolution No. 57,906-N.S., designating a procedure for the selection of Standby Officers for City Councilmembers in the event of an emergency. The original resolution was updated on April 23, 2019 by Resolution No. 68,830-N.S. which updated the qualifications required for standby officers. This procedure is part of the City’s emergency preparedness planning, and ensures that in the case of a disaster or other catastrophic emergency causing the unavailability of one or more members of the Council (or Standby Officers where a Councilmember is unavailable), government can continue to function. Under state law, a Councilmember or Standby Officer is “unavailable” when he or she is “either killed, missing, or so seriously injured as to be unable to attend meetings and otherwise perform his [or her] duties.” (Govt Code § 8636.)

RATIONALE FOR RECOMMENDATION

Councilmembers have nominated their Standby Officers. Pursuant to the Resolution, the City Manager has commenced investigations to determine that each nominee is qualified to serve as a Standby Officer. While the investigations are ongoing, this resolution is being brought forward as an interim update to reflect the nominees that have completed the process.

The Standby Officers are designated numbers 1, 2, or 3, and will serve in that order if the preceding officer or officers are unavailable. The Council is now asked to formally approve the appointment of all Standby Officers, whose names are listed in the attached resolution.

CONTACT PERSON

Mark Numainville, City Clerk, 981-6900

Attachments:

- 1: List of Nominees
- 2: Resolution
- 3: Resolution 68,830-N.S.

## Status of Nominees

### Mayor

1. Linda Maio - complete
2. John Selawsky - complete
3. Gordon Wozniak - complete

### District 1

1. Laurie Capitelli - complete
2. Beth Gerstein - complete
3. Teresa Clarke - complete

### District 2

1. Hatem Bazian - complete
2. Willie Phillips - complete
3. Kinchasa Taylor - incomplete

### District 3

1. Mari Mendonca - incomplete
2. Kathleen Crandall - complete
3. Emily Modde - complete

### District 4

1. Holly Scheider - complete
2. Kelly Hammargren - complete
3. Erin Diehm - complete

### District 5

1. John C. Hitchen - complete
2. Ronnie Cohen - complete
3. David Peattie - incomplete

### District 6

1. Ray Yep - complete
2. Gordon Wozniak - complete
3. Linda Maio - complete

### District 7

1. Solomon Alpert - incomplete
2. Varsha Sarveshwar - complete
3. Timothy Xavier Johnson - complete

### District 8

1. Laurie Capitelli - complete
2. Denise Pinkston - incomplete
3. None Designated

RESOLUTION NO. ##,###-N.S.

CONFIRMING THE APPOINTMENT OF STANDBY OFFICERS AND RESCINDING  
RESOLUTION NO. 68,454-N.S.

WHEREAS, by Resolution No. 57,906-N.S. adopted March 14, 1995, the Council enacted a policy for the appointment of Standby Officers to serve in each Councilmember's place in the event the Councilmember is unavailable during a disaster; and

WHEREAS, each Councilmember has nominated Standby Officers and the City Manager has found all the nominees to be qualified in accordance with the standards set forth in Resolution No. 57,906-N.S.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that the following persons are hereby confirmed as Standby Officers to serve in place of a Councilmember in case the Councilmember is unavailable during a catastrophic emergency, and that they shall serve in the order listed, successive Standby Officers serving only if the preceding officer or officers are unavailable. The definition of "unavailable" shall be as set forth in Government Code Section 8636: an officer is either killed, missing, or so seriously injured as to be unable to attend meetings and otherwise perform his or her duties; or as that Section may be hereafter amended.

For Mayor Jesse Arreguin

1. Linda Maio
2. John Selawsky
3. Gordon Wozniak

For Councilmember Rashi Kesarwani

1. Laurie Capitelli
2. Beth Gerstein
3. Teresa Clarke

For Councilmember Cheryl Davila

1. Hatem Bazian
2. Willie Phillips
3. *Pending*

For Councilmember Ben Bartlett

1. *Pending*
2. Kathleen Crandall
3. Emily Modde

For Councilmember Kate Harrison

1. Holly Scheider
2. Kelly Hammargren
3. Erin Diehm

For Councilmember Sophie Hahn

1. John C. Hitchen
2. Ronnie Cohen
3. *Pending*

For Councilmember Susan Wengraf

1. Ray Yep
2. Gordon Wozniak
3. Linda Maio

For Councilmember Rigel Robinson

1. *Pending*
2. Varsha Sarveshwar
3. Timothy Xavier Johnson

For Councilmember Lori Droste

1. Laurie Capitelli
2. *Pending*
3. None Designated

BE IT FURTHER RESOLVED, that Resolution No. 68,454-N.S. is hereby rescinded.





Office of the City Manager

CONSENT CALENDAR  
December 3, 2019

To: Honorable Mayor and Members of the City Council

From: Dee Williams-Ridley, City Manager

Submitted by: Jordan Klein, Economic Development Manager

Subject: Contract: Michael Arcega for San Pablo Park Measure T1 Public Art Commission

RECOMMENDATION

Adopt a Resolution authorizing the City Manager to execute a contract for an amount not to exceed \$210,000, and any amendments thereto, with Michael Arcega for a public art commission for San Pablo Park.

FISCAL IMPACTS OF RECOMMENDATION

The \$210,000 contract will be funded with Measure T1 bond funds. Funding for public art was set aside in the Measure T1 budget in accordance with Council Resolution 60,048-N.S. Phase one of Measure T1 generated \$350,000 for public art, of which the Civic Arts Commission allocated \$210,000 for implementation of a project to be integrated into the improvements at San Pablo Park.

CURRENT SITUATION AND ITS EFFECTS

The San Pablo Park Public Art Project is a Strategic Plan Priority Project, advancing our goal to provide state-of-the-art, well-maintained infrastructure, amenities, and facilities. San Pablo Park, located at 2800 Park Street between Russell Street and Ward Street, offers a wide range of recreational facilities, including baseball and basketball, open space, play areas for younger children, and more. This park is an important amenity for the community and the City, where people of all ages find opportunities for recreation and enjoyment of the outdoors. San Pablo Park is undergoing renovations, funded by the Measure T1 Bond, to address numerous upgrades to the southern end of the park including improvements to the two play areas and the tennis courts.

As part of these improvements, the City of Berkeley is commissioning a functional artwork for the park. The artwork will help beautify the space and will contribute to the unique identity of the park.

BACKGROUND

A Request for Qualifications was released on September 11, 2018 and was open through October 23, 2018. A selection panel comprised of arts professionals reviewed the qualifications of the 42 applicants and recommended 21 applications to be

presented to the San Pablo Park Public Art Project selection panel, which was comprised of arts professionals, a representative from the Civic Arts Commission, a Public Works Measure T1 project team member, and community representatives. This panel reviewed the qualifications of the 21 artists on the short list and selected four finalists who were invited to develop site specific public art project proposals. The proposals were displayed to gather public comment for two weeks on the City's website and at the Frances Albrier Community Center located in the park. The San Pablo Park Public Art Project selection panel reconvened to evaluate the four proposals and they selected the proposal by Michael Arcega for recommendation to the Civic Arts Commission.

Michael Arcega's proposal to create a series of unique colorful metal benches and decorative elements based upon local flowering plants to be interspersed throughout the southern end of San Pablo Park was approved by the Civic Arts Commission at its meeting on October 23, 2019 (Motion/Second: Anno/Passmore; Ayes: Anno, Blecher, Bullwinkel, Ozol, Passmore, Ross, Slattery; Nays: None; Abstain: None; Absent: Covarrubias, Tamano). The contract with Michael Arcega will be for design development, structural engineering, fabrication, and installation of the artwork at San Pablo Park.

#### ENVIRONMENTAL SUSTAINABILITY

There are no identifiable environmental effects or opportunities associated with the content of this report.

#### RATIONALE FOR RECOMMENDATION

The proposal by Michael Arcega was selected based upon the following criteria: aesthetic quality; appropriateness of the proposed artwork for the site and project goals; demonstrated feasibility of the preliminary proposal and the proposal budget; and demonstrated maintainability and durability of the artworks design, materials, fabrication, and installation methods.

#### ALTERNATIVE ACTIONS CONSIDERED

The selection panel considered two other proposals.

#### CONTACT PERSON

Jordan Klein, Economic Development Manager, (510) 981-7534  
Jennifer Lovvorn, Chief Cultural Affairs Officer, (510) 981-7533

#### Attachments:

1: Artwork Proposal for San Pablo Park by Michael Arcega



RESOLUTION NO. ##,###-N.S.

CONTRACT WITH MICHAEL ARCEGA TO CREATE A PUBLIC ARTWORK FOR SAN PABLO PARK

WHEREAS, The City of Berkeley seeks to engage an artist to create a work of public art at San Pablo Park in conjunction with the Measure T1 infrastructure improvements in order to enhance the facility and expand the community's public art resources; and

WHEREAS, Funding for public art was set aside in the Measure T1 budget in accordance with Council Resolution 60,048-N.S.; and

WHEREAS, A Request for Qualifications from professional practicing artists was released on September 11, 2018 and subsequently 42 submissions were received; and

WHEREAS, A selection panel comprised of arts professionals reviewed the qualifications of the 42 applicants and recommended 21 applications to be presented to the San Pablo Park Public Art Project selection panel, which was comprised of arts professionals, a representative from the Civic Arts Commission, a Public Works Measure T1 project team member, and community representatives; and

WHEREAS, The San Pablo Park Public Art Project selection panel reviewed the qualifications of the 21 artists on the short list and selected four finalists who were invited to develop site specific public art project proposals; and

WHEREAS, The San Pablo Park Public Art Project selection panel reconvened to evaluate the four proposals and they selected the proposal by Michael Arcega for recommendation to the Civic Arts Commission; and

WHEREAS, Michael Arcega's proposal to create a series of unique colorful metal benches and decorative elements based upon local flowering plants to be interspersed throughout the southern end of San Pablo Park was approved by the Civic Arts Commission at its meeting on October 23, 2019.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that the City Manager is authorized to execute a contract and any amendments thereto with Michael Arcega for a public artwork for San Pablo Park for an amount not to exceed \$210,000. A record signature copy of said contract and any amendments are to be on file in the Office of the City Clerk.

**Michael Arcega**  
**Public Art Proposal for San Pablo Park**

***Wildflowers, Bloom!***

Berkeley has long established itself as a leader in Civil Rights and counter-culture movements. Local activists have often used plants as a central component for healing, nurturing, and fostering strength across marginalized groups. ***Wildflowers, Bloom!*** is a simple and elegant theme that celebrates beauty, resistance and community. This artwork highlights endangered and useful flowering plants indigenous to Berkeley giving them a larger than life presence.

We use plant-based metaphors like *Grass-roots, rhizomatic, cultivating, fruitful, blossom, diasporic* and so many more to describe collective efforts and political scenarios. Slogans of resistance like “*They tried to bury us, they didn’t know we were seeds*” are poignant and compelling. We equate plants to empowerment and the potency of community. Wildflowers evoke an unruly beauty that is diverse and stubborn. Like activists, wildflowers embellish humble cracks on sidewalks and enshroud great rolling fields that awe and amaze. They can transform a dreary scene into a heartwarming one. As a metaphor, wildflowers are markers of resistance to homogeneity and colonization.

Rather than a centralized monument, this artwork intersperses San Pablo Park with vibrant color and functional sculptures that invite engagement and dialogue. ***Wildflowers, Bloom!*** is intended to uplift and create a space that honors indigenous land and creates common ground for collective growth. The title is a call to action to be bold, diverse, and wonderful.

The scope of this proposal includes a suite of three elements:

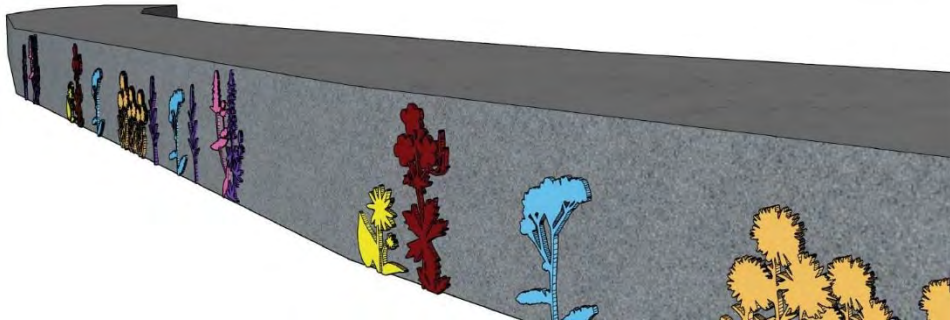
- A) **6 Unique Benches** of notable flowering plants from the area. This is a series of sculptural seating elements to replace the existing benches. Each functional artwork will be double-sided, approximately 8’ wide, 4’ tall, and varying seat depth with a maximum of 2 feet on each side (¾” waterjet cut steel, painted with durable exterior enamel paint).



B) **25 Wildflower Silhouettes** will be installed throughout the park. These will be mounted on fences, posts, gates, directional signage, water fountains, bleachers, and other existing features to carry the native wildflower theme throughout, suggesting a rhizomatic spreading of wildness. With a variety of colors, the silhouettes range from 20" to 30" tall (1/4" waterjet cut steel, painted with durable exterior enamel paint).



C) **1 Seating Wall** with approximately 30 wildflowers. The 14" concrete seating wall will have smaller but more dense arrangements of wildflower silhouettes. They will be attached directly to the concrete. The larger of these silhouettes will be 13" tall (1/4" waterjet cut steel, painted with durable exterior enamel paint).



I will work closely with Gizmo Art Productions to further develop the details of my designs to generate a construction document used for fabrication. With an in-house waterjet and spray booth, I will have direct access to any quality oversight and shifts in fabrication. As a General Contractor, Gizmo has liability Insurance coverage, engineering, and support staff to deliver and install the various components of the project.

Gizmo Art Productions will be co-managing, fabrication and installing the work.





Office of the City Manager

CONSENT CALENDAR  
December 3, 2019

To: Honorable Mayor and Members of the City Council  
 From: Dee Williams-Ridley, City Manager  
 Submitted by: Henry Oyekanmi, Director, Finance  
 Subject: Formal Bid Solicitations and Request for Proposals Scheduled for Possible Issuance After Council Approval on December 3, 2019

RECOMMENDATION

Approve the request for proposals or invitation for bids (attached to staff report) that will be, or are planned to be, issued upon final approval by the requesting department or division. All contracts over the City Manager’s threshold will be returned to Council for final approval.

FISCAL IMPACTS OF RECOMMENDATION

Total estimated cost of items included in this report is \$2,871,500.

| <u>PROJECT</u>                               | <u>Fund</u> | <u>Source</u>                                   | <u>Amount</u>      |
|----------------------------------------------|-------------|-------------------------------------------------|--------------------|
| Street Rehabilitation FY 2020                | 127<br>501  | State Transportation Tax<br>Capital Improvement | \$2,500,000        |
| Codornices Creek Restoration at Kains Avenue | 336<br>127  | One Time Grant<br>State Transportation Tax      | \$247,500          |
| PRW Graphic Design Services                  | 011         | Discretionary                                   | \$124,000          |
| <b>Total:</b>                                |             |                                                 | <b>\$2,871,500</b> |

CURRENT SITUATION AND ITS EFFECTS

On May, 6, 2008, Council adopted Ordinance No. 7,035-N.S. effective June 6, 2008, which increased the City Manager’s purchasing authority for services to \$50,000. As a result, this required report submitted by the City Manager to Council is now for those

Formal Bid Solicitations and Request for Proposals  
Scheduled for Possible Issuance After Council  
Approval on December 3, 2019

CONSENT CALENDAR  
December 3, 2019

purchases in excess of \$100,000 for goods; and \$200,000 for playgrounds and construction; and \$50,000 for services. If Council does not object to these items being sent out for bid or proposal within one week of them appearing on the agenda, and

upon final notice to proceed from the requesting department, the IFB (Invitation for Bid) or RFP (Request for Proposal) may be released to the public and notices sent to the potential bidder/respondent list.

#### BACKGROUND

On May 6, 2008, Council adopted Ordinance No. 7,035-N.S., amending the City Manager's purchasing authority for services.

#### ENVIRONMENTAL SUSTAINABILITY

The Finance Department reviews all formal bid and proposal solicitations to ensure that they include provisions for compliance with the City's environmental policies. For each contract that is subject to City Council authorization, staff will address environmental sustainability considerations in the associated staff report to City Council.

#### RATIONALE FOR RECOMMENDATION

Need for the services.

#### ALTERNATIVE ACTIONS CONSIDERED

None.

#### CONTACT PERSON

Dennis Dang, Acting General Services Manager, Finance, 510-981-7329

#### Attachments:

1: Formal Bid Solicitations and Request for Proposals Scheduled For Possible Issuance After Council Approval on December 3, 2019

- a) Street Rehabilitation FY 2020
- b) Condornices Creek Restoration at Kains Avenue
- c) PRW Graphic Design Services

Note: Original of this attachment with live signature of authorizing personnel is on file in General Services.

DATE SUBMITTED: December 3, 2019

| SPECIFICATION NO.  | DESCRIPTION OF GOODS / SERVICES BEING PURCHASED | APPROX. RELEASE DATE | APPROX. BID OPENING DATE | INTENDED USE                                                                                                                                                                                                                                                                                                | ESTIMATED COST                                    | BUDGET CODE TO BE CHARGED                                                                                                   | DEPT. / DIVISION           | CONTACT NAME & PHONE                                             |
|--------------------|-------------------------------------------------|----------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------|------------------------------------------------------------------|
| 20-11367-C         | Street Rehabilitation FY 2020                   | 1/7/120              | 3/1/2020                 | Pavement rehabilitation of various streets                                                                                                                                                                                                                                                                  | \$2,500,000                                       | 127-54-623-673-3012-000-431-665110 - \$1,222,482<br>501-54-623-673-3012-000-431-665110 - \$1,277,518<br>Total – \$2,500,000 | Public Works - Engineering | Nisha Patel 981-6406<br>Joe Enke 981-6411<br>Wendy Wong 981-6428 |
| 20-11368-C         | Codornices Creek Restoration at Kains Avenue    | 1/7/2019             | 2/6/2020                 | Removal of the existing concrete box channel; Regrading earthen creek banks to create additional floodplain within the project area and installation of large native riparian. Replacement of the current debris rack to remove large debris and create more optimal fish passage through the project area. | \$225,000<br><br>\$22,500<br><br><u>\$247,500</u> | 336-54-623-675-0000-000-431-665110 (18SD19/PWENSD1819)<br><br>127-54-623-675-0000-000-431-665110 (18SD19/PWENSD1819)        | PW Eng                     | Srinivas Muktevi 981-6402                                        |
| <b>DEPT. TOTAL</b> |                                                 |                      |                          |                                                                                                                                                                                                                                                                                                             | <b>\$2,747,500</b>                                |                                                                                                                             |                            |                                                                  |

DATE SUBMITTED: December 3, 2019

| SPECIFICATION NO.  | DESCRIPTION OF GOODS / SERVICES BEING PURCHASED | APPROX. RELEASE DATE | APPROX. BID OPENING DATE | INTENDED USE                                                                                                                                                                    | ESTIMATED COST                                                                                                                                                              | BUDGET CODE TO BE CHARGED                                                                                                                                 | DEPT. / DIVISION | CONTACT NAME & PHONE      |
|--------------------|-------------------------------------------------|----------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------|
| 20-11369-C         | PRW Graphic Design Services                     | 12/4/2019            | 12/19/2019               | Provide Graphic Design and Desktop Publishing Services for the Parks Recreation Waterfront Department, including Activity Guide Production and Stand-Alone Advertising artwork. | Estimated cost of \$24,000 annually over a three year term (\$72,000), with a two year option to extend at \$26,000 per year (\$52,000) = \$124,000<br><br><u>\$124,000</u> | 011-52-543-570-0000-000-461-612990-<br><br>FY20 funds needed are est. \$10k; funds are in the account.<br><br>FY21-FY25 will be budgeted in future years. | PRW / Recreation | Craig Veramay<br>981-6717 |
| <b>DEPT. TOTAL</b> |                                                 |                      |                          |                                                                                                                                                                                 | <b>\$124,000</b>                                                                                                                                                            |                                                                                                                                                           |                  |                           |
| <b>GRAND TOTAL</b> |                                                 |                      |                          |                                                                                                                                                                                 | <b>\$2,871,500</b>                                                                                                                                                          |                                                                                                                                                           |                  |                           |



DATE SUBMITTED: November 3, 2015

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Office of the City Manager

05

CONSENT CALENDAR  
December 3, 2019

To: Honorable Mayor and Members of the City Council  
 From: Dee Williams-Ridley, City Manager  
 Submitted by: Kelly Wallace, Interim Director, Health, Housing & Community Services  
 Subject: Contract with Berkeley Food & Housing Project

RECOMMENDATION

Adopt a Resolution authorizing the City Manager or her designee to execute a contract and any amendments with vendor Berkeley Food & Housing Project (BFHP) to provide administrative services for Berkeley Mental Health (BMH) Flexible Spending Programs and the Russell Street Residence through June 30, 2021 in an amount not to exceed \$357,000.

FISCAL IMPACTS OF RECOMMENDATION

Funds for the scope of work in the amount of \$357,000 will be provided from ERMA GL Code 315-51-503-526-2017-000-451-612990. The Contract Management System number for this contract is CMS No. SQTDE.

CURRENT SITUATION AND ITS EFFECTS

The Russell Street Residence is an important housing alternative for many of our clients. BMH has funded BFHP as the administrator for Flexible Spending Programs and operator of the Russell Street Residence (RSR) in the past through a contract administered by the Housing & Community Services Division (HCS). The Mental Health Division is planning to enter into a new contract with BFHP that is specific to mental health programs to improve contractual oversight, and to change the rate paid for residents at RSR to better align with costs of operating this housing program. The rate paid for RSR residents will change from a formula based on a percentage of personnel and operational expenses to a “bed rate” of \$50.58 per resident per day, for up to 17 beds per night. The amounts allocated for the BMH Flexible Spending Programs will also change according to the needs of the respective programs: Full Service Partnership will increase from \$79,500 to \$103,500; Comprehensive Community Treatment will increase from \$11,000 to \$17,250; Focus on Independence Team will increase from \$11,000 to \$11,500; Homeless Outreach and Treatment Team and Children’s Full Service Partnership will remain unchanged; Transitional Age Youth – Transition to Independence Program will be discontinued.

BACKGROUND

On July 25, 2017 by Resolution No. 68,100-N.S., City Council approved entering into Contract No. 10568 with BFHP for a variety of programs administered by both HCS and BMH. On April 30, 2019 by Resolution No. 68,834-N.S., City Council approved amending Contract No. 10568A with increased funding support for RSR. After extensive negotiations, BMH and BFHP have agreed to change the funding structure for RSR to better reflect the current situation and to allow for improved contractual oversight and monitoring.

ENVIRONMENTAL SUSTAINABILITY

There are no identifiable environmental impacts or opportunities associated with the action recommended in this report.

RATIONALE FOR RECOMMENDATION

BFHP is a trusted partner in the implementation of programs to ensure the needs of our community's most vulnerable members are met in the most effective manner possible. Each of the programs funded by this contract were developed as a result of feedback from stakeholders, and went through a lengthy community input process before being presented to City Council as part of the MHSA Plan Annual Update. Russell Street Residence provides much needed supported housing for individuals with serious mental illness in Berkeley; the flex funds program allows for a variety of mental health programs to meet the needs of mental health consumers through the purchase of a variety of goods that support their stability and recovery.

ALTERNATIVE ACTIONS CONSIDERED

As an alternative action, Council could instead direct staff to circulate a new RFI or formal Request for Proposals (RFP) to competitively solicit a different vendor.

CONTACT PERSON

Conor Murphy, Assistant Management Analyst, HHCS, 510-981-7611  
Steven Grolnic-McClurg, Manager of Mental Health Services, HHCS, 510-981-5249

Attachments:

1: Resolution

RESOLUTION NO. ##,###-N.S.

CONTRACT WITH BERKELEY FOOD AND HOUSING PROJECT

WHEREAS, City Council approved the MHSA Plan FY2019-2020 Annual Update on July 23, 2019 by Resolution No. 69,033-N.S., which included funding for the programs to be included in the contract here; and

WHEREAS, community input and stakeholder feedback has determined a need for the programs being funded; and

WHEREAS, the Berkeley Food and Housing Project has been a trusted partner in the implementation of a variety of programs in collaboration with the City; and

WHEREAS, funds are available in the current budget year in ERMA GL Code 315-51-503-526-2017-000-451-612990 and this contract has been entered in the Citywide contract database and assigned CMS No. SQTDE.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that the City Manager is authorized to execute a contract and any amendments with the Berkeley Food and Housing Project for administrative services through June 30, 2021 in an amount not to exceed \$357,000. A record signature copy of said contract and any amendments to be on file in the City Clerk Department.





Office of the City Manager

06

CONSENT CALENDAR  
December 3, 2019

To: Honorable Mayor and Members of the City Council

From: Dee Williams-Ridley, City Manager

Submitted by: Kelly Wallace, Interim Director, Health, Housing & Community Services

Subject: Contract Amendment: Bay Area Hearing Voices Network for Hearing Voices Support Groups

RECOMMENDATION

Adopt a Resolution authorizing the City Manager or her designee to execute a contract and any amendments with vendor Bay Area Hearing Voices Network (BAHVN) to provide Hearing Voices Support Groups through June 30, 2020 in an amount not to exceed \$68,442.

FISCAL IMPACTS OF RECOMMENDATION

Funds for the additional scope of work in the amount of \$18,442 (in addition to their current contract for \$50,000) will be provided from ERMA GL Code 315-51-503-526-2017-000-451-612990. The Contract Management System number for this contract is CMS No. YAMTT.

CURRENT SITUATION AND ITS EFFECTS

On February 2, 2016 Berkeley Mental Health (BMH) entered into Contract No. 10209 with BAHVN to provide support groups to community members who hear voices, see visions, and experience other forms of extraordinary perception. Community input informed the decision to partner with BAHVN, as stakeholders expressed concern that they or those they loved were unable to have their needs met by the existing programs in place at the time.

This amendment will expand the contract's scope of services to include both a new Youth support group and a Family Members/Caregivers support group. The purpose of the Youth group will be to support young people who hear, see, or sense things others don't, by providing better information, advice, and support for participants. The Family Members/Caregivers group will help improve relationships and will provide supports on better ways to communicate and respond about their own experiences which often include fears, anxieties, and confusions about what their loved ones are going through.

BACKGROUND

BMH has partnered with BAHVN since 2016 to provide Hearing Voices Support Groups to the community. BAHVN has proven an effective vendor for this service, and

continuing this partnership will provide continuity to consumers and ensure support for community members who experience extraordinary perception. City Council approved the MHSA Plan FY2019-2020 Annual Update on July 23, 2019 by Resolution No. 69,033-N.S., which included funding for this contract.

ENVIRONMENTAL SUSTAINABILITY

There are no identifiable environmental impacts or opportunities associated with the action recommended in this report.

RATIONALE FOR RECOMMENDATION

BAHVN had demonstrated capacity and specialized practices in administering Hearing Voices Support Groups, providing an enhanced level of service to consumers.

ALTERNATIVE ACTIONS CONSIDERED

As an alternative action, Council could instead direct staff to circulate a formal RFP to competitively solicit a different vendor, or to not fund this service altogether.

CONTACT PERSON

Conor Murphy, Assistant Management Analyst, HHCS, 510-981-7611

Steven Grolnic-McClurg, Manager of Mental Health Services, HHCS, 510-981-5249

Attachments:

1: Resolution



RESOLUTION NO. ##,###-N.S.

CONTRACT AMENDMENT: BAY AREA HEARING VOICES NETWORK FOR  
HEARING VOICES SUPPORT GROUPS

WHEREAS, Mental Health Services Act (MHSA) funds are allocated to mental health jurisdictions across the state for the purposes of transforming the mental health system into one that is consumer and family driven, culturally competent, wellness and recovery oriented, includes community collaboration, and implements integrated services; and

WHEREAS, on July 23, 2019 by Resolution No. 69,033-N.S., City Council authorized the City Manager to approve the MHSA Plan FY2019-2020 Annual Update; and

WHEREAS, within the City Council approved MHSA Plan FY2019-2020 Annual Update was an allocation of \$34,736 for contracted Hearing Voices Support Groups; and

WHEREAS, funds are available in the current budget year in ERMA GL Code 315-51-503-526-2017-000-451-612990 and this contract has been entered in the Citywide contract database and assigned CMS No. YAMTT.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that the City Manager is authorized to execute a contract and any amendments with the Bay Area Hearing Voices Network for Hearing Voices Support Groups through June 30, 2020 in an amount not to exceed \$68,442. A record signature copy of said contract and any amendments to be on file in the City Clerk Department.





Office of the City Manager

07

CONSENT CALENDAR

December 3, 2019

To: Honorable Mayor and Members of the City Council

From: Dee Williams-Ridley, City Manager

Submitted by: Kelly Wallace, Interim Director, Health, Housing & Community Services

Subject: Contract Amendment: Youth Spirit Artworks for Transition Age Youth (TAY)  
Case Management and Linkage Services

RECOMMENDATION

Adopt a Resolution authorizing the City Manager or her designee to execute a contract and any amendments with vendor Youth Spirit Artworks (YSA) to provide Transition Age Youth (TAY) case management and linkage services through June 30, 2020 in an amount not to exceed \$100,000.

FISCAL IMPACTS OF RECOMMENDATION

Funds for the scope of work in the amount of \$100,000 will be provided from ERMA GL Code 315-51-503-526-2017-000-451-612990. The Contract Management System number for this contract is CMS No. FEFNU.

CURRENT SITUATION AND ITS EFFECTS

Berkeley Mental Health (BMH) previously held Contract No. 31900091 with YSA for the services enumerated here for the period January 1, 2019 to June 30, 2019, approved by City Council by Resolution No. 68,669-N.S. After the term ended, BMH worked with YSA to develop various Results Based Accountability reporting elements to add to the scope of services in order to use data and transparency to ensure accountability for both the well-being of community members and the performance of programs. BMH then entered into a new contract with YSA for \$50,000 under the City Manager's authority, and we are now requesting to amend that contract to add an additional \$50,000 for the term ending June 30, 2020.

The TAY population BMH primarily works with are very low income who have both a serious mental illness (21 and over) or a serious emotional disturbance (under 21) and a functional impairment, defined here as: limitations in social and occupational spheres of life, or limitations in other important areas of functioning. The needs of this group are significant, and are not likely to diminish. As a result, securing the services of an organization which can provide a specialized service delivery model to this unique population would further the goals of the Division, the Department, and the City as a whole.

BACKGROUND

BMH has partnered with YSA for the past year to serve the TAY population, which includes youth between the ages of 16-24. YSA has proven an effective vendor for this service, and continuing this successful partnership will provide continuity to consumers and ensure the related objectives of stability and connection to services are realized for our community's TAY population. City Council approved the MHSA Plan FY2019-2020 Annual Update on July 23, 2019, which included funding for this contract.

ENVIRONMENTAL SUSTAINABILITY

There are no identifiable environmental impacts or opportunities associated with the action recommended in this report.

RATIONALE FOR RECOMMENDATION

The scope of services under this contract are critically needed due to the current challenges faced by the local TAY population. YSA provided these services in a satisfactory manner last year.

ALTERNATIVE ACTIONS CONSIDERED

As an alternative action, Council could instead direct staff to conduct a new RFP to competitively solicit a different vendor, or decide to not fund this service.

CONTACT PERSON

Conor Murphy, Assistant Management Analyst, HHCS, 510-981-7611  
Steven Grolnic-McClurg, Manager of Mental Health Services, HHCS, 510-981-5249

Attachments:

1: Resolution

RESOLUTION NO. ##,###-N.S.

CONTRACT AMENDMENT: YOUTH SPIRIT ARTWORKS FOR TRANSITION AGE  
YOUTH (TAY) CASE MANAGEMENT AND LINKAGE SERVICES

WHEREAS, Mental Health Services Act (MHSA) funds are allocated to mental health jurisdictions across the state for the purposes of transforming the mental health system into one that is consumer and family driven, culturally competent, wellness and recovery oriented, includes community collaboration, and implements integrated services; and

WHEREAS, on July 23, 2019 by Resolution No. 69,033-N.S., City Council authorized the City Manager to approve the MHSA Plan FY2019-2020 Annual Update; and

WHEREAS, within the City Council approved MHSA Plan FY2019-2020 Annual Update was an allocation of \$100,000 for contracted Transition Age Youth (TAY) Case Management and Linkage Services; and

WHEREAS, funds are available in the current budget year in ERMA GL Code 315-51-503-526-2017-000-451-612990 and this contract has been entered in the Citywide contract database and assigned CMS No. FEFNU.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that the City Manager is authorized to execute a contract and any amendments with Youth Spirit Artworks for Transition Age Youth case management and linkage services through June 30, 2020 in an amount not to exceed \$100,000. A record signature copy of said contract and any amendments to be on file in the City Clerk Department.





Office of the City Manager

CONSENT CALENDAR  
December 3, 2019

To: Honorable Mayor and Members of the City Council  
From: Dee Williams-Ridley, City Manager  
Submitted by: Phillip L. Harrington, Director, Department of Public Works  
Subject: Contract: Trip Stop Sidewalk Repair, Inc. for FY2020 Sidewalk Inspection and Shaving Services

RECOMMENDATION

Adopt a Resolution authorizing the City Manager to execute a contract and any amendments, extensions or other change orders with Trip Stop Sidewalk Repair, Inc. for FY2020 Sidewalk Inspection and Shaving Services, Specification No. 20-11345-C; for an amount not to exceed \$450,000.

FISCAL IMPACTS OF RECOMMENDATION

Initial funding for the contract is available from the annual sidewalk program budget in fiscal year 2020. No other funding is required, and no other projects will be delayed due to this expenditure.

FY 2019 & 2020 Funding:

|                                                                      |                  |
|----------------------------------------------------------------------|------------------|
| State Transportation Fund (127-54-623-674-0000-000-431-665110) ..... | \$225,000        |
| Capital Improvement Fund (501-54-623-674-0000-000-431-665110) _____  | \$225,000        |
| <b>Total cost</b>                                                    | <b>\$450,000</b> |

This contract has been assigned CMS No. CMPEB.

CURRENT SITUATION AND ITS EFFECTS

Requests for Qualifications (RFQ) were issued on August 22, 2019 (Specification No. 20-11345-C) seeking qualified firms or individuals to provide citywide sidewalk inspection and concrete shaving services for the City’s Sidewalk Program to address uplifted sidewalks that pose trip hazards to the public throughout the city.

On September 19, 2019, the City received proposals from three firms, which were evaluated by a review panel. Based on the evaluations and references checks, Trip Stop Sidewalk Repair, Inc. was determined to be the best qualified to meet the City’s needs.

BACKGROUND

The City proactively and responsively inspects sidewalks in the public right of way (including curbs, gutters, and curb ramps) for the purpose of identifying unsafe sidewalks or ramps that pose trip hazards. Areas in need of immediate repair or replacement are

identified by Public Works staff for scheduled work, or repaired and/or replaced through contracts administered by Public Works.

In October 2011, the City established a sidewalk repair and replacement program to improve the quality of Berkeley's sidewalks. There are approximately 300 total miles of concrete sidewalk within the city limits and approximately twenty miles (7%) of that total is sufficiently damaged to justify permanent replacement at an estimated cost of \$7 million dollars. The City currently shares sidewalk replacement costs with property owners on a 50-50 basis, irrespective of the cause of the deterioration. Concrete sidewalk replacement, however, may only occur on a "funds-available" basis, which has resulted in a ten year backlog of customers awaiting replacement. As an alternative, the Department of Public Works has evaluated the concrete cutting or shaving process and determined it is a lasting and cost effective means of repairing displaced and/or uplifted sidewalks that pose urgent trip hazards to the public.

The work to be performed under this contract is to evaluate and document the backlog of approximately 3,500 sidewalk locations on the 50-50 program waiting list. Locations that are identified as being suitable for shaving will be repaired. Locations that are identified as requiring removal and replacement to repair, will be included in the FY2020 Sidewalk Repair Project as funding allows.

The FY2020 Sidewalk Inspection and Shaving Services is a Strategic Plan Priority Project, advancing our goal to provide state-of-the art, well-maintained infrastructure, amenities, and facilities.

#### ENVIRONMENTAL SUSTAINABILITY

The City's sidewalk repair program is a component of the City's climate action plan, as well maintained sidewalks help to facilitate safe walking, which is a healthy and clean form of transportation. In addition, there are environmental benefits to be realized from concrete grinding and shaving versus full sidewalk replacement, which creates significant amounts of waste delivered to landfills. Further, concrete grinding and shaving necessitates production of far less cement and lowers total fuel costs compared with full sidewalk replacement.

#### RATIONALE FOR RECOMMENDATION

This sidewalk repair project is part of the City's ongoing annual program to rehabilitate deteriorated sidewalks throughout the City. The work requires contracted services, as the City does not possess the in-house labor or equipment resources necessary to complete the project.

#### ALTERNATIVE ACTIONS CONSIDERED

None.

#### CONTACT PERSON

Nisha Patel, Manager of Engineering & City Engineer (510) 981-6406  
Joe Enke, Supervising Civil Engineer (510) 981-6411



Contract: Trip Stop Sidewalk Repair, Inc. for FY2020  
Sidewalk Inspection & Shaving Services

December 3, 2019

Attachments:  
1. Resolution

RESOLUTION NO. ##,###-N.S.

CONTRACT: TRIP STOP SIDEWALK REPAIR, INC. FOR FY2020 SIDEWALK  
INSPECTION AND SHAVING SERVICES

WHEREAS, FY2020 Sidewalk Inspection and Shaving Services, Specification No. 20-11345-C is part of the City's ongoing Sidewalk Capital Improvement Program to address uplifted city sidewalks that pose trip hazards to the public throughout the City; and

WHEREAS, on August 26, 2019 the City released a Request for Qualifications for FY2020 Sidewalk Inspection and Shaving Services, Specification No. 20-11345-C seeking firms to provide inspection, analysis, and concrete shaving services; and

WHEREAS, on September 19, 2019, the City received three submissions, which were reviewed and rated by a panel; and

WHEREAS, the submission from Trip Stop Sidewalk Repair, Inc. has been found by City staff to be the highest rated firm responsive to the City's request; and

WHEREAS, the City has neither the labor nor the equipment necessary to undertake these FY2020 Sidewalk Inspection and Shaving Services; and

WHEREAS, funding is available in the current year budget in the Capital Improvement Fund (Fund 501) and State Transportation Fund (Fund 127); and the contract has been entered into the citywide contract database with CMS No. CMPEB.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that the City Manager is authorized to execute a contract and any amendments, extensions or change orders, until completion of the project in accordance with the approved plans and specifications with Trip Stop Sidewalk Repair, Inc. for FY2020 Sidewalk Inspection and Shaving Services, in an amount not to exceed \$450,000. A record signature copy of said agreement and any amendments to be on file in the Office of the City Clerk.



Office of the City Manager

09

CONSENT CALENDAR  
December 3, 2019

To: Honorable Mayor and Members of the City Council  
From: Dee Williams-Ridley, City Manager  
Submitted by: Phillip L. Harrington, Director, Public Works  
Subject: Contract No. 31900082 Amendment: Silva Business Consulting Agreement for Provision of Real Property Management Consulting Services

RECOMMENDATION

Adopt a Resolution authorizing the City Manager to amend Contract No. 31900082 with David L. Silva d.b.a. Silva Business Consulting for provision of various real property management services, increasing the contract by \$220,000 for a total not to exceed \$270,000. If approved, the amended contract will terminate January 31, 2022 or when funding limit is reached.

FISCAL IMPACTS OF RECOMMENDATION

The proposed contract amendment will allow Silva Business Consulting (SBC) to continue to provide real property management services to the Department of Public Works. Funding will be subject to appropriation in the specific fiscal year (covered in the contract term) and project or facility for which SBC is assigned to provide services. Funding sources that are currently available for use are the General Fund (011), Off-Street Parking Fund (627), Building Purchases and Management Fund (636), and Building Maintenance Fund (673).

|                                                      |                  |
|------------------------------------------------------|------------------|
| Current contract not-to-exceed amount.....           | \$50,000         |
| Proposed increase to total not-to-exceed amount..... | \$220,000        |
| <b>Total not-to-exceed amount.....</b>               | <b>\$270,000</b> |

This contract amendment has been assigned CMS No. QRE5G

Funding will be identified and appropriated as projects arise.

CURRENT SITUATION AND ITS EFFECTS

Silva Business Consulting's (SBC's) real property management service continue to be needed by Public Works. Public Works is responsible for property management at several facilities owned and/or operated by the City. Public Works' Real Property team consists of 1.20 FTE positions to manage lease agreements at City parking facilities, office buildings and other locations as assigned. SBC brings nearly 30 years of real

property management experience to work for the City of Berkeley. SBC charges \$85.00 per hour less than Contra Costa with no pass through charges (mileage, travel time, etc.,) for the same scope of real property management support services. SBC works all hours on-site providing direct support for Public Works Real Property staff up to 20 hours per week. Hiring another person/organization to take over this work would require a significant financial investment with no guarantee the selected recipient would attain the level of understanding and experience SBC has with this City, its Departments and processes. Work in progress for several City facilities would have to be put on hold for a minimum of six months to one year in order to bring a new person/organization up to speed.

The provided services will support the Strategic Plan goals of creating a resilient, safe, connected, and prepared city and providing state-of-the-art, well-maintained facilities.

BACKGROUND

The City of Berkeley has an on-call contract with County of Contra Costa Public Works Department Real Property/Real Estate Services. That contract is used Citywide. David L. Silva began working with the City of Berkeley Public Works Real Property staff when he was the Supervising Real Property Agent for Contra Costa Public Works. Mr. Silva retired from his Contra Costa position in January 2019 after providing more than two years of services to Berkeley's Public Works, Health, Housing & Community Services, Parks, Recreation and the Waterfront and Finance Departments as well as the City Manager's Office. In order to prevent delays to work already in progress a six month contract was offered to and accepted by Mr. Silva d.b.a., Silva Business Consulting (SBC). The original contract included a Request for Waiver of Competitive Solicitation and based on Mr. Silva's specialized knowledge of the City, its processes, and work already in progress for Public Works, the waiver was approved by the City Manager. The term of the original contract was February 1, 2019 to June 30, 2019 for \$35,000. The City Manager extended the term to December 31, 2019 and added \$15,000 for a not-to-exceed amount of \$50,000 (the limit of the City Manger's authority).

ENVIRONMENTAL SUSTAINABILITY

There are no anticipated negative environmental effects of this action.

RATIONALE FOR RECOMMENDATION

The recommended amendment will enable Public Works Real Property team to have continued access to the real property management services from an experienced individual familiar with the City of Berkeley, its properties, and processes.

ALTERNATIVE ACTIONS CONSIDERED

None.

CONTACT PERSON

Phillip L. Harrington, Director, Department of Public Works (510) 981-6661  
Dionne E. Early, Community Development Project Coordinator (510) 981-6453

Attachments:  
1: Resolution

RESOLUTION NO. ##,###-N.S.

CONTRACT NO. 31900082 AMENDMENT: SILVA BUSINESS CONSULTING AGREEMENT FOR PROVISION OF REAL PROPERTY MANAGEMENT CONSULTING SERVICES

WHEREAS, the Department of Public Works is tasked with maintaining, operating and managing leases for office buildings, parking garages, waste management facilities, public safety buildings and other real property owned by the City of Berkeley; and

WHEREAS, the current Contract No. 31900082 Amendment: Silva Business Consulting, CMS No. QRE5G, with David L. Silva d.b.a. Silva Business Consulting is for a not-to-exceed amount for \$50,000 and expires on December 31, 2019; and

WHEREAS, the availability of alternative service providers and quantifiable additional costs resulting from the use of alternative providers have all been considered; and

WHEREAS, the City of Berkeley Public Works Department is in need of those particular real property management services provided by Silva Business Consulting; and

WHEREAS, failure to enter into a contract with Silva Business Consulting for real property management services may result in the City of Berkeley becoming unable to perform negotiations, relocations, supervision of independent contractors providing services, or management of all leasing and administration of City property; and

WHEREAS, the current contract is insufficiently funded to support ongoing real property management support services; and

WHEREAS, funding of \$270,000 will be allocated by the requesting department as projects arise citywide until contract termination on January 31, 2022 or the not-to-exceed contract limit is reached.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that the City Manager is authorized to execute the amendment of Contract No. 31900082 with David L. Silva d.b.a. Silva Business Consulting (CMS No. QRE5G) for a total amount not to exceed \$270,000. A record signature copy of said agreement and any amendments to be on file in the Office of the City Clerk.



Office of the City Manager

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CONSENT CALENDAR  
December 3, 2019

To: Honorable Mayor and Members of the City Council

From: Dee Williams-Ridley, City Manager

Submitted by: Phillip Harrington, Director, Public Works

Subject: Reimbursement Agreement with Wareham Development for Wareham's Construction of Public Facilities

RECOMMENDATION

Adopt a Resolution authorizing the City Manager to execute a reimbursement agreement (Attachment 1) and any amendments with Wareham Development for reimbursement of City's share of construction of a traffic signal at the intersection of San Pablo Avenue and Parker Street, and lane re-striping and associated signing and parking restrictions at the intersection of San Pablo Avenue and Dwight Street.

FISCAL IMPACTS OF RECOMMENDATION

The final reimbursement amount will be dependent on the actual costs of the public improvements and fair share amounts established under the Use Permit #ZP2016-0170 of Wareham Development. The estimated full cost of the improvements is as follows:

Traffic Signal Installation: \$500,000.00

Restriping of Traffic Lanes: \$100,000.00

The fair share cost to the developer is based on two use options described in the use permit.

Option 1 (MOB-R&D): The development is used as a Medical Office Buildings (MOB) and Research and Development (R&D). The fair share amount for Wareham Development will be 20% (Traffic Signal) and 11% (Restriping of Traffic Lanes). Based on the estimated improvement costs the City would reimburse the development \$490,000.00.

Use Option 2 (100% MOB): The development is used 100% for Medical Office Buildings. The fair share cost percent for the Wareham Development will be 29% (Traffic Signal) and 19% (Restriping of Traffic Lanes). Based on the estimated improvement costs the City would reimburse the development \$436,000.00.

The current development plan under Use Permit #ZP2018-0117 calls for development Option 2 which is 100% Medical Offices.

Reimbursement per the agreement (Attachment 1) would be paid by the City to Wareham Development in four equal payments starting the first September after the completion of the public facilities by Wareham. The current projection is for construction to be completed by December 2020, so the first reimbursement would be due by September 1, 2021.

Funding is proposed to come from a new Capital Improvement Fund allocation to fund the City's obligation to this project. An alternative is to reprogram baseline Transportation capital funding from Measure B – Local Streets and Roads, Measure BB – Local Streets and Roads, Measure F – Vehicle Registration Fee, or State Transportation Tax funds. This would impact other projects currently programmed to receive those funds either by delay or cancellation.

### CURRENT SITUATION AND ITS EFFECTS

Currently the intersection of San Pablo Avenue and Parker Street is not signalized, and is under stop control on the Parker Street approaches. The intersection of San Pablo Avenue and Dwight Way is signalized with a single east and west approach lane on Dwight Way.

The City has determined through Wareham Development's Use Permit #ZP2016-0170 and Traffic Impact Analysis (TIA) that these intersections will be significantly impacted by the development and further impacted by future planned developments in the area and along the San Pablo Corridor in West Berkeley. The TIA further identifies the traffic associated with the development would trigger the Caltrans threshold warrant for a traffic signal at the intersection of San Pablo Avenue and Parker Street.

Not implementing these improvements prior to completion of the development will likely cause significant delays at the intersections of San Pablo and Parker Street and Dwight Way. Approval of the agreement will allow the construction of the improvements by Wareham prior to their occupancy of the Medical Office Building.

### BACKGROUND

Wareham Development is engaged in the development of certain real property located at 1050 Parker Street and 2621 Tenth Street in City of Berkeley. Development of the project, under the conditions of the use permit requires construction of traffic improvements which consist of a new traffic signal and possible lane re-striping, collectively "Public Facilities", in the project area that will serve the Wareham Project as well as current and future developments in the area.

Construction of the Public Facilities is expected to mitigate the traffic impacts identified in the Environmental Impact Report of the Wareham Development.



Construction of the Public Facilities will further provide improved access and circulation in this developing area of West Berkeley for area properties, future developments and public services and transportation.

The fair share amount of the Public Facilities to be contributed by Wareham Development was determined in the TIA. The rationale for the fair share was based on the amount of traffic the development would contribute to the specific impact identified at the two intersections.

ENVIRONMENTAL SUSTAINABILITY

There are no environmental impacts expected from the reimbursement agreement between City of Berkeley and Wareham Development.

RATIONALE FOR RECOMMENDATION

The existing and projected traffic levels noted in the TIA for the Wareham Development use permit are likely to occur as part of the Wareham Development and other approved developments along the San Pablo Avenue Corridor. The agreement allows for Wareham to construct the improvements and share in the costs that would otherwise fall on the City to eventually construct.

ALTERNATIVE ACTIONS CONSIDERED

No alternatives have been determined.

CONTACT PERSON

Hamid Mostowfi, Supervising Traffic Engineer, Public Works, 981-6403

Attachments:

- 1: Resolution
- 2: Reimbursement Agreement

RESOLUTION NO. ##,###-N.S.

AGREEMENT: REIMBURSEMENT AGREEMENT WITH WAREHAM DEVELOPMENT  
FOR WAREHAM'S CONSTRUCTION OF PUBLIC FACILITIES

WHEREAS, Wareham Development is engaged in the development of certain real property located at 1050 Parker Street and 2621 Tenth Street in City of Berkeley; and

WHEREAS, Development of the project under the use permits requires construction of traffic improvements which consist of a new traffic signal and possible lane re-striping, collectively "Public Facilities" in the project area that will serve the Wareham Project as well as current and future developments in the area; and

WHEREAS, Construction of the Public Facilities will enable future development in the city to have immediate access to public services that would not be available to such development without direct payment of the expense of extending such similar public services to the area; and

WHEREAS, Wareham Development is funding upfront and constructing the public facilities; and

WHEREAS, the City will fund its share of the project in payments over four years from future Fiscal Year Capital Improvement Plan allocations,

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that a reimbursement agreement and any amendments with Wareham Development for reimbursement of City's share of construction of a traffic signal at the intersection of San Pablo Avenue and Parker Street, and possible lane re-striping is accepted. A record signature copy of said agreement and any amendments to be on file in the Office of the City Clerk.

**AGREEMENT**  
**FOR CONSTRUCTION OF PUBLIC FACILITIES AND SUBSEQUENT**  
**REIMBURSEMENT**

This Agreement For Construction Of Public Facilities and Subsequent Reimbursement (“Agreement”) is hereby entered into by and between the CITY OF BERKELEY, a California municipal corporation (“City”) and 2621 TENTH STREET, LLC, a California limited liability company (“Developer”) (collectively, the “Parties”) as follows:

**RECITALS**

A. Developer is engaged in the development of certain real property located at 1050 Parker Street in the City (the “Project”). Pursuant to Use Permit #ZP2016-0170 issued by the City (“Use Permit”), the Project is permitted for a three-story 60,670 square-foot building, of which 20,370 square feet is designated for medical office use, 40,300 square feet is designated for research and development use and 750 square-feet is designated for a quick service restaurant on the ground floor. However, Developer has submitted an application to the City for a zoning modification (Use Permit #ZP2018-0117) whereby the building would be designated entirely for medical office use with a ground-level quick service restaurant.

B. Development of the Project under the Use Permit requires the construction of traffic improvements (a traffic signal (“Traffic Signal”) and possible lane re-striping (“Lane Re-striping” or “Re-striped Lane”), collectively, “Public Facilities” and individually, “Public Facility” as discussed in further detail in Section 1.1 of this Agreement) in the Project area that will serve Developer’s Project and will also serve future development in the area.

C. Construction of the Public Facilities will enable future development in the City to have immediate access to public services that would not be available to such development without direct payment of the expense of extending such similar public services to the area.

D. The Parties agree that City will be responsible for approving the design of the Public Facilities to benefit the Project and other future development in the area.

E. The Parties agree that the Traffic Signal is to be constructed within the California Department of Transportation’s (“Caltrans”) right-of-way on San Pablo Avenue and a portion of City’s right-of-way, and that Caltrans must approve and issue permits for installation of the Traffic Signal. The Parties agree that Developer will be responsible for preparation and revision of all plans and documents necessary to secure permits from Caltrans, and that City will help facilitate submittal of plans and the encroachment permit application to Caltrans.

F. The Parties agree that Developer will be responsible to design, construct and install the Public Facilities, but will be reimbursed by City for designing, constructing and installing the portions of the Public Facilities that will benefit other development in the area.

G. Developer and City recognize that it is in their mutual interests to coordinate the design, construction and installation of the Public Facilities to serve the efficient development of the area as it develops and to avoid duplication of costs and effort.

H. Developer and City have memorialized their respective roles and responsibilities for these purposes in a matrix attached to this Agreement as Exhibit "A."

### OPERATIVE PROVISIONS

NOW, THEREFORE, in consideration of the mutual promises and covenants made by the Parties and contained herein, and other consideration, the value and adequacy of which are hereby acknowledged, the parties incorporate the above-stated recitals and agree as follows:

#### **1. Design and Construction of Public Facilities**

**1.1 Public Facilities Construction Documents.** Developer shall engage traffic and civil engineer consultants (collectively "Developer Consultants"), to design the Public Facilities. Developer intends to engage Fehr & Peers and Kier & Wright, both of whom are deemed approved. Developer shall submit to City for approval, not to be unreasonably withheld, the construction documents for the Public Facilities at the thirty-five percent (35%), sixty-five percent (65%) and ninety-five (95%) design level stages.

City shall review the construction documents to verify conformance with City standards for those improvements on the City's right-of-way, and conceptual approval for those improvements on Caltrans's right-of-way. City's review of the construction documents at the sixty-five percent (65%) and ninety-five percent (95%) stages shall be streamlined and limited to the Public Facilities' compliance with drainage requirements, the American with Disabilities Act and City's requirement for detection hardware. Assuming there are no subsequent changes requested by Caltrans that would significantly alter operation of the respective Public Facility, City's approval at the ninety-five percent (95%) stage shall constitute City's final approval of the design of the Public Facility. Developer Consultants shall provide a courtesy copy of the one hundred percent (100%) stage design plans to the Alameda-Contra Costa Transit District ("AC Transit") with a carbon copy to the City.

In accordance with Condition 83 of the Use Permit #ZP2018-0117, after issuance of the certificate of occupancy for the Project and prior to implementation of the Re-stripped Lane, Developer shall conduct yearly traffic performance monitoring at San Pablo Avenue and Dwight Way. Within thirty (30) days of completing the third year of traffic performance monitoring, the City Engineer shall determine whether a Re-stripped Lane is necessary at San Pablo Avenue and Dwight Way. If the City Engineer determines that a Re-stripped Lane is necessary, City and Developer's obligations with respect to the Re-stripped Lane shall be governed by this Agreement and all references to "Public Facility" or "Public Facilities" shall include the Re-stripped Lane, as necessary. If the City Engineer determines that a Re-stripped Lane is unnecessary, Developer shall have no remaining obligations to the City, as described in Section 8.2.

**1.2 Roles and Responsibilities.** Exhibit A is a Matrix reflecting the roles and responsibilities of each party relating to the Traffic Signal, as agreed to by the City and Developer and shared with Caltrans.

**1.3 Traffic Signal Encroachment Permit Application.** After City's final approval of the construction documents for the Traffic Signal at the ninety-five percent (95%) stage, as

discussed in Section 1.1, Developer Consultants, in consultation with City, shall prepare and submit the Caltrans encroachment permit application with the one hundred percent (100%) stage construction documents. The City shall request Caltrans’s approval for Developer Consultants to act as City and Developer’s representative during the Caltrans encroachment permit application and review process. Developer shall address any follow-up required by Caltrans upon its review of the construction documents and will advise City of any changes to the construction documents required by Caltrans. Developer shall be responsible to resubmit the application incorporating any changes.

**1.4 Developer’s Construction.** Developer shall, in accordance with approved plans and specifications, design, construct and install the Public Facilities.

**1.5 Developer to Secure Bids.** Developer and City acknowledge and agree that competitive bidding for public projects is a mandatory requirement under the City’s Charter Section 67 and Public Contract Code Sections 20160-20175.2. Developer shall be solely responsible for securing appropriate bids and awarding the contract for construction of the Public Facilities in compliance with all applicable federal, state and local laws. Developer shall be solely responsible for any and all claims, actions, or liability, including attorneys’ fees, arising out of or in connection with Developer’s securing of bids and award and performance of the contract for the construction of the Public Facilities. Developer shall provide City with copies of all bids submitted to Developer pursuant to Section 1.5, identifying the bid selected by Developer for the Public Facilities.

**2. Allocation of the Costs of Design and Construction**

**2.1 Estimated Total Costs.** The Parties estimate that the total costs of the design and construction, Caltrans encroachment permitting, inspection and testing of the Public Facilities, engineering and permitting fees, costs and fees assessed by local and state agencies and public utilities, as well as the legal fees to prepare this Agreement, will be as follows:

| Public Facilities                                     | Estimated Total Costs |
|-------------------------------------------------------|-----------------------|
| Traffic Signal at Parker Street and San Pablo Avenue  | \$500,000             |
| Re-striped Lane at Dwight Avenue and San Pablo Avenue | \$100,000             |

(“Estimated Total Costs”).

**2.2 Actual Total Costs.** Developer shall, within thirty (30) days of completion of each Public Facility, provide City with all invoices submitted to Developer by its contractor(s), and a final itemized bill showing all reasonable fees and costs incurred by Developer for the applicable Public Facility. These fees and costs shall include, but are not limited to, design and construction fees and services for the applicable Public Facility, Caltrans encroachment permitting fees, inspection and testing fees, engineering and permitting fees, costs and fees assessed by local and state agencies and public utilities, and legal fees to prepare this Agreement (“Actual Total Costs”). The Actual Total Costs for the Traffic Signal shall include the entirety of the legal fees to prepare this Agreement. City’s costs for the Public Facilities, including but not limited to, staff time, shall not be included in Actual Total Costs.

**2.3 Reimbursement Amount.** The Parties agree that the reimbursement available to Developer for the Actual Total Costs (“Reimbursement Amount”) shall be City’s proportionate share of the Actual Total Costs (“City’s Proportionate Share”). City’s Proportionate Share shall be the percentage difference between the whole of the Project and the Project’s percentage contribution of projected traffic at the intersections of each component of the Public Facilities (Traffic Signal and Re-striped Lane), as determined in the Traffic Impact Analysis for the following Project scenarios:

Medical Office and Research & Development:

| Public Facilities                                     | Project’s contribution of traffic        | City’s Proportionate Share |
|-------------------------------------------------------|------------------------------------------|----------------------------|
| Traffic Signal at Parker Street and San Pablo Avenue  | 20% of traffic generated at intersection | 80% of Actual Total Costs  |
| Re-striped Lane at Dwight Avenue and San Pablo Avenue | 11% of traffic generated at intersection | 89% of Actual Total Costs  |

Medical Office:

| Public Facilities                                    | Project’s contribution of traffic        | City’s Proportionate Share |
|------------------------------------------------------|------------------------------------------|----------------------------|
| Traffic Signal at Parker Street and San Pablo Avenue | 29% of traffic generated at intersection | 71% of Actual Total Costs  |

|                                                       |                                          |                           |
|-------------------------------------------------------|------------------------------------------|---------------------------|
| Re-striped Lane at Dwight Avenue and San Pablo Avenue | 19% of traffic generated at intersection | 81% of Actual Total Costs |
|-------------------------------------------------------|------------------------------------------|---------------------------|

**3. Terms and Limitations of Developer Payment and City Reimbursement**

**3.1 City to Reimburse Developer.** City shall reimburse Developer for City’s Proportionate Share of Actual Total Costs, for the Traffic Signal and Re-striped Lane each, as appropriate, pursuant to Sections 1.1 and 2.3, or any upfront payments that are not Actual Total Costs, pursuant to Section 3.2. For each Public Facility, reimbursement payments shall be made in four equal annual installments, payable on or before September 1st of each year, beginning with the first September following completion of the pertinent Public Facility. The Parties acknowledge that the maximum reimbursement available to Developer for Actual Total Costs shall be subject to an imputed interest accrual rate of 5.0% per annum. Developer shall prepare a payment schedule for each Public Facility within 30 days after the Actual Total Costs have been identified per Section 2.3.

**3.2 City’s Costs.** City shall assume full responsibility for all costs of obtaining and maintaining necessary City approvals, licenses, easements, land use entitlements and City costs of administration, construction oversight and inspections, including staff time, as described further in Exhibit A. In instances where Developer makes upfront payments for any costs that are not Actual Total Costs, City shall reimburse Developer in full in the manner described in Section 3.1.

**4. Permits**

**4.1 Permits, Licenses and Compliance with Law.** City shall be solely responsible for identifying all necessary City approvals for the Public Facilities.

City shall coordinate with Developer to ensure that the design of the Public Facilities complies with all applicable local, state, and federal laws, whether or not said laws are expressly stated in this Agreement, including City’s zoning and development standards and all other provisions of the City’s Municipal Code. To the extent feasible and practical, City shall proceed in a timely manner so as not to delay the work or increase the costs for the work. City shall cooperate in good faith and issue approvals and permits in a timely manner if Developer is required to access City rights-of-way for activities required to install the Public Facilities.

Developer Consultants, in consultation with City, shall prepare the encroachment permit application to Caltrans as described in Section 1.3.

**4.2 Traffic Control Plan.** Developer shall coordinate with Caltrans to complete the traffic control plan for the Traffic Signal. Developer shall provide a copy to City upon submitting its traffic control plan to Caltrans.

**4.3 Connection to Pacific Gas and Electric's electrical grid.** In consultation with City, Developer shall, on behalf of City, prepare and submit an application to Pacific Gas and Electric ("PG&E") to commence electric service for the Traffic Signal. Developer shall execute an agreement with PG&E for payment of engineering and construction fees, which shall be reimbursable as an Actual Total Cost, as described in Section 2.2. During construction of the Traffic Signal, Developer shall schedule with PG&E to connect the Traffic Signal to PG&E's electrical grid. After the connection to PG&E's electrical grid is made, Developer shall schedule, in coordination with PG&E, City and Caltrans, the activation of the Traffic Signal and ensure the Traffic Signal is in working order.

**4.4 Ongoing Operations and Maintenance Costs.** Following construction of each component of the Public Facilities, Developer and its successors and assigns shall deliver the Public Facility to the appropriate agency as set forth in Section 8.1 and shall have no further obligations with respect to any ongoing operation, maintenance, or repair costs of that Public Facility. City shall be responsible for maintaining the Traffic Signal pursuant to a maintenance agreement with Caltrans.

## **5. Prevailing Wage Requirements**

**5.1 General Obligations.** Developer acknowledges and agrees that the work performed hereunder shall be subject to prevailing wage rates as provided in Labor Code Section 1720, *et seq.* ("**State Labor Code**"). Accordingly, Developer shall comply and shall cause its contractor to comply with all applicable State Labor Code requirements, including provisions requiring the payment of prevailing wages in connection with construction of the Public Facilities. Developer shall require its general contractor to post at the Public Facilities site prevailing wage rates for all applicable trades and to submit copies of payroll records to Developer to ensure compliance with State Labor Code requirements pertaining to "public works." Developer shall provide such payroll records to City promptly following City's request therefor. Developer shall also include in its general contractor construction contract a provision obligating the general contractor to require its contractors and/or subcontractors to comply with all State Labor Code requirements pertaining to "public works." If any federal funding or assistance is provided for the Public Facilities, Developer shall also comply and cause its general contractor and subcontractors to comply with any applicable federal labor requirements, including the Davis-Bacon Act of 1931 as codified in 40 U.S.C §§ 3141 through 3148 ("**Davis-Bacon**").

**5.2 Indemnity.** Developer shall defend (with counsel reasonably acceptable to City) indemnify and hold harmless City and its elected officials, officers, agents, employees and contractors (collectively, "**City Parties**") from and against any and all claims made by a third party or parties arising out of Developer's obligation to comply with all State Labor Code and, if applicable, Davis-Bacon requirements pertaining to public works and payment of prevailing wages in connection with the construction of the Public Facilities, as required pursuant to the immediately preceding paragraph, and indemnify and hold harmless City and City Parties with respect to all liabilities, costs and damages in connection therewith (including attorneys' fees and costs), including final judgments or settlements in actions brought by any "contractor" in which City is (i) determined to be an "awarding body" and (ii) damages are awarded, pursuant to Labor Code Sections 1726 or 1781 or applicable portions of Davis-Bacon. Developer's indemnity obligations under this Section shall survive expiration or termination of this Agreement.



**5.3 Waiver and Release.** Developer hereby waives and releases City and City Parties from any and all manner of claims or other compensation whatsoever, in law or equity, arising out of, directly or indirectly, or in any way connected with Developer's obligation to comply with all State Labor Code and, if applicable, Davis-Bacon requirements in connection with the construction of the Public Facilities.

**6. City's Right To Inspect And Observe Public Facility Construction**

**6.1 City Inspection and Rejection.** Work and materials, and preparation of materials, from beginning of construction until final completion and acceptance of the Public Facilities located within City's right-of-way, shall be subject to inspection and rejection by City, its agents, representatives or independent contractors retained by City to perform inspection services. Developer shall provide City representatives with proper and safe conditions for such access and advise them of Developer's safety procedures and program so that they may comply therewith as applicable.

**6.2 Developer Notice to City.** Developer shall give City and or Caltrans timely notice of readiness of each component of the Public Facilities for all required inspections, tests or approvals, and shall cooperate with inspection and testing personnel to facilitate required inspections or tests. City shall promptly inspect work as required, within two (2) business days of receipt of Developer's notice to City.

**6.3 Inspection by Public Bodies Other than City.** If applicable laws or regulations of any public body having jurisdiction require any work (or part thereof) specifically to be inspected, tested or approved by an employee or other representative of such public body (e.g., PG&E and Caltrans), Developer shall assume full responsibility for arranging and obtaining such inspections, tests or approvals, and obtain the required certificates of inspection or approval. Developer shall pay all upfront costs in connection with any inspections, tests or approvals required for the acceptance of materials or equipment to be incorporated in the Public Facilities, or of materials, mix designs, or equipment submitted for approval prior to Developer's purchase thereof for incorporation into the Public Facilities. Notwithstanding the above, City and Developer shall coordinate in good faith toward ensuring that the necessary inspections, tests, approvals, or payments required for these inspections, tests or approvals, proceed in a timely manner so as not to delay the work or increase the costs for the work.

**7. System Testing and Connection to Current Established System**

Upon completion of construction and before final inspection pursuant to Section 6, Developer shall conduct signal system testing to ensure the proper operation of the Traffic Signal. Developer shall advise City and Caltrans of its results and facilitate repairs as necessary.

Developer shall also coordinate with Caltrans to ensure the Traffic Signal operates in coordination with Caltrans's I-80 ICM signal timing. Developer shall also coordinate with AC Transit to ensure the proper use of Transit Signal Priority equipment and coordinate the timing of the Traffic Signal.

## 8. Conveyance Of Public Facilities

**8.1 Dedication Requirements.** Developer shall dedicate and convey the Traffic Signal to Caltrans, free and clear of all title exceptions and encumbrances, in favor of Caltrans. If necessary, as discussed in Section 1.1, Developer shall dedicate and convey the Re-stripped Lane to City, free and clear of all title exceptions and encumbrances, in favor of the City. Developer will make the dedication and conveyance within 30 days following the completion of construction of the respective Public Facility, along with delivery to City and Caltrans of the as-built record documents of the respective Public Facility. Prior to acceptance of the respective Public Facility by the City Engineer or Caltrans, Developer shall be solely responsible for maintaining the quality of the work, and maintaining safety at the work site.

**8.2 Acceptance of Public Facilities.** Developer shall notify City and Caltrans upon completion of construction and testing of the Traffic Signal. Developer shall seek final inspection of the Traffic Signal from Caltrans and provide City with Caltrans's written approval and acceptance of the Traffic Signal within thirty (30) days following the date upon which Developer provides the offer of dedication to Caltrans pursuant to Section 8.1. In accordance with Section 1.1, if the Re-stripped Lane is required by the City Engineer, City shall conduct final inspection of the Re-stripped Lane within City's right-of-way in a timely manner and provide Developer with written approval and acceptance of the Re-stripped Lane, no later than thirty (30) days following the date upon which Developer provides the offer of dedication to City pursuant to Section 8.1. City will accept Developer's conveyance of the Re-stripped Lane upon the satisfaction of the provisions of this Agreement.

Upon acceptance of the Traffic Signal by Caltrans, Developer shall have no remaining responsibilities and liabilities relating to the Traffic Signal, as set forth in Sections 4.4, 8, 11 and 15. If the City Engineer determines that the Re-Striped Lane is unnecessary after the third year of traffic performance monitoring at San Pablo Avenue and Dwight Way, as described in Section 1.1, Developer shall have no remaining responsibilities and liabilities to the City relating to the Re-stripped Lane.

**8.3 Assignment of Warranties and Contracts.** Concurrent with conveyance of the Public Facilities to the City and Caltrans pursuant to Section 8.1, Developer, as assignor, shall assign in writing, all rights under all warranties described in Section 11 to the City, as assignee.

## 9. Damages

**9.1 Reporting.** If any damage (including death, bodily injury or property damage) occurs in connection with the performance of this Agreement, Developer shall immediately notify the City Manager's office by telephone at 510-981-7008, and Developer shall promptly submit to the City's Risk Manager and the City's authorized representative a written report (in a form acceptable to the City) with the following information: (i) a detailed description of the damage (including the name and address of the injured or deceased person(s), and a description of the damaged property), (ii) names and addresses of witnesses, and (iii) names and addresses of any potential insurance companies.

## **10. Improvement Security**

**10.1 General Requirements.** Developer shall secure faithful performance, labor and material, and warranty security for the Public Facilities from all pertinent contractors and subcontractors, within the times provided below and the costs thereof shall not be included in the Actual Total Costs. Developer shall ensure that contractors and subcontractors will continuously maintain the faithful performance and labor and material security in effect until the last to occur of (a) Developer's satisfactory completion of the Public Facilities as determined by the City Engineer or his/her designee, (b) City's final acceptance of the Public Facilities, and (c) the expiration of applicable time periods for filing liens for payment of labor and materials claims, at which time City shall release and/or return to Developer the faithful performance and labor and material security. If any of the security instruments is a surety bond, the surety issuing said bond shall be admitted in the State of California and have a financial rating from A.M. Best Company of A-VIII or better. In addition, the surety bond, whether issued by individual or corporate surety, shall, among other required terms and conditions, contain conditions that (i) death of the named principal shall not operate as a release of the obligation of the surety and (ii) no extension of time, change, alteration, modification, deletion, or addition to the Construction Documents, or of the work (including services) required thereunder, or any City action to perform work, protect work, mitigate damages, or advance critical work to mitigate schedule delay shall release or exonerate surety on the bond or in any way affect the obligations of surety on the bond, unless such action is a City default, and surety waives notice of same.

## **11. General Representations And Warranties**

Developer represents and warrants that it is and will be at all times fully qualified and capable of performing or causing to be performed the work of designing and constructing the Public Facilities in accordance with the terms of this Agreement. Developer warrants that all construction services shall be performed in accordance with generally accepted professional standards of good and sound construction practices. Developer warrants that the Public Facilities including, without limitation, each item of material and equipment incorporated therein, shall be new, of suitable grade of its respective kind for its intended use, and free from defects in design, engineering, materials, construction and workmanship. Developer warrants that all work shall conform in all respects with all applicable requirements of federal, state and local laws; applicable construction codes and standards; licenses and permits; and drawings and specifications and all descriptions set forth therein. Developer shall not be responsible, however, for the negligence of others in the specification of specific equipment, materials, design parameters and means or methods of construction where that is specifically shown and expressly required by Developer Consultants' construction documents. Other than as set forth in this Agreement, after delivering each component of the Public Facilities to City as described in Section 8.1 above, Developer will have no remaining responsibilities relating to the respective Public Facility.

## **12. Insurance**

Developer shall, until the date by which the City accepts the Public Facilities, maintain insurance to cover Developer (including its agents, representatives, contractors, subcontractors, and employees) in connection with the performance of work under this Agreement. This

Agreement identifies the minimum insurance levels with which Developer shall comply; however, the minimum insurance levels shall not relieve Developer of any other performance responsibilities under this Agreement (including the indemnity requirements), and Developer may carry, at its own expense, any additional insurance it deems necessary or prudent. Concurrently with the execution of this Agreement by the Developer, and prior to the commencement of any work, Developer shall furnish written proof of insurance (certificates and endorsements), in a form acceptable to the City. Developer shall provide substitute written proof of insurance no later than 30 days prior to the expiration date of any insurance policy required by this Agreement.

**12.1 Minimum Insurance Levels.**

Developer shall maintain, and require its contractor to maintain, insurance at the following minimum levels:

(a) Commercial General Liability (with coverage at least as broad as ISO form CG 00 01 01 96) coverage in an amount not less than \$4,000,000 general aggregate and \$2,000,000 per occurrence for general liability, bodily injury, personal injury, and property damage.

(b) Automobile Liability (with coverage at least as broad as ISO form CA 00 01 07 97, for “any auto”) coverage in an amount not less than \$1,000,000 per accident for bodily injury and property damage.

(c) Builder’s all-risk insurance in an amount not less than the full insurable cost of the Public Facilities and related improvements on a replacement cost basis.

(d) Workers’ Compensation coverage as required by the State of California.

**12.2 Endorsements.**

The insurance policies from the Developer and its contractor shall be endorsed as follows:

(a) For the commercial general liability and automobile insurance, the City (including its elected officials, employees, and agents) shall be named as additional insured, and the policy shall be endorsed with a form at least as broad as ISO form CG 20 10 04 13 and CG 20 37 04 13.

(b) Developer’s insurance is primary to any other insurance, self-insurance or joint self-insurance available to the City with respect to any claim arising out of this Agreement. Any insurance, self-insurance or joint self-insurance maintained by the City shall be excess of the Developer’s insurance and shall not contribute with it.

(c) Developer’s insurance will not be canceled, limited, or allowed to expire without renewal until after 30 days’ written notice has been given to the City. During the term of this Agreement, Developer will not materially alter any of the policies or reduce any of the levels of coverage afforded by its insurance policies.

**12.3 Qualifications of Insurers.** All insurance companies providing coverage to Developer shall be insurance organizations authorized by the Insurance Commissioner of the State of California to transact the business of insurance in the State of California, and shall have an A.M Best's rating of not less than "A:VII."

**13. Default**

In the event of a breach of this Agreement by either Party, the other Party shall be entitled to all remedies at law or in equity.

**14. City As Third Party Beneficiary**

City is an intended third party beneficiary of the rights of Developer with respect to all agreements entered into prior to or after this Agreement by the Developer with design, engineering, construction, and other professionals related to this Public Facilities, including but not limited to engineering contractors, for the purposes of performing the work of design and construction of the Public Facilities ("**Design and Construction Agreements**"). All Design and Construction Agreements shall include a provision granting to the City the right of assignment in the event of a Developer default or after the conveyance of the Public Facilities to the City under this Agreement, as set forth in Section 8.3. City may exercise such rights under this Agreement and any Design and Construction Agreements, but shall not be obligated to do so, upon (i) a Developer default prior to the conveyance of the Public Facilities to the City or (ii) after the conveyance of the Public Facilities to the City.

**15. Indemnification**

Developer shall defend, indemnify and hold City Parties free and harmless from any and all liability, claims or causes of action from loss, damage, or injury to or death of persons or property in any manner arising out of or incident to Developer's performance of this Agreement, including without limitation, all consequential damages and attorneys' fees. Developer's indemnity obligation to City Parties shall cease upon City's acceptance of the Public Facilities pursuant to Section 8.2. City agrees to defend, indemnify and hold Developer free and harmless from any and all liability, claims or causes of action from loss, damage, or injury to or death of persons or damage to property resulting from intentional or negligent acts or omissions of the City, its officers, employees, agents, or contractors arising out of its approval of the Public Facilities and/or City's performance of this Agreement, including all consequential damages and attorneys' fees.

**16. Termination**

In the event that either of the Parties defaults in the performance of any of its obligations under this Agreement or materially breaches any of the provisions of this Agreement, non-breaching Party shall be entitled to all remedies at law or in equity.

**17. Notices**

All notices permitted or required under this Agreement shall be deemed made when delivered to the applicable party's representative as provided in this Agreement. Such notices shall be mailed or otherwise delivered to the addresses set forth below, or at such other address as the respective parties may provide in writing for this purpose:

- City: City of Berkeley  
2180 Milvia Street  
Berkeley, CA 94704  
Attention: City Engineer
  
- With copy to: City of Berkeley  
2180 Milvia Street, Fourth Floor  
Berkeley, CA 94704  
Attention: City Attorney
  
- Developer: 2621 Tenth Street, LLC  
c/o Wareham Property Group  
1120 Nye Street, Suite 400  
San Rafael, CA 94901  
Attention: Managing Member
  
- With a copy to: Burke, Williams & Sorensen LLP  
101 Howard Street, Suite 400  
San Francisco, CA 94105  
Attention: Anna C. Shimko

Such notice shall be deemed made when personally delivered or when mailed, forty-eight (48) hours after deposit in the U.S. Mail, first class postage prepaid and addressed to the party at its applicable address.

**18. Nuclear Free Berkeley**

Developer agrees to comply with B.M.C. Chapter 12.90, the Nuclear Free Berkeley Act, as amended from time to time.

**19. Oppressive States Contracting Prohibition**

In accordance with Resolution No. 59,853-N.S., Developer certifies that it has no contractual relations with, and agrees during the term of this Contract, to forego contractual relations to provide personal services to, the following entities:

- a. The governing regime in any "Oppressive State," as defined in Resolution No. 59,853-N.S.
  
- b. Any business or corporation organized under the authority of the governing regime of any Oppressive State.

- c. Any individual, firm, partnership, corporation, association, or any other commercial organization, including parent-entities and wholly-owned subsidiaries (to the extent that their operations are related to the purpose of its contract with the City), for the express purpose of assisting in business operations or trading with any public or private entity located in any Oppressive State.

Appendix A to Resolution No. 59,853-N.S. designates the following as Oppressive States for the purposes of this contract: Tibet Autonomous Region and the provinces of Aho, Kham, and U-Tsang. Developer's failure to comply with this section shall constitute a default of this Contract pursuant to Section 13.

**20. Berkeley Living Wage Ordinance**

**20.1** Developer hereby agrees to comply with the provisions of the Berkeley Living Wage Ordinance, B.M.C. Chapter 13.27. If Developer is currently subject to the Berkeley Living Wage Ordinance, as indicated by the Living Wage Certification form, attached hereto, Developer will be required to provide all eligible employees with City mandated minimum compensation during the term of this Contract, as defined in B.M.C. Chapter 13.27, as well as comply with the terms enumerated herein.

**20.2** If Developer is currently subject to the Berkeley Living Wage Ordinance, Developer shall be required to maintain monthly records of those employees providing service under the Contract. These records shall include the total number of hours worked, the number of hours spent providing service under this Contract, the hourly rate paid, and the amount paid by Developer for health benefits, if any, for each of its employees providing services under the Agreement. Developer agrees to supply City with any records it deems necessary to determine compliance with this provision. These records are expressly subject to the auditing terms described in Section 22.

**20.3** If Developer is currently subject to the Berkeley Living Wage Ordinance, Developer shall include the requirements thereof, as defined in B.M.C. Chapter 13.27, in any and all subcontracts in which Developer engages to execute its responsibilities under this Agreement. All subcontractor or subconsultant employees who spend 25% or more of their compensated time engaged in work directly related to this Contract shall be entitled to a living wage, as described in B.M.C. Chapter 13.27 and herein.

**20.4** If Developer fails to comply with the requirements of this Section, the City shall have the rights and remedies described in this Section, in addition to any rights and remedies provided by law or equity.

**20.5** Developer's failure to comply with this Section shall constitute a material breach of the Agreement pursuant to Section 14. In addition, at City's sole discretion, Developer may be responsible for liquidated damage in the amount of \$50 per employee per day for each and every instance of an underpayment to an employee. It is mutually understood and agreed that Developer's failure to pay any of its eligible employees at least the applicable living wage rate will result in damages being sustained by the City; that the nature and amount of the damages will be extremely difficult and impractical to fix; that the liquidated damage set forth herein is the

nearest and most exact measure of damage for such breach that can be fixed at this time; and that the liquidated damage amount is not intended as a penalty of forfeiture for Developer's breach. City may deduct any assessed liquidated damages from any payments otherwise due Developer.

**21. Berkeley Equal Benefits Ordinance**

**21.1** Developer hereby agrees to comply with the provisions of the Berkeley Equal Benefits Ordinance, B.M.C. Chapter 13.29. If Developer is currently subject to the Berkeley Equal Benefits Ordinance, Developer will be required to provide all eligible employees with City mandated equal benefits, as defined in B.M.C. Chapter 13.29, during the term of this contract, as well as comply with the terms enumerated herein.

**21.2** If Developer is currently or becomes subject to the Berkeley Equal Benefits Ordinance, Developer agrees to provide City with all records City deems necessary to determine compliance with this provision. These records are expressly subject to the auditing terms described in Section 22 of this Agreement.

**21.3** If Developer fails to comply with the requirements of this Section, City shall have the rights and remedies described in this Section, in addition to any rights and remedies provided by law or equity.

**21.4** Developer's failure to comply with this Section shall constitute a material breach of the Agreement pursuant to Section 14.

**21.5** In addition, at City's sole discretion, Developer may be responsible for liquidated damages in the amount of \$50.00 per employee per day for each and every instance of violation of this Section. It is mutually understood and agreed that Developer's failure to provide its employees with equal benefits will result in damages being sustained by City; that the nature and amount of these damages will be extremely difficult and impractical to fix; that the liquidated damages set forth herein is the nearest and most exact measure of damages for such breach that can be fixed at this time; and that the liquidated damage amount is not intended as a penalty or forfeiture for Developer's breach. City may deduct any assessed liquidated damages from any payments otherwise due Developer.

**22. Audit And Inspection Of Records**

**22.1** Developer shall require Developer Consultants to maintain all drawings, specifications, calculations, cost estimates, quantity takeoffs, statements of costs and completion dates, schedules and all correspondence, internal memoranda, papers, writings, and documents of any sort prepared by or furnished to Developer during the course of performing the work in connection with the Public Facilities for a period of at least three (3) years following final completion and acceptance of the Public Facilities. All such records shall be available to City upon request at reasonable times and places.

**22.2** Developer shall require Developer Consultants to maintain and make available to City during business hours accurate books and accounting records relative to its activities under this Agreement. Developer shall also require Developer Consultants to permit City to audit,



examine and make copies, excerpts and transcripts from such books and records, and to make audits of all invoices, materials, payrolls, records or personnel and other data related to all matters covered by this Agreement, whether funded in whole or in part under this Agreement. Developer shall require Developer Consultants to maintain such data and records in an accessible location and condition for a period of not less than five years after final payment under this Agreement or until after final audit has been resolved, whichever is later. The State of California or any federal agency having an interest in the subject of this Agreement shall have the same rights conferred upon City by this Paragraph.

**22.3** The rights and obligations established pursuant to this Paragraph shall be specifically enforceable and survive termination of this Agreement.

**23. Miscellaneous Provisions**

**23.1 Definition of Developer.** Developer, as used in this Agreement, shall include its contractors, subcontractors and consultants, and all parties acting on its behalf.

**23.2 Relationship Between the Parties.** Developer is, and at all times shall remain, an independent contractor solely responsible for all acts of its employees, agents, contractors, or subcontractors, including any negligent acts or omissions. Developer is not City's agent, and shall have no authority to act on behalf of the City, or to bind the City to any obligation whatsoever, unless the City provides prior written authorization to Developer.

**23.3 Nondiscrimination.** Developer shall comply with all applicable federal, state, and local laws regarding nondiscriminatory employment practices, whether or not said laws are expressly stated in this Agreement. Developer shall not discriminate against any employee or applicant because of race, color, religious creed, national origin, physical disability, mental disability, medical condition, marital status, sexual orientation, or sex.

**23.4 Entire Agreement.** This Agreement, including any exhibits, contains the entire agreement of the Parties hereto with respect to the matters contained herein.

**23.5 Assignment.** This Agreement shall inure to the benefit of and be binding upon the Developer and City, their heirs, successors and assigns.

**23.6 Authority to Bind Principals.** The signatories hereto represent that they have been appropriately authorized to enter into this Agreement on behalf of the party for whom they sign.

**23.7 Titles and Captions.** Titles and captions are for convenience of reference only and do not define, describe or limit the scope or the intent of this Agreement or any of its terms. References to section numbers are to sections in this Agreement, unless expressly stated otherwise.

**23.8 Interpretation.** The Developer and City acknowledge that this Agreement is the product of a mutual arms-length negotiation and drafting. The Developer and City each

represent and warrant to the other that it has been represented by legal counsel in the negotiation and drafting of this Agreement.

**23.9 Severability.** Each provision, term, condition, covenant and/or restriction in this Agreement shall be considered severable. In the event that any provision, term, condition, covenant and/or restriction, or part thereof is declared invalid, unconstitutional or void for any reason, such provision or part thereof shall be severed from this Agreement and shall not affect the remainder of the Agreement which shall continue in full force and effect.

**23.10 Amendments to Agreement.** Any amendments to this Agreement must be in writing and signed by the appropriate authorities of the Developer and City.

**23.11 Administration.** Following approval of this Agreement by the City Council, the parties shall exercise their rights, perform their obligations and otherwise administer this Agreement through the Office of the City Manager. The City Manager shall have the authority to issue interpretations and to make minor amendments to this Agreement on behalf of the parties, provided such actions do not materially increase the obligations of either party; make a commitment of additional costs to be incurred by either party; or result in a discretionary extension of time in excess of ninety (90) days.

**23.12 Counterpart Originals.** This Agreement may be executed in duplicate originals, each of which is deemed to be an original.

**23.13 Effective Date.** This Agreement shall become effective and binding upon the parties upon its approval by the City Council and its execution by the duly authorized representatives of each party.

*[Remainder of page intentionally left blank]*

*[Signatures on next page]*


IN WITNESS WHEREOF, the City and Developer do hereby agree to the full performance of the terms set forth herein.

Dated: 5/20/19, 2019

**DEVELOPER:**

2621 TENTH STREET, LLC,  
a California limited liability company

Wareham-NZL, LLC

By:   
Name: Richard K. Robbins  
Its: Manager

**CITY:**


CITY OF BERKELEY

Dated: \_\_\_\_\_, 2019

By: \_\_\_\_\_

Its: \_\_\_\_\_

\_\_\_\_\_

APPROVED AS TO FORM  
  
CITY ATTORNEY FOR THE  
CITY OF BERKELEY

# Exhibit A

Roles and Accountability Matrix  
 New Signal (Parker & San Pablo) & Re-Stripe (Dwight & San Pablo)  
 Berkeley, CA

| ID | Task                                                                          | Development Team |     |           |            | City of Berkeley | Caltrans | AC Transit                                                                                                                                                                                                                                                                        | Comments | Status |
|----|-------------------------------------------------------------------------------|------------------|-----|-----------|------------|------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------|
|    |                                                                               | Design Team      |     | Developer | Contractor |                  |          |                                                                                                                                                                                                                                                                                   |          |        |
|    |                                                                               | F&P              | K&W |           |            |                  |          |                                                                                                                                                                                                                                                                                   |          |        |
| 1  | Finalize & Execute Legal Agreement                                            |                  |     | R         |            | R                |          |                                                                                                                                                                                                                                                                                   |          |        |
| 2  | Pre-Permit Concept Design Meeting with Caltrans                               | P                | P   | P         |            | R                | P        | To take place once design concept complete. Determine process, stages of Caltrans review (e.g. 35%, 65%, 95%), whether application is for "improvements" and then "design" includes a utility conflict analysis, F&P to advise on limits, and if GH utilities need to be surveyed | Complete |        |
| 3  | Survey                                                                        | C                | R   |           |            |                  |          | F&P to confirm operations & maintenance responsibilities (city vs. state)                                                                                                                                                                                                         | Complete |        |
| 4  | Prepare Concept Design                                                        | R                | C   |           |            | C                |          |                                                                                                                                                                                                                                                                                   |          |        |
| 5  | Prepare & Submit PG&E Application for Service                                 | R                |     |           |            | C                |          |                                                                                                                                                                                                                                                                                   |          |        |
| 6  | Design / Prepare Construction Documents (CD)                                  | R                | R   |           |            | C                | C        | Includes traffic control plans                                                                                                                                                                                                                                                    |          |        |
| 7  | City Review & Approval (Design Review)                                        |                  |     |           |            | R                |          | City will perform timely review and approval of CDs (at 35%, 65%, and 95%). City will confirm that design conforms with City's codes and regulations. Streamlined reviews at 65% and 95% level to be limited to drainage, ADA, and detection hardware.                            |          |        |
| 8  | Prepare Package for Caltrans Encroachment Permit                              | R                | C   |           |            | C                |          | Will include CDs at 100%.                                                                                                                                                                                                                                                         |          |        |
| 9  | Request Consultant to Serve as Authorized Representative of City              | C                |     |           |            | R                |          | City to request that Fehr & Peers be permitted to act as a representative during Caltrans review and approval process.                                                                                                                                                            |          |        |
| 10 | Submit Caltrans Encroachment Permit Application Package                       | R                |     |           |            | C                |          | Standard Permit Application forms and 100% Plans and Specifications                                                                                                                                                                                                               |          |        |
| 11 | Caltrans Review & Approval (Design Review)                                    |                  |     |           |            |                  | R        | Caltrans will confirm that design conforms with State's codes and regulations                                                                                                                                                                                                     |          |        |
| 12 | Respond to Caltrans Comments                                                  | R                | C   |           |            | A                |          | F&P to advise City of any changes to CDs in response to Caltrans comments.                                                                                                                                                                                                        |          |        |
| 13 | Resubmit Caltrans Encroachment Permit                                         | R                |     |           |            | C                |          |                                                                                                                                                                                                                                                                                   |          |        |
| 14 | Confirm PG&E Service needs                                                    | R                |     | A         |            | C                |          | Developer to enter into contract with PG&E to pay engineering and construction fees                                                                                                                                                                                               |          |        |
| 15 | Finalize & Execute Maintenance Agreement                                      |                  |     |           |            | R                | R        | Existing agreement will be used for this project while Caltrans and City work to update the maintenance agreement (separate process)                                                                                                                                              |          |        |
| 16 | Caltrans Approval & Encroachment Permit Issuance                              |                  |     |           |            |                  | R        |                                                                                                                                                                                                                                                                                   |          |        |
| 17 | Hire & Manage Contractor                                                      | A                |     | R         |            | A                |          | Once a contractor is selected, Development Team will advise City.                                                                                                                                                                                                                 |          |        |
| 18 | City Approval & Permit Issuance                                               |                  |     |           |            | R                |          | Will be required if side streets are impacted (e.g. staging, potentially cameras)                                                                                                                                                                                                 |          |        |
| 19 | Provide Courtesy Copy of Plans (100% CDs) to AC Transit                       | R                |     |           |            | A                | A        |                                                                                                                                                                                                                                                                                   |          |        |
| 20 | Construct Signal                                                              | C                | C   |           | R          |                  |          | Contractor will provide City with copy of material submittals.                                                                                                                                                                                                                    |          |        |
| 21 | Schedule Inspections (with City, PG&E and Caltrans)                           |                  |     |           | R          |                  |          | For any work that may take place in City right of way.                                                                                                                                                                                                                            |          |        |
| 22 | Inspections - Caltrans Right of Way                                           |                  |     |           |            |                  | R        | If Caltrans does not inspect any element of construction activities, the City will do so.                                                                                                                                                                                         |          |        |
| 23 | Inspections - City Right of Way                                               |                  |     |           |            | R                |          | If applicable                                                                                                                                                                                                                                                                     |          |        |
| 24 | Schedule PG&E to hook up power                                                |                  |     |           | R          |                  |          |                                                                                                                                                                                                                                                                                   |          |        |
| 25 | Signal System Testing                                                         |                  |     | A         | R          | A                | A        |                                                                                                                                                                                                                                                                                   |          |        |
| 26 | Coordination of Signal with I-80 ICM Project signal timing                    | R                |     |           | A          | C                | C        | Caltrans provides input.                                                                                                                                                                                                                                                          |          |        |
| 27 | Coordinate Transit Signal Priority (TSP) equipment and timing with AC Transit | R                |     |           | A          | C                | C        | AC Transit provides information.                                                                                                                                                                                                                                                  |          |        |
| 28 | Final Inspection / Sign-Off - Caltrans Right of Way                           |                  |     |           | P          | A                | R        |                                                                                                                                                                                                                                                                                   |          |        |
| 29 | Final Inspection / Sign-Off - City Right of Way (Re Stripe)                   |                  |     |           | P          | R                | A        | If applicable                                                                                                                                                                                                                                                                     |          |        |
| 30 | Assignment of Warranties                                                      |                  |     | R         | R          | R                | I        | City has confirmed that the warranties will be assigned to City of Berkeley.                                                                                                                                                                                                      |          |        |
| 31 | Maintenance                                                                   |                  |     |           |            | R                |          |                                                                                                                                                                                                                                                                                   |          |        |

R = Responsible  
 P = Participant  
 C = Consulted  
 A = Advised  
 F&P = Fehr & Peers  
 K&W = Kier & Wright

Project Costs  
 All Hard Costs  
 All Soft Costs including, but not limited to, design fees, PG&E Engineering Fee, Caltrans permit fees, City permit fees, legal fees to prepare agreement

City of Berkeley  
 City of Berkeley internal efforts (including but not limited to staff time) to be absorbed by the City and not charged as project costs





Housing Advisory Commission

11

CONSENT CALENDAR  
December 3, 2019

To: Honorable Mayor and Members of the City Council  
 From: Housing Advisory Commission  
 Submitted by: Xavier Johnson, Chairperson, Housing Advisory Commission  
 Subject: Transfer Tax Refund for 1638 Stuart Street

RECOMMENDATION

The Commission recommends that the City Council authorize the City Manager to grant a transfer tax refund of an estimated \$10,260 to the Bay Area Community Land Trust (BACLT) refund in support of the renovation of 1638 Stuart Street and BACLT's operation of the property as affordable housing.

FISCAL IMPACTS OF RECOMMENDATION

Since the Housing Advisory Commission took action, the transfer tax was paid at the originally estimated amount, \$10,260. There will be a cost of \$10,260 to the City for this action, plus staff time for contracts and other follow up actions.

CURRENT SITUATION AND ITS EFFECTS

Providing a Transfer Tax Refund for 1638 Stuart Street is a Strategic Plan Priority Project that will advance the City's goal to create affordable housing. BACLT submitted a letter addressed to the Housing Advisory Commission, requesting a refund of the transfer taxes for 1638 Stuart Street which will provide more funding to support the renovation of the property. BACLT is in the process of closing its Small Sites Program loan, which will pay for the renovation of eight residential units on the property that will be converted to long-term affordable housing.

McGee Avenue Baptist Church will maintain ownership of 1638 Stuart Street throughout the rehabilitation and operation as affordable housing. BACLT has entered into a 57-year lease with the Church in order to renovate and then operate the property for the length of the City's loan and regulatory agreement. The Church's transfer of the property to its affiliate LLC, and the recording of a memorandum of lease against the property trigger transfer taxes. The transfer taxes were calculated based on the value of the lease, and the City's portion of the taxes was \$10,260.

At the September 5, 2019 meeting of the Housing Advisory Commission, the commission voted to:

Action: M/S/C (Lord/Simon-Weisberg) recommend that City Council authorize the City Manager to grant an estimated \$10,260 to Bay Area Community Land Trust (BACLT) in the form of a transfer tax refund, in support of the renovation of 1638 Stuart Street and BACLT's operation of the property as affordable housing.

Vote: Ayes: Lacey, Lord, Mendonca, Sargent, Sharenko, Simon-Weisberg, Wolfe and Wright. Noes: None. Abstain: None. Absent: Johnson (excused) and Owens (excused).

#### BACKGROUND

1638 Stuart Street is an eight-unit property that has been vacant for more than 20 years. Using Small Sites Program funds, BACLT will renovate the property and bring the units back into active use, restricting them to households earning up to 80% of the area median income. The property is dilapidated, and has extensive renovation needs. With construction costs continuing to increase, the project would benefit from a reduction in the amount of transfer taxes owed. The funds would be better used to support renovation needs, or for reserves that can help support the project's operations in the long term.

In 2014, City Council approved a transfer tax refund to the David Brower Center and Resources for Community Development related to the Oxford Plaza development when a transfer to an RCD-affiliated entity for refinancing triggered the transfer tax.

#### ENVIRONMENTAL SUSTAINABILITY

This project will go to funding affordable housing and help reduce vehicle miles traveled, since some of the future residents who are income-eligible and who work in Berkeley, will no longer need to commute from cities further away.

#### RATIONALE FOR RECOMMENDATION

The allocation of this funding will help in the preservation of eight units of affordable housing in the City of Berkeley.

#### ALTERNATIVE ACTIONS CONSIDERED

No alternative actions considered.

#### CITY MANAGER

The City Manager concurs with the content and recommendations of the Commission's Report.

#### CONTACT PERSON

Mike Uberti, Commission Secretary, HHCS, (510) 981-5114





Office of the City Manager

CONSENT CALENDAR  
December 3, 2019

To: Honorable Mayor and Members of the City Council  
From: Public Works Commission  
Submitted by: Ray Yep, Chairperson, Public Works Commission  
Subject: Authorization for Additional Public Works Commission Meeting in 2019

RECOMMENDATION

Adopt a Resolution authorizing one additional meeting of the Public Works Commission Meeting in 2019.

FISCAL IMPACTS OF RECOMMENDATION

None.

CURRENT SITUATION AND ITS EFFECTS

The Public Works Commission requests approval to hold a Special Meeting on December 14, 2019, in addition to regularly scheduled Commission meetings, for the purpose of discussing its Fiscal Year (FY) 2020 Work Plan. Submission of this report for authorization of the additional meeting was approved by the Public Works Commission at its January 10, 2019 meeting. It was moved to approve by Nic Dominguez, and seconded by Jim McGrath. The other Commissioners present, John Hitchen, Shane Krpata, and Ray Yep, also voted yes to the approve the additional meeting. Matthew Freiberg and Sachu Constantine were absent from the meeting. The Public Works Commission had one Commission position unfilled. Margo Schueler abstained from voting.

BACKGROUND

Resolution No. 68,258-N.S. governs the number of meetings for boards and commissions and places the Public Works Commission in Category B with a maximum of 10 meetings per year. In 2019, the Commission held 9 regular meetings from January through October, and a meeting is scheduled in November.

ENVIRONMENTAL SUSTAINABILITY

There are no identifiable environmental impacts or opportunities associated with this report.

RATIONALE FOR RECOMMENDATION

The additional meeting requested for December is an opportunity for the Commission to review and plan its activities, initiatives, and subcommittee assignments for the

remaining FY 2020 term. The work planning of the Commission advances the City Strategic Plan Priority Goal of providing state-of-the art, well maintained infrastructure, amenities, and facilities.

ALTERNATIVE ACTIONS CONSIDERED

None.

CITY MANAGER

The City Manager concurs with the content and recommendations of the Commission's Report.

CONTACT PERSON

Nisha A. Patel, Secretary, Public Works Commission and Manager of Engineering,  
Public Works, (510) 981-6406

Attachments:

1: Resolution

RESOLUTION NO. ##,###-N.S.

AUTHORIZING ADDITIONAL MEETING FOR THE PUBLIC WORKS COMMISSION

WHEREAS, Resolution No. 68,258-N.S. stipulates how many annual meetings are allowed for Berkeley's commissions and places the Public Works Commission in Category B, with a maximum of 10 meetings per year; and

WHEREAS, the Public Works Commission plans to hold another additional meeting in December to discuss its Work Plan for FY 2020.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that the Council authorizes one additional meeting in 2019 for the Public Works Commission.





Office of the Mayor

13

CONSENT CALENDAR  
December 3, 2019

To: Honorable Members of the City Council

From: Mayor Jesse Arreguín, and Councilmembers Sophie Hahn, Susan Wengraf, and Cheryl Davila

Subject: Reaffirming the Arctic National Wildlife Refuge Resolution

RECOMMENDATION

Adopt a Resolution reaffirming Berkeley's position as supporting the preservation of the Arctic National Wildlife Refuge and refrain the City from conducting business with companies that purchases, leases, or develops oil fields within the Refuge.

BACKGROUND

The Arctic National Wildlife Refuge, located in the northeast corner of Alaska, is the largest national wildlife refuge in the country, covering over 30,000 square miles (for comparison, the nine-county Bay Area covers an area just under 7,000 square miles). It is home to a wide array of wildlife, including 37 species of land mammals, 42 fish species, eight marine mammal species, and over 200 migratory and resident bird species. Many of these are endangered and are at risk from climate change. Founded in 1960, the Refuge serves as a crucial sanctuary for this wildlife. The Refuge is also home to the Gwich'in people, who depend on the land for their livelihood.

Oil drilling is allowed in parts of the Arctic National Wildlife Refuge, but only under the authorization of Congress. A provision in the December 2017 tax bill approved by Congress and signed into law by the President allowed for oil drilling along 1.5 million acres of the coastal areas of the Refuge. While the House passed H.R. 1146 – the Arctic Cultural and Coastal Plain Protection Act, to ban oil drilling in the area, this bill is currently stalled in the Senate. The Department of the Interior intends to conduct lease sales in the Refuge by the end of 2019, paving the way for major oil drilling operations.

On November 4, 2019, the United States formally began the process of leaving the Paris Agreement, which will take twelve months to complete. The Agreement, in which the United States will become the only country in the world to be a non-signatory, is seen as a critical step to prevent global temperatures rising above 2C from pre-industrial levels, with the goal of keeping levels below 1.5C. Reaching 2C would result in cataclysmic and irreversible damage to Earth's climate. The Arctic region is considered one of the most vulnerable areas in the world when it comes to the impacts of climate change. This is in part due to the feedback loop created by melting ice. Ice has a high albedo, meaning it reflects sunlight back into space. Less ice means more energy is absorbed by the Arctic Ocean, creating warmer temperatures that accelerates

further ice melt. Drilling in the Arctic will release significant amounts of methane, a potent greenhouse gas, which will further accelerate warming in the region.

On September 10, 2002, the City Council approved an item introduced by Councilmember Dona Spring that referred the City Manager to require the City from refraining from knowingly purchasing goods or services from a company that purchases leases or develops oil fields in the Refuge (Attachment 2). Under the City's Investment Policy, it has divested from publically traded fossil fuel companies, citing the City's responsibility to protect the lives and livelihoods of its inhabitants from the threat of climate change.

Given recent political decisions on the federal level to move forward with Arctic oil drilling and defiance of environmental regulations, along with the precarious condition the Arctic is in, it is essential to reaffirm the actions the City Council took in 2002.

FINANCIAL IMPLICATIONS

None.

ENVIRONMENTAL SUSTAINABILITY

Preservation of the Arctic is vital in reducing the impacts of climate change.

CONTACT PERSON

Mayor Jesse Arreguin      510-981-7100

Attachments:

1: Resolution

2: September 10, 2002 Council Item on the Arctic National Wildlife Refuge

RESOLUTION NO. ##,###-N.S.

REAFFIRMING THE ARCTIC WILDLIFE NATIONAL REFUGE RESOLUTION

WHEREAS, the coastal plain of the Arctic Wildlife National Refuge is a pristine, unique and fragile ecosystem, home to some of the most spectacular wildlife in the United States, and one of the last remaining such places on the planet; and

WHEREAS, the Arctic Refuge is sacred to the Gwich'in people, who have lived near the area for almost a thousand generations, and depend on the Porcupine Caribou herd for food, clothing, and as a link to their traditional culture; and

WHEREAS, oil drilling in the Refuge is allowed only under authorization of Congress, which was provided in a provision in the December 2017 tax bill approved by Congress and signed into law by the President, allowing for drilling along 1.5 million acres of coastal area; and

WHEREAS, the Department of the Interior is expected to conduct lease sales in the Refuge by the end of 2019, paving the way for major oil drilling operations, despite the same Department under previous administrations warning that drilling in the Arctic Refuge would irreparably harm the Porcupine caribou herd, and therefore the Gwich'in way of life; and

WHEREAS, the Trump Administration has turned its back on environmental regulations, most notably beginning the process of withdrawing from the Paris Agreement, which is seen as an essential part of preventing runaway climate change; and

WHEREAS, the Arctic is in a precarious condition, being more vulnerable to climate change than other regions on the planet, due in part to the feedback loop created by melting ice that creates further warming, allowing for more ice melt; and

WHEREAS, in addition to the risk of oil spills and leaks, drilling produces methane, a potent greenhouse gas, which will further accelerate warming in the region; and

WHEREAS, the majority of Americans oppose opening the coastal plain of the Arctic Refuge for oil and gas drilling, as do the Gwich'in; and

WHEREAS, the City of Berkeley believes that it is irresponsible for a corporation to pursue drilling in one of the last remaining wild places in the United States and to threaten the rights of the Gwich'in; and

WHEREAS, the City of Berkeley wishes to spend its citizen's tax dollars in a manner that is socially and environmentally responsible; and

WHEREAS, in September 2002, the Berkeley City Council approved an item that referred the City Manager to require the City from refraining from knowingly purchasing goods or services from a company that purchases leases or develops oil fields in the Refuge; and

WHEREAS, under the City's Investment Policy, it has divested from publically traded fossil fuel companies, citing the City's responsibility to protect the lives and livelihoods of its inhabitants from the threat of climate change.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that it hereby reaffirms its commitment to not knowingly purchase goods or services from corporations that purchase leases or develop oil fields in the coastal plain of the Arctic National Wildlife Refuge.



REVISED CONSENT CALENDAR

Date:

7-16-02

To: Honorable Mayor and  
Members of the City Council

From: Councilmember Dona Spring

Subject: THE ARCTIC WILDLIFE REFUGE RESOLUTION

**RECOMMENDATION:** That the City Council 1) refer to the City Manager a selective purchasing resolution requiring the City of Berkeley to refrain from knowingly purchasing goods or services from a company that purchase leases or develops oil fields in the coastal plain of the Arctic National Wildlife Refuge; 2) request that the City Manager write a letter to the head of the four company's that want to drill in the refuge informing them of the City Council's opposition to drilling in the Arctic National Wildlife Refuge; and 3) send a letter to Berkeley's federal elected officials urging them to support the Arctic Refuge Wilderness Bill and designate the coastal plain as a protected wilderness area.

**BACKGROUND:** At the July 23<sup>rd</sup> meeting one Council member thought this resolution was no longer needed but US PIRG says it is needed. Please see attached letter and resolution from the Public Interest Research Group (National Association of State PIRG). This referral would ask that the City Manager evaluate the possibility of the City of Berkeley boycotting the four major oil companies who have expressed a desire to drill for oil in the Arctic National Wildlife Refuge. Those companies are: BP Amoco, Chevron, Phillips Petroleum Company, ExxonMobil. The City of Berkeley apparently does not purchase gas from any of these companies. The attached resolution would return with the City Manager's report regarding this selective purchasing request.

**FINANCIAL IMPLICATIONS:** NONE

**CONTACT PERSON:** Councilmember Dona Spring 981 7140

-----Original Message-----

From: Erin Milfeit [mailto:emilfeit@vt.edu]  
Sent: Wednesday, August 07, 2002 10:47 AM  
To: Spring, Dona  
Subject: ANWR Resolution (letter also faxed)

August 7, 2002

Dear Ms. Spring,

I'm writing this letter in response to your message last week. You stated that at the Berkeley City Council meeting held last Tuesday, another councilperson made the comment that the Arctic National Wildlife Drilling a "moot" issue, that Congress has decided that there would be no drilling allowed in the Arctic Refuge, and as a result, the Arctic National Wildlife Refuge Resolution is being held over until September. Let me provide you with an explanation as to why this resolution is important to protecting the Arctic Refuge.

Last summer, the U.S. House of Representatives passed a bill as part of the House energy plan that would open the coastal plain to oil drilling. But on April 18, 2002, the Senate defeated - 54 to 46 - Senator Murkowski's amendment to the Senate energy bill allowing drilling in the coastal plain of the Arctic Refuge. While the Senate vote was a huge victory for the Arctic Wilderness Campaign, in no way does it mean our battle is over.

A House - Senate conference committee has been appointed to reconcile the two energy bills. Since the House did include Arctic drilling, we cannot rule out the possibility that the House Conferees could push for it to be put on the final bill. Senator Tom Daschle has said that the Senate will not accept an energy bill that includes drilling in the Refuge. But there are a number of reasons to be concerned and continue our efforts to protect the Arctic Refuge because a number of things could occur that could result with Arctic drilling on the final energy bill.

The main point is that even if the resulting energy bill is passed and Arctic drilling is left out, this region is still vulnerable from being opened to

drilling in the future. This is why Representatives Ed Markey (D-Mass) and Nancy Johnson (R-Conn) and Senator Joe Lieberman (D-Conn) introduced the 2001 Arctic Wilderness Act. The Senate (S 411) and the (HR 1239) Arctic Wilderness Bill's would permanently protect the coastal plain of the Arctic Refuge from any future attempts to open it for drilling. We are pushing for support to pass these bills. Until that happens, the Arctic Refuge will continue to remain vulnerable to the oil industry.

When it is all said and done, the Arctic Wilderness is not a moot issue. It will not be a moot issue until Congress passes a bill to permanently protect it with a wilderness designation. By passing the ANWR Resolution, cities and counties will be sending a message to the oil industry- BP, ExxonMobil, Chevron Texaco, and Philips Petroleum- to stop pressuring Congress and the Administration to open the region. In addition, it sends a message to Congress and the Administration that the American people, those whom they represent, want to see it protected. This is why passing the Arctic National Wildlife Refuge Resolution is important.

I hope this clears up any questions you had. Please keep in touch in regards to your efforts to pass this resolution. We will keep you updated on our progress.

Sincerely,

Erin Milfeit  
U.S. PIRG

CONSENT CALENDAR

Date: 7-16-02

To: Honorable Mayor and  
Members of the City Council

From: Councilmember Dona Spring

Subject: THE ARCTIC WILDLIFE REFUGE RESOLUTION

RECOMMENDATION: That the City Council 1) refer to the City Manager a selective purchasing resolution requiring the City of Berkeley to refrain from knowingly purchasing goods or services from a company that purchase leases or develops oil fields in the coastal plain of the Arctic National Wildlife Refuge; 2) request that the City Manager write a letter to the head of the four company's that want to drill in the refuge informing them of the City Council's opposition to drilling in the Arctic National Wildlife Refuge; and 3) send a letter to Berkeley's federal elected officials urging them to support the Arctic Refuge Wilderness Bill and designate the coastal plain as a protected wilderness area.

BACKGROUND: Please see attached letter and resolution from the Public Interest Research Group (National Association of State PIRG). This referral would ask that the City Manager evaluate the possibility of the City of Berkeley boycotting the four major oil companies who have expressed a desire to drill for oil in the Arctic National Wildlife Refuge. Those companies are: BP Amoco, Chevron, Phillips Petroleum Company, ExxonMobil. The City of Berkeley may already boycott some of these companies. The attached resolution would return with the City Manager's report regarding this selective purchasing request.

FINANCIAL IMPLICATIONS: NONE

CONTACT PERSON: Councilmember Dona Spring 981 7140

## **The Arctic National Wildlife Refuge Resolution**

WHEREAS, the coastal plain of the Arctic National Wildlife Refuge is a pristine, unique and fragile ecosystem, home to some of the most spectacular wildlife in the United States, and one of the last remaining such places on the planet; and

WHEREAS, the Arctic Refuge is sacred to the Gwich'in people, who have lived near the area for almost a thousand generations, and depend on the Porcupine Caribou herd for food, clothing, and as a link to their traditional culture; and

WHEREAS, the U.S. Department of Interior has concluded that drilling in the Arctic Refuge would irreparably harm the Porcupine caribou herd, and therefore the Gwich'in way of life; and

WHEREAS, the U.S. Geological Survey estimates that the Arctic Refuge contains less than six months worth of economically recoverable oil, yet using the oil companies' real-world investment criteria it appears that no oil can profitably be recovered; and

WHEREAS, former CIA Director R. James Woolsey testified that Arctic Refuge oil is too vulnerable to be pursued; and

WHEREAS, oil spills and leaks will continue to occur regardless of improvements in technology, and the Arctic Refuge can not withstand the damage that would result from oil and gas drilling; and

WHEREAS, it is in the interest of the American people to protect and preserve such rare treasures for future generations; and

WHEREAS, the majority of Americans oppose opening the coastal plain of the Arctic Refuge for oil and gas drilling, as do the Gwich'in; and

WHEREAS, the {city/county} believes that it is irresponsible for a corporation to pursue drilling in one of the last remaining wild places in the United States and to threaten the rights of the Gwich'in Indians; and

WHEREAS, the {city/county} wishes to spend its citizen's tax dollars in a manner that is socially and environmentally responsible,

**BE IT RESOLVED THAT**, should the U.S. Congress ever allow oil or gas drilling in the coastal plain of the Arctic Refuge, the {city/county} shall not knowingly purchase goods or services from corporations that purchase leases or develop oil fields in the coastal plain of the Arctic National Wildlife Refuge.

JUL 08 2002 11:47

U.S. PIRG

202 546 9707 F.02/00



# U.S. Public Interest Research Group

## National Association of State PIRGs

July 8, 2002

Ms. Dona Spring  
2180 Milvia St.  
Berkeley, CA 94704

**Board of Directors**

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Dear Councilwoman Spring:

We are writing to urge you to sponsor a selective purchasing resolution asking the city of Berkeley to refrain from knowingly purchasing goods or services from companies that purchase leases or develop oil fields in the coastal plain of the Arctic National Wildlife Refuge, if Congress permits drilling in this region.

The coastal plain of the Arctic Refuge is the only five percent of Alaska's North Slope, America's Arctic- that has not been opened to drilling. The Arctic Refuge supports large populations of caribou, muskoxen, polar, black and brown bears, and at least 134 species of migratory birds.

The Arctic Refuge is sacred to the Gwich'in Indians, the people of the caribou. The Porcupine caribou herd is central to their way of life. The Department of Interior warns that drilling in the Arctic Refuge could harm or displace up to 40 percent of the caribou herd. Drilling in the Arctic Refuge would therefore damage or destroy a culture that has flourished for almost a thousand generations.

Congress and the Bush Administration have considered opening this region to drilling under pressure from the oil industry. However, the U.S. Geological Survey estimates that the Arctic Refuge contains less than six months worth of economically recoverable oil. Using the oil companies' own real-world investment criteria, however, it appears that no oil can profitably be recovered from this pristine wilderness. It's simply too expensive. (For more information, see False Profits: The Business Case Against Drilling in the Arctic National Wildlife Refuge at [www.savethearctic.com](http://www.savethearctic.com))

It is imperative that the Arctic Refuge, one of the last wild places of the United States and sacred land of the Gwich'in Indians, is protected from the oil industry, which is pouring millions of dollars into political campaigns to have this area opened for drilling. The companies with an interest in drilling in the Arctic Refuge include BP, ExxonMobil, ChevronTexaco, and Phillips Petroleum.

Selective purchasing decisions of cities, counties and universities across the nation have been effective in changing corporate behavior. The most successful selective purchasing campaigns at the local level have forced companies to refrain from investing in activities in Burma, including PepsiCo, Motorola, Hewlett Packard, Phillips Electronics, Eastman Kodak, and Apple Computer. Purchasing resolutions also resulted in several oil companies not renewing leases in Burma, including ARCO, Amoco, BHP Petroleum, Royal Dutch Shell and Petro-Canada. With your help in championing this effort in your council, we too can achieve similar success.

U.S. PIRG ■ 218 D Street, SE ■ Washington, DC 20003 ■ (202) 546-9707 ■ [uspirg@pirg.org](mailto:uspirg@pirg.org) ■ [www.pirg.org](http://www.pirg.org)

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JUL-08-2002 11:50

U.S. FIRM

202 340 2401 F.00/00

### Oil Drilling In The Arctic Refuge Is Not Needed

Opening the coastal plain of the Arctic Refuge will not solve our energy problems.

The U.S. Geological Survey assessment of the coastal plain estimates that the oil found in the Arctic Refuge would meet the petroleum needs of the United States for less than 6 months.

Increasing the average fuel efficiency of cars and trucks by 2 percent per year would save at least twice as much oil as would be found in the Refuge. Increased auto fuel efficiency would also limit the amount of carbon dioxide emitted into the atmosphere. Scientists have reached a virtual consensus that the burning of carbon fuels is heating up the atmosphere and leading to climate changes unparalleled in human history.

### Special Interest's Effort To Open The Arctic Refuge For Drilling

BP Amoco, ExxonMobil, Chevron and Phillips Petroleum, some of the largest corporations on Earth, stand to make billions of dollars if Congress permits them to drill in the Refuge. To win approval for drilling, these companies are using their virtually unlimited amounts of money, insider access, media, high-priced public relations firms, and raw political power.

- Since 1994, oil and gas companies have donated more than \$92 million in campaign contributions to candidates running for Congress and President. BP Amoco, ExxonMobil, Chevron and Phillips Petroleum donated more than \$9 million to candidates during the last election.
- In 1997 alone the oil and gas industry spent \$51.7 million on high-paid lobbyists and purchasing meals, travel, and other favors for decision-makers and their staffs, according to a study by the Associated Press.

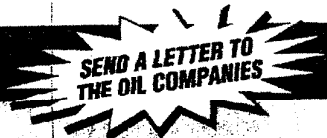
### Save America's Arctic

Oil drilling in an area as unique and sensitive as the Arctic Refuge makes about as much sense as filling in the Grand Canyon or plugging-up Old Faithful.

The four oil companies planning to drill in the Refuge must be convinced that it is not in America's interest to spoil the Refuge.

The best way to save the Arctic Refuge is for Congress to pass the Arctic Wilderness Bill. This bill would protect the Arctic Refuge from oil drilling by adding 1.5 million acres to the National Wilderness Preservation System, barring oil and gas exploration in the region and protecting the coastal plain forever.

### How You Can Help Protect The Arctic National Wildlife Refuge



1. Contact the heads of the four companies that want to drill in the Refuge and urge them to abandon their plans. Tell them that drilling is too dirty and dangerous for an area as pristine and unique as the Arctic Refuge. (see sample letter at right and addresses below)
2. Contact your representative and senators and urge them to support the Arctic Refuge Wilderness Bill and designate the coastal plain as a protected wilderness area.

Dear (see names below),

*It is too dirty and dangerous to drill for oil in an area as pristine and unique as the Arctic National Wildlife Refuge. I urge (BP Amoco/ExxonMobil/Chevron/Phillips Petroleum) to voluntarily cancel oil and gas drilling plans for the Arctic Refuge and support wilderness designation for the coastal plain.*

*Drilling in the Arctic would pollute and industrialize one of the last pristine areas left in the United States. It supports large populations of caribou, musk ox, bears, wolves, bison, and thousands of migrating birds. The 152,000 Porcupine River caribou herd migrates to the refuge each year. The U.S. Department of the Interior warns that drilling in the Refuge could harm up to 40 percent of the caribou herd.*

*It doesn't make sense to damage one of America's last wild places for six months worth of oil. I urge you to cancel your drilling plans and endorse the Arctic Refuge Wilderness Bill.*

Sincerely,  
Name and Address

### Oil Corporation Addresses

|                                                                                                                                                                                                                 |                                                                                                                                                                                          |                                                                                                                                                                                                      |                                                                                                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| <p>Sir John Browne<br/>BP Amoco p.l.c.<br/>Britannic House 1, Finsbury Circus<br/>London EC2M 7BA<br/>1-800-UTELLBP<br/><a href="http://www.bpamoco.com/_nav/email/">http://www.bpamoco.com/_nav/email/</a></p> | <p>Mr. David J. O'Reilly, C.E.O.<br/>Chevron<br/>575 Market St.<br/>San Francisco, CA 94105-2856<br/>1-800-962-1223<br/><a href="mailto:chevweb@chevron.com">chevweb@chevron.com</a></p> | <p>Mr. James J. Muhr, C.E.O.<br/>Phillips Petroleum Company<br/>411 South Keeler Avenue<br/>Bartlesville OK, 74004<br/>(918) 661-6600<br/><a href="mailto:p66help@ppco.com">p66help@ppco.com</a></p> | <p>Chairman Leo R. Raymond<br/>ExxonMobil<br/>5959 Las Colinas Blvd.<br/>Irving TX, 75309<br/>1-800-662-4592</p> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|

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Office of the Mayor

CONSENT CALENDAR  
December 3, 2019

To: Honorable Mayor and Members of the City Council  
From: Mayor Jesse Arreguín  
Subject: Reappointment of Dr. P. Robert Beatty to the Alameda County Mosquito Abatement District Board of Trustees

RECOMMENDATION

Adopt a Resolution reappointing Dr. P. Robert Beatty to the Board of Trustees of the Alameda County Mosquito Abatement District for a two-year term ending on January 1, 2022.

BACKGROUND

Each city in Alameda County is required to appoint a resident to the Alameda County Mosquito Abatement District Board of Trustees. This term lasts for two years. The District has recently notified the City that Dr. P. Robert Beatty's term is expiring at the beginning of 2020.

Dr. Beatty has served as Berkeley's representative on the Board since April 2016, replacing longtime representative Dr. Jan Washburn, who became ineligible to be Berkeley's representative after moving to Oakland. Dr. Beatty is one of fourteen members of the Board, and just one of two scientists. As an infectious disease immunologist, Dr. Beatty has studied mosquitoes worldwide and provided invaluable expertise and information to the Board on dengue, Zika and other mosquito borne diseases. He has taught immunology and infectious disease classes for 20 years in the Department of Molecular and Cellular Biology at UC Berkeley.

FINANCIAL IMPLICATIONS

None for the City of Berkeley. Trustees receive a stipend of \$100 per month paid for by the Alameda County Mosquito Abatement District.

ENVIRONMENTAL SUSTAINABILITY

No adverse effects to the environment.

CONTACT PERSON

Mayor Jesse Arreguín 510-981-7100

Attachments:

1: Resolution

RESOLUTION NO. ##,###-N.S.

REAPPOINTING DR. P. ROBERT BEATTY AS THE CITY OF BERKELEY'S REPRESENTATIVE TO THE ALAMEDA COUNTY MOSQUITO ABATEMENT DISTRICT BOARD OF TRUSTEES

WHEREAS, Dr. P. Robert Beatty has served on the Board of Trustees of the Alameda County Mosquito Abatement District since 2016; and

WHEREAS, Dr. Beatty is an infectious disease immunologist who has taught immunology and infectious disease classes for the past 20 years in the Department of Molecular and Cellular Biology at UC Berkeley; and

WHEREAS, during his term on the Board of Trustees, Dr. Beatty has provided invaluable expertise and information to the Board on Zika and other mosquito borne diseases.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that Dr. P. Robert Beatty is hereby reappointed as the City of Berkeley's representative to the Alameda County Mosquito Abatement District Board of Trustees for the term commencing on January 1, 2020 ending January 1, 2022.



Cheryl Davila  
Councilmember  
District 2

CONSENT CALENDAR  
December 3, 2019

To: Honorable Mayor and Members of the City Council  
From: Councilmembers Cheryl Davila, Sophie Hahn, and Kate Harrison  
Subject: Oppose the Transportation and Handling of Coal and Petcoke in Our Communities

RECOMMENDATION

Adopt a resolution opposing the transportation of coal through our community and send a Letter to the Richmond and Oakland City Councils, including California State Assemblymember Buffy Wicks and State Senator Nancy Skinner, in support of their efforts for a No Coal ordinance.

BACKGROUND

The World Health Organization and the United States Environmental Protection Agency have linked particulate pollution, including from coal and pet coke, to significant health problems. The storing, loading, unloading, stockpiling, and/or otherwise handling of coal and pet coke, temporarily or permanently, at facilities is associated with and/or causes health and safety impacts in humans, including without limitation due to fugitive coal dust, which the American Lung Association considers to be a source of particulate matter that is dangerous to breathe.

A major rail line that passes through the City of Berkeley, including West Berkeley and connects with the Levin-Richmond Terminal, a major shipping terminal located in the City of Richmond, our close neighbor handles hundreds of thousands of tons of toxic materials across our Bay, and massive amounts of coal have been coming to the terminal on mile-long open-car trains for many years. Both are stored in open piles at the terminal before being loaded onto ships that transport them overseas. They have had a major increase in the amount of coal and petroleum coke (petcoke) shipments, increasing the amount of fugitive coal and petcoke dust which has been proven to be dangerous to one's health.

There have been past attempts to transport coal from Utah through the new bulk Port of Oakland, as well. Coal dust contains mercury, lead and other harmful toxins. These toxins travel a long distance as it blows off trains into our air. Many testify they have seen coal dust on patio tables and window sills, etc. and are very concerned about the coal dust that we don't see, the invisible small particles that float into our lungs and cause long-term damage to sensitive tissues. Many have shared they have seen uncovered coal trains parked next to our neighboring communities. Respiratory illness is serious in our community and result in costly medical assistance, especially in our seniors, our children and the unhoused communities.

Environmental racism, injustice and pollution does not stop at one city's border. It affects neighboring communities such as the City of Berkeley, especially West Berkeley.

At the November 5 Richmond City Council meeting, it was announced their No Coal ordinance was tabled and will be heard at their December 3 Richmond City Council meeting. We as cities must join forces collectively to oppose transportation of coal through any community, and stop further

Coal and pet coke dust contains substances that cause severe, permanent harm to people of all ages, especially children. The harms include: 1. Mercury: that kills brain and nerve cells in all living creatures, including humans; leads to lifelong developmental problems in young people; 2. Arsenic: causes death by cancer of the bladder, lungs, and/or skin; Cadmium: causes death by cancer and kidney failure; 3. Lead: causes life-altering developmental problems; 4. Silica: causes death by lung cancer.

As elected officials, it is our job to protect our community's health and safety. We must oppose coal and petcoke in our jurisdiction, oppose transportation of coal and other hazardous materials through our any community, especially low-income and communities of color that have been disproportionately impacted for throughout history.

FISCAL IMPACTS OF RECOMMENDATION

None.

ENVIRONMENTAL SUSTAINABILITY

The Berkeley City Council has a past legislative record advocating for the environment. It is imperative to protect the health and safety of all residents from environmental racism, injustice and contamination.

CONTACT PERSON

Cheryl Davila,  
Councilmember, District 2  
510.981.7120  
[cdavila@cityofberkeley.info](mailto:cdavila@cityofberkeley.info)

ATTACHMENTS:

1. Letter
2. Resolution

To: Richmond City Council and Oakland City Council

CC: State Assemblymember Buffy Wicks and State Senator Nancy Skinner

Date: December 3, 2019

Re: Oppose Transportation of Coal Through Our Communities

Dear Richmond and Oakland City Councils:

Enclosed is a copy of our resolution adopted by the Berkeley City Council.

You have the power to pass an ordinance that protects residents from contamination of coal and petroleum coke (pet coke) dust. Massive amounts of coal have been coming to the Levin-Richmond Terminal on mile-long open-car trains; pet coke is trucked in from Rodeo. Both are stored in open piles at the terminal before being loaded onto ships that transport them overseas.

The Levin-Richmond Terminal is a major shipping terminal in Richmond and near Berkeley that handles hundreds of thousands of tons of toxic materials across our Bay. A major rail line that goes through the City of Berkeley, Richmond, Oakland and beyond, connects with the Levin Terminal. Massive amounts of coal have been coming to the Levin Terminal on mile-long open-car trains; pet coke is trucked in from Rodeo. Both are stored in open piles at the terminal before being loaded onto ships that transport them overseas. They have had a major increase in the amount of coal and petroleum coke (petcoke) shipments, increasing the amount of fugitive coal and petcoke dust which has been proven to be dangerous to health.

In the City of Berkeley, especially West Berkeley, residents along the rail line see this dust outside on our cars and window sills. What we don't see is the coal dust entering our lungs. It's in the air we breathe in our homes and where we work and play.

Environmental racism, injustice and pollution does not stop at one city's border. It affects neighboring communities such as the City of Berkeley, especially West Berkeley.

Coal and pet coke dust contain substances that cause severe or permanent harm to people of all ages, especially children. According to the World Health Organization: 1. [Mercury](#): leads to lifelong developmental problems in young people, especially in utero; toxin effects on lungs, kidneys eyes and skin, immune system, digestives and nervous systems; 2. [Arsenic](#): causes death by cancer or skin legons; exposure in utero or early childhood leads to negative impacts on cognitive development; Cadmium: causes death by cancer and kidney failure; 3. Lead: causes life-altering developmental problems; 4. Silica: causes death by lung cancer.

We must pass policies that will prohibit facilities from storing and handling coal and pet coke and phase out coal and pet coke operations.

Sincerely and urgently,

Best regards,

The Berkeley City Council

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BERKELEY OPPOSING THE  
TRANSPORTATION AND HANDLING OF COAL AND PETCOKE IN ANY COMMUNITY

WHEREAS, The Berkeley City Council unanimously passed the Climate Emergency Declaration on June 12, 2018; and

WHEREAS, some communities in the City of Berkeley are disadvantaged and disproportionately bear the brunt of health-related impacts caused by industrial and other activities. The California Environmental Protection Agency has identified various census tracts within the City of Berkeley as disadvantaged communities disproportionately burdened by and vulnerable to multiple sources of pollution.

WHEREAS, uncovered coal and pet coke piles emit fine particulate pollution, PM2.5 or smaller, when exposed to wind. Fugitive particulate emissions can also occur when coal or pet coke is unloaded from trucks or railroad cars to storage piles, or when coal and pet coke is transferred from storage piles to ships. Coal contains toxic heavy metals, including mercury, arsenic, and lead and petcoke contains high levels of sulphur and heavy metals. Exposure to these toxic heavy metals is linked to cancer and birth defects.

WHEREAS, coal is highly combustible, which poses risks to the health and safety of persons residing, working, or playing nearby, as well as to public safety personnel who would respond to coal fires. Coal fires at storage piles and shipping facilities are difficult to control, requiring fire personnel with specialized equipment and training. Toxic air pollutants released by coal fires would be similar to the toxic pollutants released by coal-fired power plants, but without treatment by emission control systems. Emissions from coal fires include fine particulate matter and metals, including mercury. Persons in close proximity to coal fires could experience both acute and chronic health impacts.

WHEREAS, exposure to fine particulate pollution has been linked to increased deaths and illnesses due to cardiovascular and respiratory conditions. The World Health Organization and United States Environmental Protection Agency have linked particulate pollution, including from coal and pet coke, to significant health problems.

WHEREAS, storing, loading, unloading, stockpiling, and/or otherwise handling coal and pet coke, temporarily or permanently, at facilities in the City and nearby, is associated with and/or causes health and safety impacts in humans, including without limitation due to fugitive coal dust, which the American Lung Association considers to be a source of particulate matter that is dangerous to breathe, which the World Health Organization describes (including silica and asbestos) as responsible for most occupational diseases due to airborne particulate, and which results in dangerous health and safety conditions to the nearby population, as well as to workers and visitors in and near such facilities.

WHEREAS, a 2017 study by the National Bureau of Economic Research has estimated that, in addition to the social costs of particulate pollution from burning coal and pet coke, storage and handling creates PM2.5 pollution that generates additional local health costs of about \$183 per ton of coal and pet coke stored.

WHEREAS, there are currently no local regulations prohibiting coal or pet coke storage and handling at privately-owned facilities.

WHEREAS, existing regulations are inadequate to address the health and environmental problems resulting from coal or pet coke storage and handling.

WHEREAS, Article XI, Section 5 of the California Constitution provides that the City, as a home rule charter city, has the power to make and enforce all ordinances and regulations with respect to municipal affairs, and Article XI, Section 7, empowers the City to enact measures

that protect and promote the health, safety, and/or welfare of its citizens.

WHEREAS, Article II, Section 1, Paragraph 6 of the Charter of the City of Berkeley states that the City shall have and exercise police powers, make all necessary police and sanitary regulations, and adopt ordinances and prescribe penalties for the violation thereof.

NOW, THEREFORE IT BE RESOLVED, that the Berkeley City Council oppose transportation and handling of coal and petcoke in any community, and direct the City Clerk or designee to Send a Letter to the Richmond City Council, including California State Assemblymember Buffy Wicks and State Senator Nancy Skinner, the letter and a copy of this resolution.

ORDINANCE NO. \_\_\_\_\_ - \_\_

**AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF  
RICHMOND, CALIFORNIA, ADDING CHAPTER 15.XX TO THE  
RICHMOND MUNICIPAL CODE PROHIBITING THE STORAGE AND**

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**HANDLING OF COAL AND PETCOKE**

The City Council of the City of Richmond hereby finds and declares as follows:

**WHEREAS**, some communities in the City of Richmond are disadvantaged and disproportionately bear the brunt of health-related impacts caused by industrial and other activities. The California Environmental Protection Agency has identified various census tracts within the City of Richmond as disadvantaged communities disproportionately burdened by and vulnerable to multiple sources of pollution.

**WHEREAS**, uncovered coal and pet coke piles emit fine particulate pollution, PM2.5 or smaller, when exposed to wind. Fugitive particulate emissions can also occur when coal or pet coke is unloaded from trucks or railroad cars to storage piles, or when coal and pet coke is transferred from storage piles to ships. Coal contains toxic heavy metals, including mercury, arsenic, and lead and petcoke contains high levels of sulphur and heavy metals. Exposure to these toxic heavy metals is linked to cancer and birth defects.

**WHEREAS**, coal is highly combustible, which poses risks to the health and safety of persons residing, working, or playing nearby, as well as to public safety personnel who would



respond to coal fires. Coal fires at storage piles and shipping facilities are difficult to control, requiring fire personnel with specialized equipment and training. Toxic air pollutants released by coal fires would be similar to the toxic pollutants released by coal-fired power plants, but without treatment by emission control systems. Emissions from coal fires include fine particulate matter and metals, including mercury. Persons in close proximity to coal fires could experience both acute and chronic health impacts.

**WHEREAS**, exposure to fine particulate pollution has been linked to increased deaths and illnesses due to cardiovascular and respiratory conditions. The World Health Organization and United States Environmental Protection Agency have linked particulate pollution, including from coal and pet coke, to significant health problems.

**WHEREAS**, storing, loading, unloading, stockpiling, and/or otherwise handling coal and pet coke, temporarily or permanently, at facilities in the City of Richmond, is associated with and/or causes health and safety impacts in humans, including without limitation due to fugitive coal dust, which the American Lung Association considers to be a source of particulate matter that is dangerous to breathe, which the World Health Organization describes (including silica and asbestos) as responsible for most occupational diseases due to airborne particulate, and which results in dangerous health and safety conditions to the nearby population, as well as to workers and visitors in and near such facilities.

**WHEREAS**, storing and/or handling coal or pet coke can negatively impact the environment, including because coal and pet coke dust and leachates can pollute waterways, often with long-lasting impacts, and impact and contaminate sensitive habitat within the City.

**WHEREAS**, a 2017 study by the National Bureau of Economic Research has estimated that, in addition to the social costs of particulate pollution from burning coal and pet coke, storage and handling creates PM2.5 pollution that generates additional local health costs of about \$183 per ton of coal and pet coke stored.

**WHEREAS**, the Richmond City Council has already banned coal from City-owned marine terminal facilities, but there are currently no local regulations prohibiting coal or pet coke storage and handling at privately-owned facilities.

**WHEREAS**, existing regulations are inadequate to address the health and environmental problems resulting from coal or pet coke storage and handling.

**WHEREAS**, Article XI, Section 5 of the California Constitution provides that the City, as a home rule charter city, has the power to make and enforce all ordinances and regulations with respect to municipal affairs, and Article XI, Section 7, empowers the City to enact measures that protect and promote the health, safety, and/or welfare of its citizens.

**WHEREAS**, Article II, Section 1, Paragraph 6 of the Charter of the City of Richmond states that the City shall have and exercise police powers, make all necessary police and sanitary regulations, and adopt ordinances and prescribe penalties for the violation thereof.

**WHEREAS**, on **DATE**, 20<sup>XX</sup>, the Council held a public hearing to consider adoption of the proposed ordinance of the City Council of the City of Richmond, California, adding Chapter 15.XX to the Richmond Municipal Code prohibiting the storage and handling of coal.

**WHEREAS**, at that **DATE**, 20<sup>XX</sup>, meeting, the City Council adopted Resolution No. **XX**, finding that this ordinance is (1) not a Project under the California Environmental Quality Act (“CEQA”) and is therefore exempt pursuant to CEQA Guidelines section 15378; and (2) exempt from CEQA pursuant to CEQA Guidelines sections 15307 (action to protect natural resources); 15308 (action to protect the environment); and/or 15061(b)(3) (“Common Sense” exemption where there is no reasonable possibility of a significant effect on the environment).

**NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF RICHMOND** does ordain as follows:

1. Amendments to Richmond Municipal Code

Chapter 15.XX is hereby added to the Richmond Municipal Code to read as follows:

**Chapter 15.XX PROHIBITION OF THE STORAGE AND HANDLING OF COAL AND PET COKE**

**15.XX.010 – Purpose**

The purpose of this chapter is to establish a prohibition on the storage and handling of coal or pet coke throughout the City of Richmond, with certain exceptions. The chapter also phases out existing allowed uses of land involving the storage and handling of coal and pet coke.

This chapter is intended to protect and promote the health, safety, and welfare of the City’s citizens, visitors, and workers by reducing the release of pollutants into the environment as a result of coal and pet coke storage and handling. This chapter is also intended to ensure that coal and pet coke storage and handling does not create a public nuisance or cause adverse public health, safety, or welfare impacts (including, without limitation, adverse impacts to property values, aesthetics, and economic interests).

**15.XX.020 – Definitions**

As used in this chapter, the following terms have the following meanings:

1. “Coal” means a solid, brittle, carbonaceous rock classified as anthracite, bituminous, subbituminous, or lignite by the American Society for Testing and Materials (“ASTM”) Designation D388-77.

2. “Pet Coke” means a carbonaceous solid delivered from oil refinery coker units or other cracking processes.
3. “Coal or Pet Coke Bulk Material Facility” means an existing or proposed site or facility, including all contiguous land, structures, other appurtenances, and improvements thereon, or any part thereof, where coal or pet coke is or may be stored or handled.
4. “Effective Date” means the date that Ordinance No.            -           , which added Chapter 15.XX to the Richmond Municipal Code, took effect.
5. “Owner or Operator” means any person who has legal title to any coal or pet coke bulk material facility; who has charge, care, or control of any coal or pet coke bulk material facility; who is in possession of any coal or pet coke bulk material facility or any part thereof; and/or who is entitled to control or direct the management of any coal or pet coke bulk material facility.
6. “Store or Handle, or Storing or Handling, or Storage or Handling,” means to allow or maintain any pile, including without limitation covered and uncovered piles, piles located above ground, underground, or within containers, or to load, unload, stockpile, or otherwise handle and/or manage, temporarily or permanently, coal.

**15.XX.030 – Prohibition on New Uses.**

The storage and handling of coal or pet coke at coal or pet coke bulk material facilities is prohibited in all zoning districts.

**15.XX.040 – Exemptions.**

The following non-commercial uses are exempt from the provisions of this Chapter 15.XX: residential, educational, scientific, recreational, religious, or cultural uses in which persons store or handle small amounts of coal.

**15.XX.050 – Nonconforming Uses; Amortization Period.**

(a) Notwithstanding any provision in this Code to the contrary, this Section shall apply to all existing land uses that do not conform with the requirements of Section 15.XX.030 of this Code as of the effective date.

(b) As used in this Section, “nonconforming land use” means any active coal or pet coke bulk material facility in existence prior to the effective date.

(c) Except as otherwise provided in this Section, all nonconforming land uses shall be discontinued within XX<sup>1</sup> years after the effective date. The XX-year period after the effective date shall be referred to as the “amortization period.”

(d) Nonconforming land uses shall not increase the amount of coal or pet coke stored or handled in a calendar year beyond the average amount of coal or pet coke stored or handled annually at the coal or pet coke bulk material facility in the three years prior to the effective date. Nonconforming land uses shall not expand the footprint of coal or pet coke storage or handling activities at the coal or pet coke bulk material facility.

(e) Within \_\_\_\_ months of the effective date, the Zoning Administrator shall use reasonable efforts to identify and provide notice to all owners or operators of any coal or pet coke bulk material facility informing them that they must do either of the following:

(a) discontinue any nonconforming land use before the conclusion of the amortization period; or (b) apply for an extension of the amortization period pursuant to sub-section (XX) of this Section. Failure to receive notice from the Zoning Administrator shall not excuse an owner or operator from compliance with the provisions of this Section.

(f) Any affected owner or operator of a nonconforming land use may apply to the Planning Commission for an extension of the amortization period on a form provided by the Director. The Planning Commission shall conduct a duly noticed public hearing to consider the application for extension of the amortization period within a reasonable time after the application has been deemed complete by the Zoning Administrator.

(i) “Limited Notice (Type B)” shall be provided pursuant to Section 15.04.803.070 of this Code not less than 24 calendar days prior to the date of the hearing.

(ii) In deciding whether to extend the amortization period, the Planning Commission shall consider all documentary and oral evidence and testimony submitted prior to the conclusion of the hearing. The Planning Commission may direct that an amortization analysis be prepared, at the applicant’s expense, by an expert retained by the City.

(iii) The Planning Commission shall grant an extension of the amortization period if it finds, based on substantial evidence, that such extension is necessary to prevent an unconstitutional taking of property without compensation or to avoid a violation of state or federal law. Any extension so granted shall be the minimum necessary to prevent such impairment or violation. In no event shall the Planning Commission grant any extension if it finds that

the nonconforming land use presents a substantial risk to public health or safety or otherwise constitutes a public nuisance under Civil Code sections 3479 and 3480.

- (iv) The Planning Commission's decision shall be based upon the following factors, where applicable:
  - (A) The cost to the applicant of acquiring the affected property and the applicant's reasonable investment-backed expectations at the time the property was acquired;
  - (B) The present actual or depreciated value of the affected property and improvements with and without the nonconforming land use;
  - (C) The total length of time the nonconforming land use has existed and the remaining useful life of the nonconforming land use;
  - (D) The applicant's investments in the nonconforming land use and whether and to what extent the applicant will have recouped those investments before the conclusion of the amortization period;
  - (E) The salvage value of any improvements that may be used for purposes other than the nonconforming land use;
  - (F) The remaining value and allowed uses of the property after discontinuing the nonconforming land use;
  - (G) Whether the nonconforming land use interferes with the use and enjoyment of land of nearby property owners or residents, or interferes with or threatens the public health, safety, and welfare of the community;
  - (H) The extent to which the nonconforming land use on the property is incompatible with surrounding uses and properties; and
  - (I) Any other factor the Planning Commission reasonably determines is related to determining whether the investment in the nonconforming land use has been recovered.

(g) The owner or operator requesting the extension shall have the burden of demonstrating that it is entitled to an extension under this sub-section (XX). The

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Planning Commission's determination under this sub-section may be appealed to the City Council in the same manner as prescribed in Section 15.04.803.140 of this Code.

(h) Nothing in this Section is intended to affect or restrict the City's authority to immediately terminate, discontinue, or abate any land uses found to be a nuisance, or that are otherwise operating unlawfully, including a nonconforming land use. This Chapter does not create or confer any vested rights.

**15.XX.060 – Violations; Declaration of a Nuisance; Abatement.**

Any land use that fails to comply with or violates any provision of this Chapter is hereby declared to be an unlawful nuisance. Any land use declared to be a nuisance pursuant to this Section may be subject to the abatement procedures established in Section 15.04.815.040 and Chapter 9.22 of this Code.

**15.XX.070 – Exceptions; Procedures.**

(a) The provisions of this Chapter shall not be applicable to the extent, but only to the extent, that they would violate the constitution or laws of the United States or of the State of California.

(b) In the event a property owner contends that the application of this chapter effects an unconstitutional taking of property without compensation, the property owner may request, and the Planning Commission may grant, an exception to application of any provision of the chapter if the Planning Commission finds, based on substantial evidence, that both (1) the application of any aspect of the chapter would constitute an unconstitutional taking of property, and (2) the exception will allow continued land uses only to the minimum extent necessary to avoid such a taking; provided, however, that in the case of nonconforming uses, the procedures set forth in Section 15.050(f) shall govern. The property owner shall have the burden of demonstrating that it is entitled to an exception under this sub-section. The Planning Commission's determination under this sub-section (XX) may be appealed to the City Council in the same manner as prescribed in Section 15.04.803.140 of this Code.

**15.XX.080 – Non-applicability to Transportation of Coal**

Notwithstanding anything to the contrary contained in this chapter, this chapter is not intended to and shall not be interpreted to regulate the transportation of coal, for example, by train or marine vessel, including without limitation through the City of Richmond or to or from a coal bulk material facility.

**15.XX.090 – Conflicting Provisions**



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Where a conflict exists between the requirements in this chapter and applicable requirements contained in other chapters of this Code, the applicable requirements of this chapter shall prevail.

2. Severability.

If any section, subsection, subdivision, paragraph, sentence, clause, or phrase of this ordinance is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of the ordinance. The City Council hereby declares that it would have passed this ordinance and each section, subsection, subdivision, paragraph, sentence, clause, and phrase thereof, irrespective of the unconstitutionality or invalidity of any section, subsection, subdivision, paragraph, sentence, clause, or phrase.

3. Effective Date.

This ordinance shall be effective 30 days after passage and adoption.

First introduced at a regular meeting of the City Council of the City of Richmond, California, held on \_\_\_\_\_, and finally passed and adopted at a regular meeting held on \_\_\_\_\_ by the following vote:

- AYES:**
- NOES:**
- ABSTENTIONS:**
- ABSENT:**

\_\_\_\_\_  
Clerk of the City of Richmond  
(SEAL)

Approved:  
  
\_\_\_\_\_  
Mayor

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Approved as to form:

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City Attorney

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Kate Harrison  
Councilmember District 4

CONSENT CALENDAR  
December 3rd, 2019

To: Honorable Mayor and Members of the City Council  
From: Councilmembers Harrison, Hahn, Davila, and Bartlett  
Subject: Adopt an Ordinance adding a new Chapter 9.50 to the Berkeley Municipal Code Requiring Legal Rights for Legal Tender

RECOMMENDATION

Adopt an ordinance adding a new Chapter 9.50 to the Berkeley Municipal Code requiring legal rights for legal tender, requiring that all covered businesses accept cash.

POLICY COMMITTEE RECOMMENDATION

On November 7, 2019, the Land Use, Housing & Economic Development Committee adopted the following action: M/S/C (Hahn/Droste) to move the item with revisions as submitted with a positive recommendation. Vote: All Ayes.

FISCAL IMPACTS OF RECOMMENDATION

Some staff time necessary for outreach to businesses, and for processing claims in the event a violation is brought.

Following outreach, this ordinance will be largely self-enforced, with possible assistance from the Alameda County Department of Weights and Measures to check for the existence of a cash box during yearly inspections.

ENVIRONMENTAL SUSTAINABILITY

Consistent with sustainability goals.

BACKGROUND

For many Berkeley residents, particularly those who are denied access to credit or are unable to obtain bank accounts, the ability to purchase goods and services is depends on the ability to pay in cash. According to the 2017 Unbanked and Underbanked Households Survey,<sup>1</sup> 17% of all African American households and 14% of all Latino households in the United States had no bank account. Cash is an accessible medium of exchange in America, and stores not accepting cash payment systematically excludes segments of the population that are largely low-income people of color. Cashless business models may also have significant detrimental impacts on young people who do

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<sup>1</sup> <https://www.fdic.gov/householdsurvey/>

not meet age requirements for credit cards, for the elderly (many of whom have not transitioned to credit and digital payment modes or have restricted their access to them to avoid credit scams), and for other vulnerable groups such as homeless and immigrant populations.

Recently, San Francisco<sup>2</sup> joined Philadelphia<sup>3</sup> and New Jersey<sup>4</sup> in requiring that all brick-and-mortar businesses in the jurisdiction accept cash. As of today, there are few stores in Berkeley that do not accept cash, and so now is a good opportunity to guarantee that these discriminatory practices are not permitted in our City.

#### REVIEW OF EXISTING PLANS, PROGRAMS, POLICIES, AND LAWS

Consistent with the City's Strategic Plan goal of championing social and racial equity.

#### RATIONALE FOR RECOMMENDATION

A ban on cashless establishments permits all to participate in Berkeley's economy, particularly the homeless and very poor.

#### IMPLEMENTATION, ADMINISTRATION AND ENFORCEMENT

The Sealer of the Weights and Measures Division, and the Sealer's employees, agents, or other designees, has the authority to enforce this Article. Additionally, the ordinance may be enforced through a private right of action. The obligation of compliance shall fall only on the business. No employee or independent contractor shall be held liable for any violation of this Article.

#### CONTACT PERSON

Kate Harrison, District 4 510-981-7140

#### ATTACHMENT:

- 1: Proposed Ordinance Adding BMC Chapter 9.50
- 2: "Citing Civil Rights, Cities Are Banning Cashless Retail"

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<sup>2</sup> <https://www.courthousenews.com/%EF%BB%BFsan-francisco-will-require-stores-to-accept-cash/>

<sup>3</sup> <https://6abc.com/politics/bill-looks-to-require-philly-businesses-to-accept-cash/5121309/>

<sup>4</sup> <https://www.wbgo.org/post/bill-would-require-nj-retailers-accept-cash-payments#stream/0>



ORDINANCE NO. –N.S.

**ADDING A NEW CHAPTER 9.50 TO THE BERKELEY MUNICIPAL CODE  
REQUIRING BUSINESSES TO ACCEPT CASH**

BE IT ORDAINED by the Council of the City of Berkeley as follows:

Section 1. That Chapter 9.50 of the Berkeley Municipal Code is added to read as follows:

**Chapter 9.50**

**LEGAL RIGHTS FOR LEGAL TENDER**

**Sections:**

**9.50.010 Findings and Purpose**

**9.50.020 Definitions**

**9.50.030 Covered Businesses Required to Accept Cash**

**9.50.040 Exceptions**

**9.50.050 Enforcement**

**9.50.060 Severability**

**9.50.010 Findings and Purpose.**

The Council finds and declares as follows:

- A. The City of Berkeley is committed to providing its community with transactional access to the goods and services provided by Berkeley’s businesses. For many City residents, such as those unable to obtain bank accounts, the ability to engage in consumer transactions, including goods and services vital to health and safety, depends on the ability to pay with legal cash tender established by the federal government of United States.
- B. Cashless business models present significant detrimental impacts to vulnerable groups, especially low-income people, as they require financial institution-sponsored payment in credit or debit cards, or other non-cash forms of payment.
- C. Cash payment, in the form of the United States Dollar, has been the official legal tender since 1792 and shall be recognized by businesses alongside other forms of legal tender.
- D. It is the intent of the Council to ensure Berkeley’s economy is inclusionary and accessible to everyone, including those who lack access to non-cash forms of payment.

**9.50.020 Definitions.**

- A. Covered Business shall mean any Drugstore, Food Products Store, or Retail Products Store operating at a fixed, permanent, physical premises. Covered businesses do not include any transactions occurring in an Itinerant Restaurant as defined in BMC 12.04.010.
- B. “Cash” means United States currency, in the form of both paper Federal Reserve Notes and metal coins.
- C. “Drugstore” shall have the same meaning as defined in BMC 23F.04.010.
- D. “Food Products Store” shall have the same meaning as defined in BMC 23F.04.010.
- E. “Retail Products Store” shall have the same meaning as defined in BMC 23F.04.010.

**9.50.030 Covered Businesses Required to Accept Cash.**

- A. Except as set forth in 9.50.040, every Covered Business within the City must accept payment in Cash, if offered, for any transaction involving the purchase of any tangible good and/or service.
- B. Except as set forward in 9.50.040, a Covered Business may not charge a fee or place any other condition on its acceptance of Cash as required by subsection A.

**9.50.040 Exceptions.**

The provisions set forward in this Act shall not apply in cases of:

- A. Suspected counterfeit currency. A Covered Business may refuse to accept Cash that the business reasonably suspects to be counterfeit.

- B. Large denominations. A Covered Business may refuse to accept Cash in any denomination larger than a twenty dollar note, but shall otherwise accept any combination of Federal Reserve Notes and metal coins in connection with any transaction.
- C. Single transactions above \$500. Where a single transaction involves the purchase of one or more goods and/or services, the total price of which (including tax) exceeds \$500, a Covered Business must accept Cash that is offered as payment for any amount up to and including \$500, but may refuse to accept Cash that is offered as payment for the remainder of the amount due.
- D. Reservations made without cash. Where a Covered Business requires the purchaser make an appointment or reservation using a noncash form of payment (such as a credit or debit card), the business may require that the transaction in question be paid for using the noncash payment already on file.

**9.50.050 Enforcement.**

- A. The obligation to ensure that a Covered Business complies with this Chapter 9.50 shall fall only on the business or, in the case that the owners of the business are responsible for a policy or practice causing a violation of this Chapter, on the owner or owners of the business. No employee or independent contractor working at a Covered Business shall be held liable for any violation of this Chapter.
- B. Each transaction or attempted transaction in which a Covered Business fails to accept Cash shall constitute a separate violation of this Chapter.
- C. Any aggrieved person who believes the provisions of this Chapter have been violated shall have the right to file an action for injunctive relief and/or damages. In any action to enforce the provisions of the chapter, the prevailing party shall be entitled to recover reasonable attorneys' fees and costs.
- D. The City may issue an Administrative Citation pursuant to Chapter 1.28 of the Berkeley Municipal Code for any violation of this Chapter. The amount of this fine shall be determined as specified below:
  - a. For a first violation, an infraction punishable by a fine not exceeding \$100 and not less than \$50.
  - b. For a second violation within a twelve month period, an infraction punishable by a fine not exceeding \$200 and not less than \$100.
  - c. For a third violation within a twelve month period, an infraction punishable by a fine not exceeding \$1,000 and not less than \$500.

**9.50.060 Severability.**

If any word, phrase, sentence, part, section, subsection, or other portion of this Chapter, or any application thereof to any person or circumstance is declared void, unconstitutional, or invalid for any reason, then such word, phrase, sentence, part, section, subsection, or other portion, or the prescribed application thereof, shall be severable, and the remaining provisions of this Chapter, and all applications thereof, not

having been declared void, unconstitutional or invalid, shall remain in full force and effect. The City Council hereby declares that it would have passed this title, and each section, subsection, sentence, clause and phrase of this Chapter, irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases is declared invalid or unconstitutional.

Section 2. Copies of this Ordinance shall be posted for two days prior to adoption in the display case located near the walkway in front of Council Chambers, 2134 Martin Luther King, Jr. Way. Within 15 days of adoption, copies of this Ordinance shall be filed at each branch of the Berkeley Public Library and the title shall be published in a newspaper of general circulation.

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Philadelphia, San Francisco, and Washington in banning them.

In February, New York City Councilmember Ritchie Torres introduced legislation that would prohibit retail establishments from refusing to accept payments in cash. The council hasn't made a decision on the bill yet, but Torres is confident that it will pass by mid-year. If it does, cashless businesses could face fines of up to \$500 for every violation.

The legislation protects consumer choice of payment, but the conversation surrounding the bill echoes that of many nationwide challenges to the movement toward a cashless economy: A cashless business discriminates against low-income people, and often they are people of color and undocumented immigrants.

In New York City, the majority of the nearly 12 percent of unbanked and 25 percent underbanked residents are people of color. Close to 17 percent of black New Yorkers and 14 percent of Latinx New Yorkers are unbanked, compared to just 3 percent of white New Yorkers. This policy brings a bigger question to life in New York: Considering the fact that the majority of New Yorkers without bank accounts are people of color, is closing off services to the unbanked racial discrimination?

Recently, cities across the country have been issuing legislation to stymie the growing number of cashless businesses, and some locales have decades-old laws preventing cashless retail. Philadelphia just signed off on a law at the end of February, which goes into effect July 1, that would require shops to take cash, with fines up to \$2,000. Also in February, both houses of New Jersey's state legislature passed a similar bill and are only awaiting the governor's signature. San Francisco has recently proposed a similar ordinance, and Washington D.C. and Chicago have also introduced legislation that would make it illegal to discriminate against cash as a form of payment. A Massachusetts law dating to 1978 says that retailers cannot "discriminate against a cash buyer by requiring the use of credit," and Pennsylvania's 1984 Cash Consumer Protection Act made it illegal for businesses to refuse services to people without credit cards.

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## **Considering that the majority of New Yorkers without bank accounts are people of color, is closing off services to the unbanked racial discrimination?**

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The lawmakers behind these bills across the country are concerned that the cashless trend discriminates against low-income residents and people of color, as communities of color have higher percentages of unbanked: In California, 20.4 percent of black households and 14.6 percent of Latinx households are unbanked, and Philadelphia's rates are similar to New York's.

The federal Civil Rights Act mandates that all persons shall be entitled to the full and equal enjoyment of the goods, services, facilities, and privileges, advantages, and accommodations of any place of public accommodation without discrimination or segregation on the ground of race, color, religion, or national origin.

A business can refuse service as long as their policies aren't purposely discriminating against a person's race, religion, sex, or national origin, which owners of cashless institutions would argue their policies aren't. A number of cities posit their laws as preventing discrimination against low-income people, but low-income people aren't a protected group.



A sign on the door of a Dig Inn dining and take-out establishment in New York City. (Rebecca Bellan/CityLab)

A capitalist economy breeds wealth discrimination: Many of the cashless institutions in NYC are not moderately priced. Theoretically anyone can buy a \$12 salad at Sweetgreen, one of the cashless pioneers, yet can they really? But the resulting exclusion of New Yorkers of color and the undocumented, based on their lack of a bank account, still counts as discrimination, according to Marie Napoli, a lawyer and civil rights advocate.

However, Napoli said the ban on cashless likely wouldn't stand up in Supreme Court should one of the cash-free businesses choose to bring the issue to higher courts. "The clash between businesses' right to refuse service, and other compelling interests have resulted in allowing these forms of discrimination to continue," Napoli told CityLab.

Cash-free businesses generally cite increased efficiency, saving time and money by cutting out the need for armored cars to transport cash, and safety of their employees against the threat of robbery as reasons for adopting cashless policies.

“It saddens me that a decision made for the best interest of my employees could be misconstrued as classist or discriminatory,” said Michelle Gauthier, founder of quick-food restaurant Mulberry & Vine with five locations in New York, at the New York City Council hearing on February 14. Gauthier said her original reasoning behind going cashless was to protect employees and remove the burden of dealing with cash on a daily basis. She said she’s never turned away a customer for an inability to pay. “Many of my employees are the same people I’m supposedly discriminating against, yet they wholeheartedly agree with my decision to go cashless.”

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**“In the end, I think the need for equity outweighs the efficiency gains of a cashless business model. Human rights takes precedence over efficiency gains.”**

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At the same hearing, Leo Kremer, co-owner of Dos Toros Taqueria, testified that his business decided to go cashless for a host of reasons, including past robberies and his customers’ tendency to pay with plastic. Cash transactions, Kremer said, made up less than 10 percent of overall transactions. He said Dos Toros pays their employees \$15 an hour, and provides benefits and room for growth. This has been easier to do, Kremer says, with the increased efficiency and self-sustainability resulting from going cashless. “For a business, running an efficient operation is the difference between staying open and shutting down.”

Yet Torres, whose Bronx city council district includes some of the New York’s poorest neighborhoods, said to CityLab that, “In the end, I think the need for equity outweighs the efficiency gains of a cashless business model. Human rights takes precedence over efficiency gains.”

“Cashless institutions encourage a FinTech Jim Crow by restricting the places where people of color can shop, eat, and receive basic services,” said Edgard Laborde, deputy political director of the Retail Wholesale Department Store Union (RWDSU), during his testimony. “By refusing to serve communities of color, cashless establishments carve out niches in gentrified neighborhoods through cash exclusion in an already unaffordable city.”



Poor and low-income New Yorkers face numerous barriers in accessing banking. The poorest neighborhoods of New York's five boroughs have the fewest bank branches in the city. Andy Collado, assistant director of services at The Financial Clinic in Sunset Park Brooklyn, an organization that helps the working poor navigate financial systems, said that there is only one bank branch operating in his neighborhood. And while technically the ID NYC card that can be issued to undocumented New Yorkers enables them to open a bank account, Collado said that most of his undocumented clients—about a third of the total clientele—are unaware of this information, and less than 30 percent of banks and credit unions in the city accept ID NYC as valid identification.

“Should we accept, as opponents of this bill do, that there are just some places where undocumented New Yorkers can't shop or buy food?” said Collado. Despite the fact that the undocumented don't have the same federal protections against discrimination as citizens do, Collado told CityLab that he thinks they should have the same rights, as our neighbors and fellow residents, when it comes to the operating of their lives. “We are a sanctuary city,” he said in a phone interview. “We want to create the safest environment and one of freedom for whoever comes into this state.”

Some might say that the cashless naysayers sound a bit apocalyptic. After all, not every business has gone cashless. There are other places to buy a salad or a cup of coffee, and at least one representative of a group that helps undocumented New Yorkers navigate financial hurdles said they haven't noticed complaints, but as it becomes more widespread that could change.

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**“I certainly don't think [this bill] is the right long-term solution. The future does not lie in this direction. The future lies in giving people free debit cards and financial inclusion.”**

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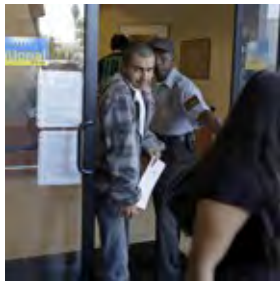
How close are we to a cashless NYC really? To speculate on such a question, one could look to countries that are on the fast track to becoming cashless. In Sweden, bills and coins make up only 1 percent of the economy. Trends in the U.S. show a preference among Americans for plastic. A report from the Federal Reserve found that in 2017, debit and credit card payments made up 48 percent of transactions, with cash making up 30 percent. However, households that made under \$25,000 annually used cash for more than half of their transactions.

“We are already where Sweden was five to seven years ago, and given another five to seven years, we will be where Sweden is now,” said Kenneth Rogoff, a Harvard economics professor and author of *The Curse of Cash: How Large Denomination Bills Aid Crime and Tax Evasion Constrain Monetary Policy*.

“It seems to me there’s a paradigm shift to a cashless business model,” said Torres in a phone interview. “A company like Amazon could surely spread the model more widely, and Amazon is intent on opening more Amazon Go stores in major cities like New York. It might seem like it’s at the margins at the moment, but the trend could spread a lot faster than people might think.”

Yet, when it has served their interests, Amazon has figured out a way to sell even its online products to the unbanked as it does in Kenya, where it is pioneering a program to allow people without debit, charge, or credit cards to pay for its products at Western Union so that it can access the vast unbanked market there.

## Recommended



### The Tax on Black and Brown Customers When Dealing With Community Banks

BRENTIN MOCK / DAVID MONTGOMERY  
JUN 21, 2018



### Who Wins When Cash Is No Longer King?

SIDNEY FUSSELL  
DEC 26, 2018



“I certainly don’t think [this bill] is the right long-term solution,” said Rogoff. “The future does not lie in this direction. The future lies in giving people free debit cards and financial inclusion.” He cited the case of India. The country launched a program to decrease the number of unbanked and saw the percentage decrease from 47 percent of adults in 2014 to 20 percent unbanked in 2017 according to the World Bank Global Findex Report. “If India can manage to give people free debit cards, so can the U.S.” Rogoff said.

Casey Adams, director of City Legislative Affairs for the NYC Department of Consumer Affairs, stressed that financial inclusion should be prioritized with unbanked and underbanked New Yorkers connected to safe and affordable financial products.

“For these New Yorkers, the financial challenges go further and deeper than an inability to use cash to purchase goods and services at retail establishments,” he said.

## About the Author

### Rebecca Bellan



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shahn@cityofberkeley.info

CONSENT CALENDAR

December 3, 2019

To: Honorable Members of the City Council  
From: Councilmembers Sophie Hahn, Susan Wengraf, Cheryl Davila, and Mayor Jesse Arreguin  
Subject: Berkeley Public Library Foundation 18<sup>th</sup> Annual Authors Dinner: Relinquishment of Council Office Budget Funds to General Fund and Grant of Such Funds

RECOMMENDATION

Adopt a resolution approving the expenditure of an amount not to exceed \$600 per Councilmember, including \$100 from Councilmember Hahn, to the Berkeley Public Library Foundation’s 18th Annual Authors Dinner with funds relinquished to the City’s general fund for this purpose from the discretionary Council office budget of Councilmember Hahn, and any other Councilmembers who would like to contribute. The Berkeley Public Library Foundation raises funds to support and enhance facilities, programs and services of the Berkeley Public Library. Proceeds from this event will subsidize library programs and fulfill the municipal public purpose of the library.

BACKGROUND

Two decades ago, the Berkeley Public Library Foundation incorporated as a nonprofit dedicated to raising private funds necessary to turn the Berkeley Public Library into the library our community envisioned. In 2003, The Library Foundation hosted the first Authors Dinner, created in part to showcase completion of the expansion and renovation of the Central Library.

The Authors Dinner is one of Berkeley’s marquee annual fundraising events. The evening features up to 30 prominent and diverse local authors.

On Saturday, February 8, 2020, the Berkeley Public Library Foundation will host the 18<sup>th</sup> Annual Authors Dinner, with Honorary Chair Michael Lewis, at the Historic Berkeley City Club, 2315 Durant Avenue, Berkeley. Additional information can be found at: <https://bplf.org/events/authors-dinner-2020/>.

FINANCIAL IMPLICATIONS

No General Fund impact; a total of up to \$5,400 is available from Councilmembers’ discretionary budgets.

ENVIRONMENTAL SUSTAINABILITY

This item is consistent with the City's vision on sustainability. The Berkeley Public Library provides green, energy efficient, modern neighborhood spaces for the Berkeley community.

CONTACT INFORMATION

Councilmember Sophie Hahn, Council District 5 (510) 981-7150

ATTACHMENTS

1: Resolution

RESOLUTION NO. ##,###-N.S.

AUTHORIZING THE EXPENDITURE OF SURPLUS FUNDS FROM THE OFFICE  
EXPENSE ACCOUNTS OF THE MAYOR AND COUNCILMEMBERS FOR A GRANT  
TO PROVIDE PUBLIC SERVICES FOR MUNICIPAL PUBLIC PURPOSE

WHEREAS, the Berkeley Public Library Foundation, a nonprofit organization dedicated to amplifying public investment in the Berkeley Public Library to make a great public library extraordinary, through its 18th Annual Authors Dinner, seeks funds to subsidize library services for the City of Berkeley; and

WHEREAS, the provision of such services would fulfill the following municipal public purpose:  
The Berkeley Public Library Foundation raises funds to ensure the excellence of the buildings, services, collections, and programs at all five locations of Berkeley Public Library; and

NOW THEREFORE, BE IT RESOLVED, by the Council of the City of Berkeley that funds relinquished by the Mayor and Councilmembers from their Council Office Budget up to \$600 per office shall be granted to the Berkeley Public Library Foundation, through its 18th Annual Authors Dinner to support the Berkeley Public Libraries and their programs.





CITY COUNCILMEMBER  
**RIGEL ROBINSON**  
 DISTRICT 7

18

CONSENT CALENDAR  
 December 3, 2019

To: Honorable Mayor and Members of the City Council  
 From: Councilmembers Rigel Robinson, Kate Harrison, Ben Bartlett, and Mayor Jesse Arreguin  
 Subject: Urging the CPUC to Address Its Failure of Oversight and to Transform PG&E Into A Mutual Benefit Corporation

RECOMMENDATION

Adopt a resolution urging the California Public Utilities Commission to address past failures of oversight and transform PG&E into a mutual benefit corporation with the long-term goal of public ownership.

BACKGROUND

The Pacific Gas and Electric Company (PG&E) serves as the electrical and gas utility for almost all of Northern California (Notable exceptions are Sacramento County and the City of Alameda, served by public utilities). PG&E is regulated and overseen by the California Public Utilities Commission (CPUC). Over the past several years, however, both PG&E and its regulators have critically and repeatedly failed to uphold the basic standards of services the public is owed.

PG&E, as an investor-owned utility, has consistently put the profit interests of its shareholders ahead of the needs of its customers, the Northern California community, and the environment. Almost a decade ago, PG&E's negligence resulted in the 2010 San Bruno pipeline explosion, killing eight and injuring 58 others as well as destroying 38 homes and damaging surrounding infrastructure. In 2012, a state audit found that PG&E had illegally diverted over \$100 million from a fund used for safety operations, and instead used it for executive compensation and bonuses.<sup>1</sup>

In recent years, PG&E's failure to maintain and improve its electrical transmission in an era of climate change and drought have resulted in multiple massive wildfires with deadly consequences. Most notably, PG&E was found to be responsible for last year's Camp Fire,<sup>2</sup> which was the deadliest fire in California history, and the worst fire in the United States in over 100 years.

PG&E has accumulated massive liabilities and debts as a result of its egregious failures of long term planning and prioritization of corporate profit over human lives. It has filed for bankruptcy, a process which will depend heavily on the CPUC's input. Given this

<sup>1</sup> <https://www.sfgate.com/bayarea/article/PG-E-diverted-safety-money-for-profit-bonuses-2500175.php>

<sup>2</sup> <https://www.latimes.com/local/lanow/la-me-paradise-camp-fire-cal-fire-20190515-story.html>

development, the CPUC must take steps to ensure that PG&E's structure after bankruptcy puts the needs of the people of California before corporate profiteers.

To that end, Mayors and Chairs of County Boards of Supervisors from across Northern California have written a letter to the CPUC (Attached) calling for PG&E to emerge from bankruptcy as a customer-owned mutual benefit corporation. The letter explains:

"We propose a customer-owned utility for three primary reasons. The most compelling rationale is that PG&E correctly estimates it must invest tens of billions of dollars over the next decade for system hardening, wildfire protection and cyber-security. A mutualized PG&E can raise capital from a broad pool of debt financing in amounts substantially greater than can an investor-owned PG&E, and at much lower cost. A customer-owned utility can operate without the burdens of paying dividends to shareholders, and exempt from federal taxation. As a result, a cooperative financial structure will save ratepayers many billions of dollars in financing costs over this next decade. A customer-owned PG&E will better focus its scarce dollars on long-neglected maintenance, repairs, and capital upgrade, and mitigating some part of the substantial upward pressure on rates.

"Next, a customer-owned utility structure can be accomplished through a Chapter 11 Plan, with results far superior to those that would be seen from the two plans currently under consideration.

"Finally, the customer-owned utility structure would allow PG&E to begin the process of restoring public confidence, in part by allowing the public to have greater role in determining decisions that increasingly have come to define matters of life and death. To the extent that the public continues to believe that a profit motive has dominated PG&E's decision making, the enterprise will never regain the trust of its customers, its regulators, and public policy-makers. It is time to pass control of the company from geographically distant investors to its customers."

The signatories of letter included our Mayor, Jesse Arreguin, in his personal capacity. Adopting the attached resolution would officially lend the City's support to this call.

#### FINANCIAL IMPLICATIONS

None.

#### ENVIRONMENTAL SUSTAINABILITY

Negligence by PG&E has caused multiple fires, including the Camp Fire, Kincade Fire, and the San Bruno explosion. These fires put smoke and ash in the air, burn trees, and displace people, all of which adversely affect the environment.

A publicly owned utility company will be able to more intensely invest in carbon-free and renewable energy, rather than private profits.

#### CONTACT PERSON



Councilmember Rigel Robinson, (510) 981-7170

Attachments:

1: Resolution

2: Mayor Letter to PG&E

RESOLUTION NO. ##,###-N.S.

URGING THE CPUC TO ADDRESS ITS FAILURE OF OVERSIGHT AND  
TRANSFORM PG&E INTO A MUTUAL BENEFIT CORPORATION

WHEREAS, the Pacific Gas & Electric Company (hereinafter PG&E) was entrusted with a monopoly over a critical service on which millions of Californians depend; and

WHEREAS, the California Public Utilities Commission (hereinafter the CPUC) is ostensibly responsible for regulating PG&E for the common benefit of Californians; and

WHEREAS, PG&E has negligently declined to duly maintain its electricity transmission infrastructure, directly causing specific and deadly wildfire events; and

WHEREAS, the CPUC has failed to curb PG&E's negligence despite a history of proven deadly consequences; and

WHEREAS, PG&E was convicted of six felony negligence charges following the 2010 San Bruno fire that killed eight and injured 58 individuals; and

WHEREAS, PG&E has responded to the danger caused by its deficiently maintained infrastructure by instituting the Public Safety Power Shutoff program (hereinafter PSPS or the Program), which seeks to prevent wildfires by preemptively de-energizing transmission infrastructure during hazardous weather conditions, seriously disrupting everyday life and threatening the health and safety of individuals dependent on electricity for medical devices; and

WHEREAS, despite prior knowledge of the impending rollout of PSPS, the CPUC failed to ensure the Program was instituted in a way that minimized hardship and economic costs on the affected communities; and

WHEREAS, PSPS was implemented in a haphazard manner that foreseeably compounded the Program's negative effects on affected communities; and

WHEREAS, residents affected by PSPS are forced to endure substantial hardship and economic loss with no apparent recourse despite having no role in the underlying decisions that led to the Program's necessitation; and

WHEREAS, the City of Berkeley has granted PG&E use of the Berkeley's public right of way for the placement of PG&E's infrastructure conditioned on the reasonable expectation that PG&E provide safe and reliable service, and PG&E has failed to meet that basic standard; and

WHEREAS, PG&E has failed to fulfill its responsibility to provide safe and reliable service to its customers; and

WHEREAS, the CPUC has failed in its stated purpose of “protecting consumers, safeguarding the environment, and assuring Californians' access to safe and reliable utility infrastructure and services;” and

WHEREAS, PG&E has consistently prioritized profits and shareholder value over the provision of safe and reliable service, contrary to its duty as a major public utility; and

WHEREAS, PSPS events constitute an unreasonable, unacceptable, and undue burden on residents.

NOW THEREFORE, BE IT RESOLVED that the Council of the City of Berkeley calls on the CPUC to evaluate PG&E's historical failings in properly maintaining the safety and welfare of the people of California, create new robust systems of public oversight for all utilities, and fully utilize the expertise available in publicly-owned utilities and community choice aggregators.

BE IT FURTHER RESOLVED that the Council of the City of Berkeley urges the CPUC to utilize PG&E's ongoing bankruptcy proceedings to transition it into a mutual benefit corporation with a cooperative financial structure, with the long-term goal of bringing it under public ownership.

BE IT FURTHER RESOLVED that the Council of the City of Berkeley urges all municipalities and counties served by PG&E to join the City of Berkeley and Mayors throughout the region in calling for this urgent transition.





Office of the City Manager

PUBLIC HEARING  
December 3, 2019

To: Honorable Mayor and Members of the City Council

From: Dee Williams-Ridley, City Manager

Submitted by: David Brannigan, Fire Chief, Berkeley Fire Department

Subject: Adoption of the 2019 California Fire Code with Local Amendments – Second Reading

#### RECOMMENDATION

Conduct a public hearing and upon conclusion adopt the second reading of Ordinance No.7,680-N.S. repealing and reenacting the Berkeley Fire Code, including amendments to the California Fire Code as outlined in the proposed ordinance, plus Appendix Chapters B (as amended by BMC 19.48.020, Amendments to the California Fire Code), D, E, F, L (as amended by BMC 19.48.020, Amendments to the California Fire Code) and O published by the International Code Council not included in the California Building Standards Code, as Berkeley Municipal Code Chapter 19.48.

#### FISCAL IMPACTS OF RECOMMENDATION

The fiscal impact to the City will be approximately \$15,000 for the purchase of new fire codebooks, inspection guides, inspection forms, and training. The fire department has allocated the expenditure as part of its FY 2019/20 budget. Neither the new State code overall, or our continuing or new local amendments are expected to create significant cost increases for homeowners, builders or developers.

#### CURRENT SITUATION AND ITS EFFECTS

As part of a regular three-year cycle, the California Building Standards Commission promulgated the 2019 California Fire Code. The California Fire Code as referred to in Title 24 Part 9 of the California Code of Regulations will take effect on January 1, 2020. The Fire Code provides minimum standards for fire and life safety. The State of California amends and adopts a model fire code every three years.

To create the 2019 California Fire Code, the State of California amended and adopted a model fire code published by the International Code Council. The 2019 California Fire Code reflects the 2018 International Fire Code (“IFC”) with State amendments. Local jurisdictions must enforce the California Fire Code, as adopted by the state, 180 days after publication.

BACKGROUND

The City of Berkeley has unique climatic, geological, and topographical conditions, which require local amendments to mitigate potential hazards, and to reduce loss of life caused by fires or natural disasters. To address local fire and life safety impacts, the City of Berkeley has adopted local amendments to address sprinkler system and fire alarm requirements for existing hotels, fraternities, sororities, window bars, smoke detectors, and firefighter safety and operations in high-rise construction. Without the adoption of the local amendments, the new and past amendments cannot be enforced. At the November 12, 2019 meeting, Council adopted Resolution No. 69,178-N.S. which sets forth findings of local conditions that require more stringent regulations than those provided by the 2019 California Fire Code.

The City of Berkeley also creates and adopts by resolution a fee schedule which specifies fees associated with operational and construction permits required by the fire code, and for other general and specific fire inspection services as well as establishing billing and collection procedures and setting forth delinquency charges. At the November 12, 2019 meeting, Council adopted Resolution No. 69,179-N.S. setting forth such fees.

RATIONALE FOR RECOMMENDATION

Local amendments to the California Fire Code must be adopted every three years, or the state code goes into effect without local amendments. Adoption of local amendments and findings-of-fact are needed to customize the state code to Berkeley's particular topographic, geologic and climatic conditions.

ALTERNATIVE ACTIONS CONSIDERED

None

CONTACT PERSON

Anthony Yuen, Fire Marshal, Berkeley Fire Prevention and Office of Emergency Services, 981-5585

Attachments:

- 1: Ordinance
- 2: Public Hearing Notice

ORDINANCE NO. 7,680–N.S.

REPEALING AND RE-ENACTING BERKELEY MUNICIPAL CODE CHAPTER 19.48  
(FIRE CODE)

BE IT ORDAINED by the Council of the City of Berkeley as follows:

Section 1. That Berkeley Municipal Code Chapter 19.48 is hereby repealed and reenacted as to read as follows:

**Section 19.48.010 Adoption of California Fire Code**

- A. That portion of the California Building Standards Code that imposes substantially the same requirements as are contained in the International Fire Code, 2018 Edition published by the International Code Council and the California Building Standards Commission with Errata, together with those portions of the International Fire Code, 2018 Edition, including Chapters 1, 3 (excluding Section 317), Section 503 of Chapter 5, Sections 1103.5.5 (as amended by BMC 19.48.020, Amendments to the California Fire Code) and 1104.16.5.1 of Chapter 11, Appendix Chapters B (as amended by BMC 19.48.020, Amendments to the California Fire Code), D, E, F, L (as amended by BMC 19.48.020, Amendments to the California Fire Code) and O published by the International Code Council not included in the California Building Standards Code, are adopted by this reference into this Chapter, and are hereby adopted and made a part of this Chapter as though fully set forth herein, subject to the modifications thereto which are set forth this ordinance. One copy of this Code is on file in the office of the City Clerk of the City of Berkeley.
- B. This chapter shall be known as the "Berkeley Fire Code" and shall be referred to in this chapter as "this code".

**Section 19.48.020 Amendments to the California Fire Code**

The following additions, changes and deletions to the 2019 California Fire Code, as detailed below, are adopted as part of the Berkeley Fire Code.

- A. **Section 101.1 Title [Amended subsection].** These regulations, including the local amendments to the California Fire Code set forth in this ordinance, shall be known as the Berkeley Fire Code~~Fire Code~~ of **[NAME OF JURISDICTION]**, hereinafter referred to as "this code."
- B. **Section 101.6. Expense of securing emergencies [Additional subsection]** The expense of securing any emergency that is within the responsibility for enforcement of the fire code official as given in Sections 104.1 or 104.11 is a charge against the person who caused the emergency. Damages and expenses incurred by any public agency having jurisdiction or any public agency assisting the agency having jurisdiction shall constitute a debt of such person and shall be collectible by the fire code official for proper distribution in the same manner as in the case of an obligation under contract expressed or implied. Expenses as stated above shall include, but not be limited to, equipment and personnel committed and

any payments required by the public agency to outside business firms requested by the public agency to secure the emergency, monitor remediation, and clean up.

- C. **Section 102.6 Historic buildings. [Amended subsection]** The provisions of this code relating to the construction, alteration, repair, enlargement, restoration, relocation or moving of buildings or structures shall not be mandatory for existing buildings or structures identified and classified by the state or local jurisdiction as historic buildings where such buildings or structures do not constitute a distinct hazard to life or property. Fire protection in designated historic buildings shall be provided with an approved fire protection plan as required in ~~Section 1103.1.1.~~ the 2019 California Historical Building Code.
  
- D. **Section 104.12. Authority to arrest and issue citations [Additional subsection]** The Fire Chief, Chief Officers, Fire Marshal, Deputy Fire Marshal, and Fire Inspectors shall have authority to arrest or to cite any person who violates any provision of this Chapter involving the International Fire Code or the California Building Standards Code regulations relating to fire and panic safety as adopted by the State Fire Marshal, in the manner provided for the arrest or release on citation and notice to appear with respect to misdemeanors or infractions, as prescribed by Chapters 5, 5c and 5d of Title 3, Part 2 of the California Penal Code, including Section 853.6, or as the same hereafter may be amended. It is the intent of the City Council that the immunities provided in Penal Code Section 836.5 are applicable to aforementioned officers and employees exercising their arrest or citation authority within the course and scope of their employment pursuant to this Chapter.
  
- E. **Section 104.13 Authority to abate fire nuisance [Additional subsection].** The Fire Chief, Chief Officers, Fire Marshal, Deputy Fire Marshal, Fire Inspectors, Fire Officers and Acting Fire Officers shall have the authority to order the abatement of fire nuisances.
  
- F. **105.6.16 Flammable and combustible liquids. [Amended subsection]** An operational permit is required:
  - 1. To use or operate a pipeline for the transportation within facilities of flammable or combustible liquids. This requirement shall not apply to the offsite transportation in pipelines regulated by the Department of Transportation (DOTn) nor does it apply to piping systems.
  - 2. To store, handle or use Class I liquids in excess of 5 gallons (19 L) in a building or in excess of 10 gallons (37.9 L) outside of a building, except that a permit is not required for the following:
    - 2.1. The storage or use of Class I liquids in the fuel tank of a motor vehicle, aircraft, motorboat, mobile power plant or mobile heating plant, unless such storage, in the opinion of the fire code official, would cause an unsafe condition.
    - 2.2. The storage or use of paints, oils, varnishes or similar flammable mixtures where such liquids are stored for maintenance, painting or similar purposes for a period of not more than 30 days.



3. To store, handle or use Class II or Class IIIA liquids in excess of 25 gallons (95 L) in a building or in excess of 60 gallons (227 L) outside a building, except for fuel oil used in connection with oil-burning equipment.
4. To store, handle or use Class IIIB liquids in excess of 110 gallons in containers, or in tanks or portable tanks for fueling motor vehicles at motor fuel-dispensing facilities or where connected to fuel-burning equipment.  
**Exception:** Fuel oil and used motor oil used for space heating or water heating.
5. To remove Class I or II liquids from an underground storage tank used for fueling motor vehicles by any means other than the approved, stationary on-site pumps normally used for dispensing purposes.
6. To operate tank vehicles, equipment, tanks, plants, terminals, wells, fuel-dispensing stations, refineries, distilleries and similar facilities where flammable and combustible liquids are produced, processed, transported, stored, dispensed or used.
7. To place temporarily out of service (for more than 90 days) an underground, protected above-ground or above-ground flammable or combustible liquid tank.
8. To change the type of contents stored in a flammable or combustible liquid tank to a material that poses a greater hazard than that for which the tank was designed and constructed.
9. To manufacture, process, blend or refine flammable or combustible liquids.
10. To engage in the dispensing of liquid fuels into the fuel tanks of motor vehicles at commercial, industrial, governmental or manufacturing establishments.
11. To utilize a site for the dispensing of liquid fuels from tank vehicles into the fuel tanks of motor vehicles, marine craft and other special equipment at commercial, industrial, governmental or manufacturing establishments.

- G. **Section 105.6.31 Motor fuel dispensing facilities. [Amended subsection]** An operational permit is required for the operation of automotive, marine and fleet motor fuel-dispensing facilities-, or for mobile fueling operations using flammable liquids and which are conducted at facilities or locations which are not permanent, permitted motor fuel dispensing facilities.

**Exception:** Transfer of not more than 5 gallons flammable or combustible liquids using a listed or approved portable fuel container of 5 gallons or less capacity.

- H. **Section 105.6.52 Christmas tree sales lot. [Additional subsection]** An operational permit is required to operate a Christmas tree sales lot.

- I. **Section 105.6.53 Escort convoy service [Additional subsection]** Police and/or Fire Department convoy service for vehicle transportation of extremely hazardous materials.

- J. **Section 105.6.54 Fire Fighter Air Replenishment System (FARS). [Additional subsection]** An annual operational permit is required to maintain a FARS system in accordance with Appendix L.

- K. **Section 105.6.55 General use permit. [Additional subsection]** For any activity or operation not specifically described in this code, which the fire code official reasonably determines, may produce conditions hazardous to life or property

- L. **Section 105.6.56 Parking facility, special events [Additional subsection]** An operational permit is required to use buildings or structures for vehicle parking, including parking for special events (i.e. football games, etc.).
- M. **Section 105.6.57 Tank Vehicles. [Additional subsection]** An operational permit is required to operate a tank vehicle (other than flammable and combustible liquids tank vehicles as listed and regulated in 105.6.16, item 6) including those hazardous materials transportation vehicles defined in Section 5001.7 of the Berkeley Fire Code for the transportation of hazardous liquids or materials.
- N. **Section 105.7.26 Fire fighter air replenishment system (FARS). [Additional subsection]** A construction permit is required for installation of or modification to a FARS system in accordance with Appendix L.
- O. **Section 105.7.27 Window bars [Additional subsection]** A construction permit is required to install window bars on exterior doors or windows of any sleeping rooms below the fourth floor in apartment houses, hotels, and motels.
- P. **Section 106.2 Schedule of permit fees. [Amended subsection]** ~~A fee for each permit shall be paid as required, in accordance with the schedule as established by the applicable governing authority.~~ Fees for permits and inspections shall be set forth by the City Council by resolution.
- Q. **SECTION 109 BOARD OF APPEALS PROCESS [Amended Section]**
- R. **Section 109.1 [Amended subsection] Board of appeals established.** ~~In order to hear and decide appeals of orders, decisions or determinations made by the fire code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the governing body and shall hold office at its pleasure. The fire code official shall be an ex officio member of said board but shall not have a vote on any matter before the board. The board shall adopt rules of procedure for conducting its business, and shall render all decisions and findings in writing to the appellant with a duplicate copy to the fire code official.~~ **Appeals Procedure [Amended subsection]** Whenever the fire code official disapproves an application, refuses to grant a permit applied for, or revokes or suspends any permit or certificate already issued, an appeal therefore may be taken to the City Council by the applicant or permit holder. Notice of the appeal must be filed in triplicate with the City Clerk of the City of Berkeley within ten days from the date of mailing of the fire code official's decision to the applicant or permit holder. The notice of appeal shall contain a statement of the reasons for the appeal. The City Clerk shall forward one copy thereof to the fire code official. Within ten days after the filing of the notice of appeal, the fire code official shall transmit to the City Council all his/her records pertaining to the decision appealed from.
- S. **Section 109.1.1 Stay of Proceedings [Amended subsection]** The filing of the notice of appeal shall stay all proceedings by all parties in connection with the

matter upon which the appeal is taken until determination of the appeal as hereinafter provided, unless the fire code official determines that such a stay could result in an imminent threat to public safety.

- T. **Section 109.3 [Amended subsection] Qualifications.** ~~The board of appeals shall consist of members who are qualified by experience and training to pass on matters pertaining to hazards of fire, explosions, hazardous conditions or fire protection systems, and are not employees of the jurisdiction.~~ **109.3 Decisions [Amended subsection]** The City Council shall review the action of the fire code official and shall do any one of the following:
- a. Refer the matter back to the fire code official.
  - b. If the facts stated in or ascertainable from the application, the Notice of Appeal, the written statement of the fire code official setting forth the reason for his/her decision, and the other papers, if any, constituting the record do not, in the opinion of the City Council, warrant further hearing, the City Council may affirm the decision of the fire code official. Such decision shall be final.
  - c. If, in the opinion of the City Council, said facts warrant further hearing, the City Council shall set the matter for hearing and shall give notice of the time and place of said hearing by mailing a copy of such notice by certified mail to the address of the applicant as stated in the Notice of Appeal, at least ten (10) days before the time fixed for the hearing. The City Council may continue the hearing from time to time.
  - d. Following such hearing, the City Council shall reverse, affirm wholly or partly modify any decision of the fire code official, or make any other decisions or determinations or impose such conditions as the facts warrant. Such decision or determination shall be final.
  - e. If none of the above actions have been taken by the City Council within thirty (30) days from the date the appeal first appears on the City Council agenda, then the decision of the fire code official shall be deemed affirmed and the appeal shall be deemed dismissed.
  - f. If the appeal is set for hearing but the disposition of the appeal has not been determined within ninety (90) days from the date the appeal first appears on the City Council agenda, then the decision of the fire code official shall be deemed affirmed and the appeal deemed dismissed.
- U. **Section 110.1 Unlawful acts [Amended subsection].** It shall be unlawful for a person, firm or corporation to erect, construct, alter, repair, remove, demolish or utilize a building, occupancy, premises or system regulated by this code, or cause same to be done, in conflict with or in violation of any of the provisions of this code, or to create, maintain or allow to continue any fire hazard.
- V. **Section 110.4 Violation penalties [Amended subsection].** Persons who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, install, alter, repair or do work in violation of the approved construction documents or directive of the fire code official, or of a permit or certificate used under provisions of this code, shall be guilty of a ~~[SPECIFY OFFENSE], punishable by a fine of not more than [AMOUNT] dollars or by imprisonment not exceeding [NUMBER OF DAYS], or both such fine and~~

imprisonment misdemeanor, but may be cited or charged, at the election of the enforcing officer or City Attorney, as infractions, with the exceptions cited in subsection 110.4.2 and subject to an election by the defendant under Penal Code Subsection 17 (d). Each day that a violation continues after due notice has been served shall be deemed a separate offense.

- W. **Section 110.4.2 Misdemeanors [Additional subsection]** Notwithstanding Section 110.4, violation of any of the following provisions of this code shall be charged only as a misdemeanor:
  1. Section 110.3.2 (Compliance with orders and notices)
  2. Section 110.4.4 (Unauthorized tampering)
  3. Section 111.2 (Evacuation of an Unsafe Building)
  4. Section 111.2.1 (Unauthorized re-occupancy of an unsafe building)
  5. Section 901.8 (Removal of or tampering with equipment)
  6. Section 401.5 (Making false report)
  
- X. **Section 110.4.3 Work without a permit [Additional subsection]** Contractors performing work without a permit for the addition, change out, installation replacement, upgrade, of any fire alarm, fire suppression, or fire sprinkler system shall be required to pay three times the amount of the required fees to obtain a permit for the addition, change out, installation, replacement, upgrade of the fire alarm, fire suppression, or fire sprinkler system.
  
- Y. **Section 111.2.1 Unauthorized re-occupancy of unsafe buildings [Additional subsection].** No person shall reoccupy any building, which has been posted as specified in this subsection except for the purpose of securing same or making the required repairs or demolishing the building or structure, nor shall any person remove or deface any such notice so posted until the hazard/s has been abated.
  
- Z. **Section 111.3 Summary abatement [Amended subsection]** Where conditions exist that are deemed hazardous to life and property, the fire code official or fire department official in charge of the incident is authorized to abate summarily such hazardous conditions that are in violation of this code. Where the owner does not comply with an abatement order under Section 111.4 within the period specified, the City of Berkeley may perform or cause to be performed the necessary work. The costs incurred shall be recoverable under the procedures in Section 111.4.1
  
- AA. **Section 111.4.1 Abatement process [Additional subsection]** The abatement process shall be conducted in accordance with the notice and hearing requirements of the nuisance abatement provisions of Berkeley Municipal code chapter 1.24, including summary abatements of structures or premises determined by the City of Berkeley to constitute an imminent hazard or emergency condition.
  
- BB. **Section 202 Definitions – B [Additional definition] BERKELEY MARINA.** The area shall mean all those, parts of the City of Berkeley west of the Interstate 80 Freeway

- CC. **Section 202 (Definitions — F) [Additional definition]** FIRE HAZARD. Anything or act which increases or could cause an increase of the hazard or menace of fire to a greater degree than that customarily recognized as normal by persons in the public service regularly engaged in preventing, suppressing or extinguishing fire or anything or act which could obstruct, delay, hinder or interfere with the operations of the fire department or the egress of occupants in the event of fire. Fire hazards as defined herein are hereby declared to be public nuisances subject to abatement by the City of Berkeley.
- DD. **Section 202 (Definitions — F) [Additional definition]** FIRE NUISANCE. Anything or act, which is annoying, unpleasant, offensive or obnoxious because of fire.
- EE. **Section 202 (Definitions — J [Amended definition]).** JURISDICTION. The City of Berkeley.~~The governmental unit that has adopted this code under due legislative authority.~~
- FF. **Section 202 (Definitions — W) [Additional definition]** WASTE OIL is a Class III-B waste liquid resulting from the use of Class III-B combustible liquids such as waste motor oil, hydraulic oil, lubricating oil, brake fluids and transmission fluids.
- GG. **Section 504.1.1 Marking of Exterior Building Openings [Additional subsection].** Where exterior doorways are not otherwise marked with identification such as building addresses, room/suite numbers or business names which identify the area(s) they provide access to, such opening shall be provided with signs or labels indicating the areas they serve. Doorways to be marked shall include but are not limited to doors serving building circulation (such as stairwells/exit passageways), potential hazards (such as trash rooms), and building service and utility spaces (such as electrical, gas, HVAC and elevator machine rooms). Signs/labels shall be permanent, weather and sunlight resistant with lettering not less than  $\frac{3}{4}$ " high with a  $\frac{1}{16}$ " width stroke on a contrasting background. Such signs or labels shall be affixed to the door frame or wall above the door. Such signs and labels shall be maintained.  
**Exception:** Doors associated with private dwellings, the main entrance to normally occupied spaces or when determined to be unnecessary by the fire code official.
- HH. **Section 703.2.4 Fusible Links [Additional subsection]** Doors required for fire and smoke separation for interior exit stairways and floor separation in R-1 or R-2 occupancies shall not be maintained in an open position with fusible links.
- II. **Section 903.2.10 Group S-2 enclosed parking garages [Amended subsection].** An automatic sprinkler system shall be provided throughout buildings classified as enclosed parking garages in accordance with Section 406.6 of the *California Building Code* where either of the following conditions exists: or where located beneath other groups or with U occupancies with installed parking lifts with no exceptions as follows:

1. ~~Where the fire area of the enclosed parking garage exceeds 12,000 square feet (1115 m<sup>2</sup>)~~
2. ~~Where the enclosed parking garage is located beneath other groups.~~

JJ. **Section 903.2.10.1 Commercial parking garages [Amended subsection].** An automatic sprinkler system shall be provided throughout buildings used for storage of commercial motor vehicles ~~where the fire area exceeds 5,000 square feet (464 m<sup>2</sup>).~~

KK. **Section 903.2.11.1 Stories without openings [Amended subsection].** An automatic sprinkler system shall be installed throughout all buildings having stories, including basements, of all buildings where the floor area exceeds 1,500 square feet (139.4 m<sup>2</sup>) and where there is not provided at least one of the following types of exterior wall openings:

1. Openings below grade that lead directly to ground level by an exterior stairway complying with Section 1011 or an outside ramp complying with Section 1012. Openings shall be located in each 50 linear feet (15 240 mm), or fraction thereof, of exterior wall in the story on not fewer than one side. The required openings shall be distributed such that the lineal distance between adjacent openings does not exceed 50 feet (15 240 mm).
2. Openings entirely above the adjoining ground level totaling not less than 20 square feet (1.86 m<sup>2</sup>) in each 50 linear feet (15 240 mm), or fraction thereof, of exterior wall in the story on not fewer than one side. The required openings shall be distributed such that the lineal distance between adjacent openings does not exceed 50 feet (15 240 mm) The height of the bottom of the clear opening shall not exceed 44 inches (1118 mm) measured from the floor.

LL. **Section 903.2.21 Structures in the Berkeley Marina Area [Additional subsection]** An automatic sprinkler system shall be installed in all structures located in the Berkeley Marina Area in accordance with NFPA 13 standards.

**Exceptions:** Gear lockers not designed to permit human entry, municipal restrooms unattached to other structures, the existing City of Berkeley Harbor Master's office, and any temporary construction site structures.

MM. **Section 903.2.22 Public Self-Storage Buildings [Additional subsection]** An automatic sprinkler system shall be installed in any building erected or existing building that was converted and/or subdivided for public self-storage use on or after August 19, 1982, in accordance with NFPA 13 standards.

NN. **Section 903.2.23 Environmental Safety - Residential District [Additional subsection]** Any new construction requiring a permit determined to be \$100,000 or more in construction costs or new additions to existing structures shall be required to install automatic fire sprinklers throughout the structure. For the purpose of this subsection "Environmental Safety — Residential District" shall mean those areas designated as such on the Official Zoning Map of the City of Berkeley, as it may be amended from time to time.

- OO. **Section 903.3.1.2 NFPA 13R sprinkler systems. [Amended subsection]** Automatic sprinkler systems in Group R occupancies up to and including four stories in height in buildings not exceeding 60 feet (18,288 mm) in height above grade plane shall be permitted to be installed throughout in accordance with NFPA 13R *as amended in Chapter 80*.  
**Exception:** Sprinkler systems in residential / commercial mix-use buildings are to be in accordance with NFPA 13.
- PP. **Section 903.3.9 Floor control valves. [Amended subsection]** Floor control valves and waterflow detection assemblies shall be installed at each floor where any of the following occur:
1. Buildings where the floor level of the highest story is located ~~more than~~ or more above the lowest level of fire department vehicle access.
  2. Buildings that are ~~four~~ three or more stories in height.
  3. Buildings that are two or more stories below the highest level of fire department vehicle access.
- Exception:** Group R-3 and R-3.1 occupancies floor control valves and waterflow detection assemblies shall not be required.
- QQ. **Section 907.2 Where required—new buildings and structures [Amended subsection].** An approved fire alarm system installed in accordance with the provisions of this code and NFPA 72 shall be provided in new buildings and structures in accordance with Sections 907.2.1 through 907.2.23 and provide occupant notification in accordance with Section 907.5, unless other requirements are provided by another section of this code.

Not fewer than one manual fire alarm box shall be provided in an approved location to initiate a fire alarm signal for fire alarm systems employing automatic fire detectors or water-flow detection devices. Where an automatic and manual, or a manual fire alarm system is required by this code or Berkeley local ordinance, other sections of this code allow elimination of fire alarm boxes is not allowed. ~~prohibited. due to sprinklers or automatic fire alarm systems, a single fire alarm box shall be installed at a location approved by the enforcing agency.~~

**Exceptions:**

- ~~1. The manual fire alarm box is not required for fire alarm control units dedicated to elevator recall control, supervisory service and fire sprinkler monitoring.~~
  - ~~2. The manual fire alarm box is not required for Group R-2 occupancies unless required by the fire code official to provide a means for fire watch personnel to initiate an alarm during a sprinkler system impairment event. Where provided, the manual fire alarm box shall not be located in an area that is open to the public.~~
  - ~~3. The manual fire alarm box is not required to be installed when approved by the fire code official.~~
- RR. **Section 907.2.1 Group A. [Amended subsection]** A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group A occupancies where the occupant load due to the assembly occupancy is 300 or more, or where the Group A occupant load is more than 100 persons above or below the lowest level of exit discharge. Group A occupancies not separated from one another in accordance with Section 707.3.10

of the *California Building Code* shall be considered as a single occupancy for the purposes of applying this section. Portions of Group E occupancies occupied for assembly purposes *with an occupant load of less than 1000* shall be provided with a fire alarm system as required for the Group E occupancy.

~~**Exception:** Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.~~

SS. **Section 907.2.2 Group B. [Amended subsection]** A manual fire alarm system shall be installed in Group B occupancies where one of the following conditions exists:

1. The combined Group B occupant load of all floors is 500 or more.
2. The Group B occupant load is more than 100 persons above or below the lowest level of exit discharge.
3. The fire area contains an ambulatory care facility.
4. *For Group B occupancies containing educational facilities, see Section 907.2.2.2.*

~~**Exception:** Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.~~

TT. **Section 907.2.4 Group F. [Amended subsection]** A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group F occupancies where both of the following conditions exist:

1. The Group F occupancy is two or more stories in height.
2. The Group F occupancy has a combined occupant load of 500 or more above or below the lowest level of exit discharge.

~~**Exception:** Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.~~

UU. **Section 907.2.7 Group M. [Amended subsection]** A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group M occupancies where one of the following conditions exists:

1. The combined Group M occupant load of all floors is 500 or more persons.
2. The Group M occupant load is more than 100 persons above or below the lowest level of exit discharge.

**Exceptions:**

1. A manual fire alarm system is not required in covered or open mall buildings complying with Section 402 of the *California Building Code*.
2. ~~Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with~~



~~Section 903.3.1.1 and the occupant notification appliances will automatically activate throughout the notification zones upon sprinkler water flow.~~

VV. **Section 907.2.8.1 Manual ~~fire~~ fire alarm system [Amended subsection].** A manual and automatic fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group R-1 occupancies.

**Exceptions:**

~~1. A manual fire alarm system is not required in buildings not more than two stories in height where all individual sleeping units and contiguous attic and crawl spaces to those units are separated from each other and public or common areas by not less than 1-hour fire partitions and each individual sleeping unit has an exit directly to a public way, egress court or yard.~~

~~2. Manual fire alarm boxes are not required throughout the building where all the following conditions are met:~~

~~2.1. The building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.~~

~~2.2. The notification appliances will activate upon sprinkler water flow.~~

~~2.3. Not fewer than one manual fire alarm box is installed at an approved location.~~

WW. **Section 907.2.8.2 Manual and ~~A~~ automatic fire alarm systems ~~smoke detection system~~ [Amended subsection].** An ~~A~~ manual and automatic ~~smoke detection~~ fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed throughout all interior corridors and common areas of Group R-1 occupancies. The detection device for this purpose shall be a smoke detector (or heat detector as approved), which is system connected and electronically supervised ~~serving sleeping units.~~

**Exception:** ~~An automatic smoke detection system is not required in buildings that do not have interior corridors serving sleeping units and where each sleeping unit has a means of egress door opening directly to an exit or to an exterior exit access that leads directly to an exit.~~

XX. **Section 907.2.9.1 Automatic and manual fire alarm system [Amended subsection].** An automatic and manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group R-2 occupancies where any of the following conditions apply:

1. ~~The building is three or more stories in height and Any any dwelling unit or sleeping unit is located three or more stories above the lowest level of exit discharge.~~

2. Any dwelling unit or sleeping unit is located more than one story below the highest level of exit discharge of exits serving the dwelling unit or sleeping unit.

3. The building contains more than 16 dwelling units or sleeping units.

4. *Congregate residences with more than 16 occupants.*

**Exceptions:**

1. A fire alarm system is not required in buildings not more than two stories in height where all dwelling units or sleeping units and contiguous attic and crawl spaces are separated from each other and public or common areas by not less than 1-hour fire partitions and each dwelling unit or sleeping unit has an exit directly to a public way, egress court or yard.
- ~~2. Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and the occupant notification appliances will automatically activate throughout the notification zones upon a sprinkler water flow.~~
- ~~32.~~ A fire alarm system is not required in buildings that do not have interior corridors serving dwelling units and are protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, provided that dwelling units either have a means of egress door opening directly to an exterior exit access that leads directly to the exits or are served by open-ended corridors designed in accordance with Section 1027.6, Exception 3.

**YY. Section 914.3.9 Fire Fighter Air Replenishment Systems [Additional subsection]** New high-rise buildings shall install an approved Fire Fighter Air Replenishment System (FARS) or equivalent equipment or systems as determined by the fire code official to provide a breathing air supply for firefighting self-contained breathing air tanks. Such system or equipment shall provide adequate pressurized breathing air supply through a permanent piping system or other means acceptable to the fire code official for the replenishment of portable life sustaining air equipment carried by fire department, rescue and other personnel in the performance of their duties. Design, installation, testing and maintenance of such air replenishment systems shall be made in accordance with Appendix Chapter ~~LF~~ of the California Plumbing Code. Each property owner shall be responsible for maintaining such equipment or systems including annual air sampling and testing.

**Exceptions:**

1. Buildings equipped with Firefighter Access Elevators as required by Berkeley Building Code section 403.6.1
2. Where an alternate method of supplying breathing air replenishment is approved by the fire code official.

**ZZ. Section 1103.5.5 Automatic Sprinkler Requirements for Existing Hotels [Additional subsection]**

- AAA. Section 1103.5.5.1 Definitions [Additional subsection].** For the purposes of this Section, the following terms shall be defined as follows:
1. "Hotel" shall mean any building, including motels, dormitories, rooming houses, fraternity houses and sorority houses, which contain six or more rooms which were intended or designed to be used, or which are used, for the purposes of renting, hiring or letting to residential occupants for sleeping purposes but shall not include apartment buildings as defined in this code.
  2. "Story" is as defined in the Berkeley Building Code.

3. "First Story" is as defined in the Berkeley Building Code.
4. "Basement" is as defined in the Berkeley Building Code.
5. "Balcony, Exterior Exit" shall mean a landing or porch projecting from the wall of a building which serves as a required exit. The long side shall be at least 50 percent directly open to the exterior, and the open area above the guardrail shall be so configured as to prevent the accumulation of smoke or toxic gases.

**Application:** This section shall apply to every hotel in which the rooms used for sleeping are rented or let above the ground floor, if the hotel was built prior to 1992, and also meets one of the following two conditions:

The height of the hotel is three or more stories or two stories plus an inhabited basement, which is used for purposes other than exclusively servicing the maintenance and other needs of the building; or the hotel contains 20 or more rooms, or regularly accommodates 20 or more residential occupants.

**Exception:** No hotel in which the exits from sleeping rooms lead either to the outside of the building either directly or via approved exit balconies with approved exterior stairways(s) in accordance with the requirements of the Berkeley Building Code is required to comply with this section.

BBB. **Section 1103.5.5.2 Types of Fire Sprinklers [Additional subsection].** In the sleeping units of the building, only residential or quick response sprinkler heads shall be used.

CCC. **Section 1103.5.5.3 Supervision of fire sprinkler systems [Additional subsection].** All automatic sprinkler systems installed under this subsection in which the number of sprinkler heads is 50 or more shall be supervised by an approved central station, remote supervising station, or proprietary supervising station which will give an audible signal at a constantly attended location.

DDD. **Section 1103.7 Fire Alarm Systems [Amended subsection].** An approved fire alarm system shall be installed in existing buildings and structures in accordance with Sections 1103.7.1 through 1103.7.6 and provide occupant notification in accordance with Section 907.5 unless other requirements are provided by other sections of this code. Existing high-rise buildings shall comply with Section 1103.7.9.

Where an automatic and manual or a manual fire alarm system is required by this code or Berkeley local ordinance, elimination of fire alarm boxes in buildings equipped with an approved sprinkler system is prohibited.

**Exception:** Occupancies with an existing, previously approved fire alarm system When deemed not required by the fire code official.

EEE. **Section 1103.7.5.1 Group R-1 hotels, and motels and congregate residences manual and automatic fire alarm system [Amended subsection].** A manual and automatic fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in existing Group R-1 hotels and motels ~~more than~~ with three or more stories or ~~with more than~~ 20 or more sleeping units.

**Exceptions:**

- ~~1. Buildings less than two stories in height where all sleeping units, attics and crawl spaces are separated by 1-hour fire-resistance-rated construction and each sleeping unit has direct access to a public way, egress court or yard.~~
- ~~2. Manual fire alarm boxes are not required throughout the building where the following conditions are met:~~
  - ~~2.1. The building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.~~
  - ~~2.2. The notification appliances will activate upon sprinkler water flow.~~
  - ~~2.3. Not less than one manual fire alarm box is installed at an approved location.~~

FFF. **Section 1103.7.6 Group R-2 [Amended subsection].** A manual and automatic fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in existing Group R-2 occupancies ~~more than three or more stories~~ in height or with 16 or more than 16 dwelling or sleeping units. Congregate residences shall retrofit existing manual-only fire alarm systems with manual and automatic fire detection. Other types of R-2 occupancies (such as apartment buildings) shall retrofit existing manual-only fire alarm systems with manual and automatic fire detection when the existing fire alarm control unit is replaced for any reason. Automatic detection shall be accomplished by use of a smoke detector (or heat detector as approved), which is system connected and electronically supervised. Detectors shall be installed in all interior corridors and common areas.

**Exceptions:**

1. Where each living unit is separated from other contiguous living units by fire barriers having a fire-resistance rating of not less than 3/4 hour, and where each living unit has either its own independent exit or its own independent stairway or ramp discharging at grade.
- ~~2. A separate fire alarm system is not required in buildings that are equipped throughout with an approved supervised automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and having a local alarm to notify all occupants.~~
- ~~23.~~ A fire alarm system is not required in buildings that do not have interior corridors serving dwelling units and are protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, provided that dwelling units either have a means of egress door opening directly to an exterior exit access that leads directly to the exits or are served by open ended corridors designed in accordance with Section 1027.6, Exception 3.
- ~~34.~~ A fire alarm system is not required in buildings that do not have interior corridors serving dwelling units, do not exceed three stories in height and comply with both of the following:
  - ~~34.1.~~ Each dwelling unit is separated from other contiguous dwelling units by fire barriers having a fire-resistance rating of not less than 3/4 hour.
  - ~~34.2.~~ Each dwelling unit is provided with hard-wired, interconnected smoke alarms as required for new construction in Section 907.2.10.

GGG. **Section 1103.7.10 Monitoring of Group R Occupancies [Additional subsection]** All existing R occupancies that are required to provide both a fire alarm and fire suppression system shall have the system monitored by a central station, remote supervising station, or proprietary supervising station.

HHH. **Section 1104.16.5.1. Examination [Additional subsection].** Fire escape stairs and balconies shall be examined for structural adequacy and safety in accordance with Section 1104.16.5 by a registered design professional or others acceptable to the fire code official every five years, or as required by the fire code official. An inspection report shall be submitted to the fire code official after such examination.

III. **Section 4902.1 General [Amended subsection].** For the purpose of this chapter, certain terms are defined as follows:

**CDF DIRECTOR.** Director of the California Department of Forestry and Fire Protection.

**FIRE PROTECTION PLAN.** A document prepared for a specific project or development proposed for a Wildland-Urban Interface Fire Area. It describes ways to minimize and mitigate potential for loss from wildfire exposure.

The Fire Protection Plan shall be in accordance with this Article. When required by the enforcing agency for the purpose of granting modifications, a fire protection plan shall be submitted. Only locally adopted ordinances that have been filed with the California Building Standards Commission in accordance with Section 101.14 or the Department of Housing and Community Development in accordance with Section 101.15 shall apply. The Fire Protection Plan shall also be known as a Vegetation Management Plan (VMP), which may contain elements not directly associated with vegetation management including but not limited to building construction features or equipment, engineering controls, administrative controls, process controls or site access requirements.

**FIRE HAZARD SEVERITY ZONES.** Geographical areas designated pursuant to California Public Resources Codes, Sections 4201 through 4204 and classified as Very High, High, or Moderate in State Responsibility Areas or as Local Agency Very High Fire Hazard Severity Zones designated pursuant to California Government Code, Sections 51175 through 51189.

The California Code of Regulations, Title 14, Section 1280 entitles the maps of these geographical areas as "Maps of the Fire Hazard Severity Zones in the State Responsibility Area of California."

**FIRE ZONE ONE** shall encompass the entire City of Berkeley except for Fire Zones Two and Three.

**FIRE ZONE TWO** encompasses those areas designated as Combined Hillside District in the Official Zoning map of the City of Berkeley and those areas designated as Very High in the official Fire Hazard Severity Zones (FHSZ) map of the California Department of Forestry and Fire Protection (CAL FIRE), as they may be amended from time to time. The following properties, not part of the Combined Hillside District, are included in Fire Zone Two under the Very High designation of the FHSZ map: the eastern section of the University of California, Berkeley main campus, block number 2042 (Alameda County Assessor's parcel numbering (APN) system), to the east city line; all of the Clark-Kerr campus, block number 7690, to the east city line; all of block number 7680 in the City of

Berkeley; portions of block number 1702 in the City of Berkeley. These additional parcels and their assigned street address are established in Section 19.28.030 of the Berkeley Municipal Code, Berkeley Building Code and are specified in Table 4902.1.

**Table 4902.1**

| <b>Parcels Added to the Berkeley Combined Hillside District</b> |                                 |
|-----------------------------------------------------------------|---------------------------------|
| <b>Parcel Number (APN)</b>                                      | <b>Address</b>                  |
| <u>048-7680-001-02</u>                                          | <u>3 Tanglewood Road</u>        |
| <u>048-7680-002-01</u>                                          | <u>5 Tanglewood Road</u>        |
| <u>048-7680-031-00</u>                                          | <u>7 Tanglewood Road</u>        |
| <u>048-7680-019-00</u>                                          | <u>11 Tanglewood Road</u>       |
| <u>048-7680-014-00</u>                                          | <u>19 Tanglewood Road</u>       |
| <u>048-7680-032-01</u>                                          | <u>25 Tanglewood Road</u>       |
| <u>048-7680-027-00</u>                                          | <u>29 Tanglewood Road</u>       |
| <u>054-1702-067-00</u>                                          | <u>10 Tanglewood Road</u>       |
| <u>054-1702-068-00</u>                                          | <u>18 Tanglewood Road</u>       |
| <u>054-1702-069-00</u>                                          | <u>22 Tanglewood Road</u>       |
| <u>054-1702-070-00</u>                                          | <u>28 Tanglewood Road</u>       |
| <u>054-1702-063-00</u>                                          | <u>2701 Belrose Avenue</u>      |
| <u>054-1702-076-00</u>                                          | <u>2715 Belrose Avenue</u>      |
| <u>054-1702-075-00</u>                                          | <u>2721 Belrose Avenue</u>      |
| <u>054-1702-074-00</u>                                          | <u>2729 Belrose Avenue</u>      |
| <u>054-1702-073-00</u>                                          | <u>2737 Belrose Avenue</u>      |
| <u>054-1702-112-00</u>                                          | <u>2801 Claremont Boulevard</u> |
| <u>054-1702-123-01</u>                                          | <u>2811 Claremont Boulevard</u> |
| <u>054-1702-122-00</u>                                          | <u>2815 Claremont Boulevard</u> |
| <u>054-1702-120-01</u>                                          | <u>2821 Claremont Boulevard</u> |
| <u>054-1702-114-01</u>                                          | <u>2816 Claremont Avenue</u>    |
| <u>054-1702-115-00</u>                                          | <u>2820 Claremont Avenue</u>    |
| <u>054-1702-072-00</u>                                          | <u>3005 Garber Street</u>       |
| <u>054-1702-071-00</u>                                          | <u>3015 Garber Street</u>       |
| <u>054-1702-113-00</u>                                          | <u>3020 Garber Street</u>       |
| <u>054-1702-116-00</u>                                          | <u>3017 Avalon Avenue</u>       |

**FIRE ZONE 3** encompasses those areas designated as Environmental Safety - Residential Districts on the Official Zoning Map of the City of Berkeley, as it may be amended from time to time.

**LOCAL AGENCY VERY HIGH FIRE HAZARD SEVERITY ZONE.** An area designated by a local agency upon the recommendation of the CDF Director pursuant to Government Code, Sections 51177(c), 51178 and 5118, that is not a state responsibility area and where a local agency, city, county, city and county, or district is responsible for fire protection.

**STATE RESPONSIBILITY AREA.** Lands that are classified by the Board of Forestry pursuant to Public Resources Code Section 4125 where the financial responsibility of preventing and suppressing forest fires is primarily the responsibility of the state.

**WILDFIRE.** Any uncontrolled fire spreading through vegetative fuels that threatens to destroy life, property, or resources as defined in Public Resources Code, Sections 4103 and 4104.

**WILDFIRE EXPOSURE.** One or a combination of radiant heat, convective heat, direct flame contact and burning embers being projected by vegetation fire to a structure and its immediate environment.

**WILDLAND-URBAN INTERFACE FIRE AREA.** A geographical area identified by the state as a "Fire Hazard Severity Zone" in accordance with the Public Resources Code, Sections 4201 through 4204, and Government Code, Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires. Berkeley Fire Zones 2 and 3 are designated as Wildland-Urban Interface Fire Areas. See Government Code Chapter 6.8 Very High Fire Hazard Severity Zones and Public Resources Code Article 9 Fire Hazard Severity Area for the applicable referenced sections.

- JJJ. **Section 4903.1 General (Additional subsection).** When required to submit a Fire Protection Plan or Vegetation Management Plan for any reason the responsible party shall prepare or cause to be prepared a Fire Protection Plan in accordance with the latest standards of the Berkeley Fire Department. The Fire Protection Plan shall be submitted to, reviewed and approved by the Berkeley Fire Department and shall be enforced and maintained by the responsible party or their designated agent. The Berkeley Fire Department may charge an appropriate fee for the review, approval and processing of the Fire Protection Plan in accordance with the hourly rate established by City Council resolution.
- KKK. **Section 4904.3 Berkeley Fire Hazard Severity Zones [Additional subsection].**  
**FIRE ZONE TWO.** Fire Zone Two is designated a Very-High Fire Hazard Severity Zone and Wildland-Urban Interface Fire Area. All requirements of Berkeley Fire Code Chapter 49 and Berkeley Municipal Code Section 19.28.030, Berkeley Building Code, Chapter 7A shall apply.  
**FIRE ZONE THREE.** Fire Zone Three is designated a Very-High Fire Hazard Severity Zone and Wildland-Urban Interface Fire Area. All requirements of Berkeley Fire Code Chapter 49 and Berkeley Municipal Code Section 19.28.030, Berkeley Building Code, Chapter 7A shall apply.
- LLL. **Section 4905.2 Construction methods and requirements within established limits [Amended subsection].** *Within the limits established by law, construction methods intended to mitigate wildfire exposure shall comply with the wildfire protection building construction requirements contained in the California Building Standards Code, including the following:*
1. ~~California Building Code, Chapter 7A~~Chapter 7A of Berkeley Municipal Code Section 19.28.030. See the Berkeley Building Code for requirements.
  2. ~~California Residential Code, Section R327.~~Berkeley Residential Code (B.R.C.).
  3. California Referenced Standards Code, Chapter 12-7A.

MMM. **Section 4906.3 Requirements [Amended subsection].** Hazardous vegetation and fuels around all applicable buildings and structures shall be maintained in accordance with the following laws and regulations and subject to the requirements of Section 4907 of this code:

1. *Public Resources Code, Section 4291.*
2. *California Code of Regulations, Title 14, Division 1.5, Chapter 7, Subchapter 3, Section 1299 (see guidance for implementation "General Guideline to Create Defensible Space").*
3. *California Government Code, Section 51182.*
4. *California Code of Regulations, Title 19, Division 1, Chapter 7, Subchapter 1, Section 3.07*

NNN. **Section 4906.4 Electrical Equipment Support Clearance [Additional subsection].** Persons owning, controlling, operating or maintaining electrical transmission or distribution lines shall have an approved program in place that identifies poles or towers with equipment and hardware types that have a history of becoming an ignition source, and provides a combustible free space consisting of a clearing of not less than 10 feet (3048 mm) in each direction from the outer circumference of such pole or tower during such periods of time as designated by the fire code official.

**Exception:** Lines used exclusively as telephone, telegraph, messenger call, alarm transmission or other lines classified as communication circuits by a public utility.

OOO. **Section 4906.5 Electrical Distribution and Transmission Line Clearances [Additional subsection].**

PPP. **Section 4906.5.1 General [Additional subsection].** Clearances between vegetation and electrical lines shall be in accordance with this section.

QQQ. **Section 4906.5.2 Trimming clearance [Additional subsection].** At the time of trimming, clearances not less than those established by Table 4906.5.2 should be provided. The radial clearances shown below are minimum clearances that should be established, at time of trimming, between the vegetation and the energized conductors and associated live parts.

**Exception:** The fire code official is authorized to establish minimum clearances different than those specified in Table 4906.5.2 when evidence substantiating such other clearances is submitted to the fire code official and approved.

**TABLE 4906.5.2 – MINIMUM CLEARANCES BETWEEN VEGETATION AND ELECTRICAL LINES AT TIME OF TRIMMING**

| Line Voltage     | MINIMUM RADIAL CLEARANCE FROM CONDUCTOR (feet)<br>[x 304.8 mm] |
|------------------|----------------------------------------------------------------|
| 400 – 71,999     | 4                                                              |
| 72,000 – 109,999 | 6                                                              |



|                          |           |
|--------------------------|-----------|
| <b>110,000 – 299,999</b> | <b>10</b> |
| <b>300,000 or more</b>   | <b>15</b> |

RRR. **Section 4906.5.3 Minimum clearance to be maintained [Additional subsection].** Clearances not less than those established by Table 4906.5.3 shall be maintained during such periods of time as designated by the fire code official. The site specific clearance achieved, at time of pruning, shall vary based on species growth rates, the utility company specific trim cycle, the potential line sway due to wind, line sway due to electrical loading and ambient temperature, and the tree’s location in proximity to the high voltage lines.

**Exception:** The fire code official is authorized to establish minimum clearances different than those specified by Table 4906.5.3 when evidence substantiating such other clearances is submitted to the fire code official and approved

**TABLE 4906.5.3 – MINIMUM CLEARANCES BETWEEN VEGETATION AND ELECTRICAL LINES TO BE MAINTAINED**

| <b>Line Voltage</b>     | <b>MINIMUM CLEARANCE (inches)<br/>[x 25.4 mm]</b> |
|-------------------------|---------------------------------------------------|
| <b>750 – 34,999</b>     | <b>6</b>                                          |
| <b>35,000 – 59,999</b>  | <b>12</b>                                         |
| <b>60,000 – 114,999</b> | <b>19</b>                                         |
| <b>115,000 –230,000</b> | <b>30-1/2</b>                                     |

SSS. **Section 4906.5.4 Electrical power line emergencies [Additional subsection].** During emergencies, the utility company shall perform the required work to the extent necessary to clear the hazard. An emergency can include situations such as trees falling into power lines, or trees in violation of Table 4906.5.3.

TTT. **Section 4906.5.5 Correction of Condition [Additional subsection].** The fire code official is authorized to give notice to the owner of the property on which conditions regulated by Section 4906.5 exist to correct such conditions. If the owner fails to correct such conditions, the City of Berkeley is authorized to cause the same to be done and make the expense of such correction a lien on the property where such condition exists.

UUU. **Section 4906.6 Clearance of Brush or Vegetative Growth from Roadways [Additional subsection].** The fire code official is authorized to cause areas within 10 feet (3048 mm) from the edge of the pavement on each side of portions of highways, streets and private roads which are improved, designed or ordinarily used for vehicular traffic to be cleared of flammable vegetation and other combustible growth. The fire code official is authorized to enter upon private property to do so.

**Exception:** Specimens of trees, ornamental shrubbery, or similar plants which are used as ground cover, if they do not form a means of rapidly transmitting fire from the native growth to any building or structure.

VVV. **Section 4906.7 Unusual Circumstances [Additional subsection].** If the fire code official determines that difficult terrain, danger of erosion or other unusual circumstances make strict compliance with the clearance of vegetation provisions of Section 4906 undesirable or impractical, enforcement thereof may be suspended and reasonable alternative measures shall be provided.

WWW. **Section 4907.1 General [Amended subsection].** Defensible space will be maintained around all buildings and structures in State Responsibility Area (SRA) as required in Public Resources Code 4290 and "SRA Fire Safe Regulations" California Code of Regulations, Title 14, Division 1.5, Chapter 7, Subchapter 2, Section 1270.

Buildings and structures within the Very-high Fire Hazard Severity Zones of a Local Responsibility Areas (LRA) shall maintain defensible space as outlined in Government Code 51175 — 51189 and ~~any local ordinance of the authority having jurisdiction.~~ Section 4908 of this code.

XXX. **Section 4907.2 Clearance of Brush or Vegetative Growth from Structures [Additional subsection].**

YYY. **Section 4907.2.1 General [Additional subsection].** Persons owning, leasing, controlling, operating or maintaining buildings or structures in, or upon Wildland-Urban Interface Fire Areas and persons owning, leasing or controlling land adjacent to such buildings or structures, shall at all times:

1. Maintain an effective firebreak by removing and clearing away flammable vegetation and combustible growth from areas within 30 feet (9144 mm) of such buildings or structures, but not beyond the property line; and

**Exception:** Specimens of trees, ornamental shrubbery, or similar plants which are used as ground cover, if they do not form a means of rapidly transmitting fire from the native growth to any building or structure.

2. Maintain additional fire protection or firebreak by removing brush, flammable vegetation and combustible growth located 30 feet (9144 mm) from such buildings or conditions causing a firebreak of only 30 feet (9144 mm) to be sufficient to provide reasonable fire safety; and.

**Exception:** Grass and other vegetation, located more than 30 feet (9144 mm) from buildings or structures, and less than ~~18~~ four (4) inches (~~457~~ 102 mm) in height above the ground need not be removed where necessary to stabilize the soil and prevent erosion.

3. Remove portions of trees which extend within 10 feet (3048 mm) of the outlet of a chimney; and
4. Maintain trees adjacent to or overhanging a building free of deadwood; and

5. Maintain the roof of a structure free of leaves, needles or other dead vegetative growth; and
6. Brush and debris does not need to be completely removed, but may be chipped into pieces less than three (3) inches in length, provided that the resulting mulch is less than three (3)~~five (5)~~ inches deep; and
7. The trunks of ~~eucalyptus~~-trees are to be maintained so that they are free of hanging bark and debris to a height of at least eight (8) feet.

**ZZZ. Section 4907.2.2 Corrective Actions [Additional subsection].** The City Council is authorized to instruct the fire code official to give notice to the owner of the property upon which conditions regulated by Section 4906.6 exist to correct such conditions. If the owner fails to correct such conditions, the City Council is authorized to cause the same to be done and make the expense of such correction a lien upon the property where such condition exists.

**AAAA. Section 4908 SUPPRESSION AND CONTROL OF WILDLAND-URBAN INTERFACE FIRE AREAS [Additional section]**

**BBBB. Section 4908.1 Permit [Additional subsection].** The fire code official is authorized to stipulate conditions for permits. Permits shall not be issued when public safety would be at risk, as determined by the fire code official.

**CCCC. Section 4908.2 Restricted Entry [Additional subsection].** The fire code official shall determine and publicly announce when Wildland-Urban Interface Fire Areas shall be closed to entry and when such areas shall again be opened to entry. Entry on and occupation of Wildland-Urban Interface Fire Areas, except public roadways, inhabited areas or established trails and camp sites which have not been closed during such time when the Wildland-Urban Interface Fire Areas are closed to entry, is prohibited.

**Exceptions:**

- 1) Residents and owners of private property within Wildland-Urban Interface Fire Areas and their invitees and guests going to or being upon their lands;
- 2) Entry, in the course of duty, by peace officers, and other duly authorized public officers, members of a fire department and members of the United States Forest Service

**DDDD. Section 4908.3 Trespassing on Posted Property [Additional subsection]**

**EEEE. Section 4908.3.1 General [Additional subsection].** When the fire code official determines that a specific area within a Wildland-Urban Interface Fire Areas presents an exceptional and continuing fire danger because of the density of natural growth, difficulty of terrain, proximity to structures or accessibility to the public, such areas shall be closed until changed conditions warrant termination of closure. Such areas shall be posted as hereinafter provided.

FFFF. **Section 4908.3.2 Signs [Additional subsection].** Approved signs prohibiting entry by unauthorized persons and referring to this section shall be placed on every closed area.

GGGG. **Section 4908.3.3 Trespassing [Additional subsection].** Entering and remaining within areas closed and posted is prohibited.

**Exception:** Owners and occupiers of private or public property within closed and posted areas, their guests or invitees, and local, state and federal public officers and their authorized agents acting in the course of duty.

HHHH. **Section 4908.4 Smoking [Additional subsection].** Lighting, igniting or otherwise setting fire to or smoking tobacco, cigarettes, pipes or cigars in Wildland-Urban Interface Fire Areas are prohibited.

**Exception:** Places of habitation or within the boundaries of established smoking areas or campsites as designated by the fire code official.

IIII. **Section 4908.5 Spark Arresters [Additional subsection].** Chimneys used in conjunction with fireplaces, barbecues, incinerators or heating appliances in which solid or liquid fuel is used, upon buildings, structures or premises located within Wildland-Urban Interface Fire Areas shall be provided with a spark arrester. See Berkeley Building Code Section 704A1.6 for specifications.

JJJJ. **Section 4908.6 Tracer Bullets, Tracer Charges, Rockets and Model Aircraft [Additional subsection].** Tracer bullets and tracer charges shall not be possessed, fired or caused to be fired into or across Wildland-Urban Interface Fire Areas. Rockets, model planes, gliders and balloons powered with an engine, propellant or other feature liable to start or cause fire shall not be fired or projected into or across Wildland-Urban Interface Fire Areas.

KKKK. **Section 4908.7 Explosives and Blasting [Additional subsection].** Explosives shall not be possessed, kept, stored, sold, offered for sale, given away, used, discharged, transported or disposed of within Wildland-Urban Interface Fire Areas except by permit from the fire code official.

LLLL. **Section 4908.8 Fireworks [Additional subsection].** Fireworks shall not be used or possessed in Wildland-Urban Interface Fire Areas. The fire code official is authorized to seize, take, remove or cause to be removed fireworks in violation of this section.

**Exception:** Fireworks allowed by the fire code official under permit when not prohibited by applicable local or state laws, ordinances and regulations.

MMMM. **Section 4908.9 Apiaries [Additional subsection].** Lighted and smoldering material shall not be used in connection with smoking bees in or upon Wildland-Urban Interface Fire Areas except by permit from the fire code official.

NNNN. **Section 4908.10 Open-Flame Devices [Additional subsection].** See Berkeley Fire Code Sections 308.1.6 Open Flame Devices and 308.1.6.1 Signals and Markers.

OOOO. **Section 4908.11 Outdoor Fires [Additional subsection].** Outdoor fires shall not be built, ignited or maintained in or upon Wildland-Urban Interface Fire Areas, except by permit from the fire code official.

**Exception:** Outdoor fires within habited premises or designated campsites, where such fires are built in a permanent barbecue, portable barbecue, outdoor fireplace, incinerator or grill and are a minimum of 30 feet (9144 mm) from a grass-, grain-, brush or forest-covered area.

Permits shall incorporate such terms and conditions, which will reasonably safeguard public safety and property.

Outdoor fires shall not be built, ignited or maintained in or upon Wildland-Urban Interface Fire Areas under the following conditions:

1. When high winds are blowing,
2. When a person age 17 or over is not present at all times to watch and tend such fire, or
3. When public announcement is made that open burning is prohibited. Permanent barbecues, portable barbecues, outdoor fireplaces or grills shall not be used for the disposal of rubbish, trash or combustible waste material.

PPPP. **Section 4908.12 Incinerators and Fireplaces [Additional subsection].** Incinerators, outdoor fireplaces, permanent barbecues and grills shall not be built, installed or maintained in Wildland-Urban Interface Fire Areas without prior approval of the fire code official. Incinerators, outdoor fireplaces, permanent barbecues and grills shall be maintained in good repair and in a safe condition at all times. Openings in such appliances shall be provided with an approved spark arrester, screen or door.

**Exception:** When approved, unprotected openings in barbecues and grills necessary for proper functioning shall be allowed.

QQQQ. **Section 4908.13 Dumping [Additional subsection].** Garbage, cans, bottles, papers, ashes, refuse, trash, rubbish or combustible waste material shall **not** be placed, deposited or dumped in or upon Wildland-Urban Interface Fire Areas or in, upon or along trails, roadways or highways in Wildland-Urban Interface Fire Areas.

**Exception:** Approved public and private dumping areas.

RRRR. **Section 4908.14 Disposal of Ashes [Additional subsection].** Ashes and coals shall not be placed, deposited or dumped in or upon Wildland-Urban Interface Fire Areas.

**Exceptions:**

1. In the hearth of an established fire pit, camp stove or fireplace;
2. In a noncombustible container with a tight-fitting lid, which is kept or maintained in a safe location not less than 10 feet (3048mm) from combustible vegetation or structures;
3. Where such ashes or coals are buried and covered with 1 foot (304.8mm) of mineral earth not less than 25 feet (7620 mm) from combustible vegetation or structures.

**SSSS. Section 4908.15 Use of Fire Roads and Firebreaks [Additional subsection].**

Motorcycles, motor scooters and motor vehicles shall not be driven or parked upon, and trespassing is prohibited upon, fire roads or firebreaks beyond the point where travel is restricted by a cable, gate or sign, without the permission of the property owner(s). Vehicles shall not be parked in a manner, which obstructs the entrance to a fire road or firebreak.

**Exception:** Public officers acting within their scope of duty. Radio and television aerials, guy wires thereto, and other obstructions shall not be installed or maintained on fire roads or fire breaks unless located 16 feet (4877 mm) or more above such fire road or firebreak.

**TTTT. Section 4908.16 Use of Motorcycles, Motor Scooters and Motor Vehicles [Additional subsection].**

Motorcycles, motor scooters and motor vehicles shall not be operated within Wildland-Urban Interface Fire Areas, without a permit by the fire code official, except upon clearly established public or private roads. Permission from the property owner(s) shall be presented when requesting a permit.

**UUUU. Section 4908.17 Tampering with Fire Department Locks, Barricades and Signs [Additional subsection].**

Locks, barricades, seals, cables, signs and markers installed within Wildland-Urban Interface Fire Areas, by or under the control of the fire code official, shall not be tampered with, mutilated, destroyed or removed. Gates, doors, barriers and locks installed by or under the control of the fire code official shall not be unlocked.

**VVVV. Section 4908.18 Liability for Damage [Additional subsection].**

The expenses of fighting fires, which result from a violation of Public Resources Code 4714, shall be charged against the person whose violation Public Resources Code of 4714 caused the fire. Damages caused by such fires shall constitute a debt of such person and are collectable by the fire code official in the same manner as in the case of an obligation under a contract, expressed or implied. (Ord. 7066-NS § 2, 12/08/08: Ord. 7003-NS § 1, 11/27/07: Ord. 6715-NS § 2, 2002)

**WWWW. Section 5001.7 Hazardous materials transportation restrictions [Additional subsection]**

No vehicle containing hazardous materials, including a hazardous materials transportation tank truck, trailer, semi-trailer or tank wagon containing flammable or combustible liquids, hazardous chemicals, liquefied petroleum

gases, poisonous gases, or cryogenic fluids, shall be operated on any city street without a permit from the fire code official. A map showing the proposed route of the vehicle shall accompany applications for such permits. If a permit is granted, the map shall be carried at all times in the vehicle and the vehicle shall not deviate from the approved route as shown on the map. Such a permit may contain conditions, including restrictions on the hours within which certain routes may be used and limitations on the size of the vehicle allowed to travel the approved route. No route shall be approved that includes passage over or adjacent to subway entry or vent structures, through the Northbrae Tunnel, in any area designated an environmental safety residential district by the City of Berkeley's Zoning Ordinance, or in an area which may be designated as a hazardous fire area. Departure from the approved route, travel outside the permitted hours, and violation of any vehicle size limitation imposed, or failure to carry a map showing route approval shall constitute a violation of this Code. The transportation of extremely hazardous materials may, in the discretion of the fire code official, require both a permit and accompaniment by a Fire Department or Police Department convoy. The following streets contain purge chamber openings which lead directly into the subway section of the Bay Area Rapid Transit (BART) System in Berkeley and their use by tank vehicles or trailers for transportation or delivery of flammable or combustible liquids, hazardous chemicals, liquefied petroleum gases, poisonous gases, or cryogenic fluids is prohibited and a violation of this Code:

- a. On Addison Street between Martin Luther King Jr. Way and Oxford Street;
- b. On Shattuck Avenue between University Avenue and Dwight Way;
- c. On Virginia Street between Franklin and Sacramento Streets;
- d. On Sacramento Street between Virginia Street and Hearst Avenue;
- e. On Hearst Avenue between McGee Avenue and Milvia Street;
- f. On Adeline Street between Ward and Stuart Streets; and
- g. On Adeline Street between Ashby Avenue and Woolsey Street

XXXX. **5601.1.3 Fireworks. [Amended subsection]** The possession, manufacture, storage, sale, handling and use of fireworks, including fireworks which are classified as Safe and Sane fireworks by the California State Fire Marshal's Office, are prohibited within the jurisdiction.

**Exceptions:**

1. ~~Storage and handling of fireworks as allowed in Section 5604.~~
2. ~~Manufacture, assembly and testing of fireworks as allowed in Section 5605 and Health and Safety Code Division 11.~~
- 3~~1~~. The use of fireworks for fireworks displays, pyrotechnics before a proximate audience and pyrotechnic special effects in motion pictures, television, theatrical or group entertainment productions as allowed in Title 19, Division 1, Chapter 6 Fireworks reprinted in Section 5608 and Health and Safety Code Division 11 when stored, transported, handled and used under the required fire department permit(s) and in accordance will all applicable requirements of Chapter 56.
- 4~~2~~. The possession, storage, sale, handling and use of specific types of Division 1.4G fireworks where allowed by applicable laws, ordinances and

regulations, provided that such fireworks and facilities comply with NFPA 1124, CPSC 16 CFR Parts 1500 and 1507, and DOTn 49 CFR Parts 100–185, as applicable for consumer fireworks and Health and Safety Code Division 11.

YYYY. **5604.1 General. [Amended subsection]** The storage and handling of explosives within City of Berkeley limits is prohibited. Storage of explosives and explosive materials, small arms ammunition, small arms primers, propellant-actuated cartridges and smokeless propellants in magazines shall comply with the provisions of this section

**Exception:** Where expressly permitted by applicable laws, ordinances or regulations provided such storage and handling of explosives and explosive materials, small arms ammunition, small arms primers, propellant-actuated cartridges and smokeless propellants in magazines is conducted in accordance with Section 5604 and all applicable provisions of Chapter 56.

ZZZZ. **Section 5701.4.1 Transfer of flammable and combustible liquids. [Additional subsection]** Transfer to or from containers or mobile tanks, above ground or underground tanks of flammable and combustible liquids shall not be made from or on the street or public way except by written approval by the fire code official.

**Exception:** Transfer of not more than 5 gallons flammable or combustible liquids using a listed or approved portable fuel container of less than 5 gallons capacity.

AAAAA. **Section 5701.4.2 Storage of Class I and Class II liquids in aboveground tanks. [Additional subsection]** The storage of Class I and Class II liquids in aboveground tanks (including enclosed tanks) inside or outside of buildings is permitted only by authorization of the fire code official. Such installations shall be in accordance with this chapter and all applicable laws and recognized national standards.

BBBBB. **Section 5704.2.11.1.1 Restrictions on underground storage tanks [Additional subsection]** The storage of flammable and combustible liquids in underground tanks is prohibited in all areas zoned solely for residential occupancies, closely built commercial properties, and any other area deemed unsafe by the fire code official.

CCCCC. **Section 5704.2.13.1.4 Tanks abandoned in place [Amended subsection].** Tanks may be abandoned only under permit and following City of Berkeley Fire Department procedures. The owner shall demonstrate to the satisfaction of the City of Berkeley Toxics Division that no unauthorized release has occurred. If the soil is contaminated, mitigation must be completed to the satisfaction of the Toxics Division. A notice shall be placed in the deed to the property. This notice shall describe the precise location of the closed underground storage tank, the hazardous substances that it contained, and the closure method. Tanks abandoned in place shall be as follows:



1. Flammable and combustible liquids shall be removed from the tank and connected piping.
2. The suction, inlet, gauge, vapor return and vapor lines shall be disconnected.
3. The tank shall be filled completely with an approved inert solid material.
4. Remaining underground piping shall be capped or plugged.
5. A record of tank size, location and date of abandonment shall be retained.
6. All exterior above-grade fill piping shall be permanently removed when tanks are abandoned or removed.

DDDDD. **Section 5704.2.14 Removal and disposal of tanks [Amended subsection].** Removal and disposal of tanks shall comply with Sections 5704.2.14.1 and 5704.2.14.2. Removal of all tanks shall be authorized under a fire permit, abiding by City of Berkeley Fire Department procedures. The applicant shall submit the following:

1. **A site plan showing the location of the tanks.**
2. **A detailed description of the scope of work.**
3. **A site safety plan.**
4. **A vicinity map to the closest hospital, in an event of an emergency.**
5. **Proof of workers compensation insurance.**

The owner shall demonstrate to the satisfaction of the City of Berkeley Toxics Division that no unauthorized release has occurred. If the soil is contaminated, mitigation must be completed to the satisfaction of the Toxics Division or the California Water Board.

EEEE. **Section 6104.1.2 Restrictions on storage of LP-gas containers [Additional subsection]** It shall be unlawful to store any liquefied petroleum gas cylinder with a capacity greater than 2-1/2 lbs. water capacity or a portable tank within any structure or building with an occupancy classification of A, R-1, R-2 or R-4, unless specifically authorized by this Code.

FFFF. **Section B105.2 (Appendix B), Table B105.2, “Required Fire-Flow For Buildings Other Than One- And Two-Family Dwellings, Group R-3 And R-4 Buildings And Townhouses” [Amended Table]**

TABLE B105.2  
REQUIRED FIRE-FLOW FOR BUILDINGS OTHER THAN ONE- AND  
TWO-FAMILY DWELLINGS, GROUP R-3 AND R-4 BUILDINGS AND TOWNHOUSES

| AUTOMATIC SPRINKLER SYSTEM<br>(Design Standard)      | MINIMUM FIRE-FLOW<br>(gallons per minute)          | FLOW DURATION<br>(hours)                             |
|------------------------------------------------------|----------------------------------------------------|------------------------------------------------------|
| No automatic sprinkler system                        | Value in Table B105.1(2)                           | Duration in Table B105.1(2)                          |
| Section 903.3.1.1 of the <i>California Fire Code</i> | 2550% of the value in Table B105.1(2) <sup>a</sup> | Duration in Table B105.1(2) at the reduced flow rate |
| Section 903.3.1.2 of the <i>California Fire Code</i> | 2550% of the value in Table B105.1(2) <sup>b</sup> | Duration in Table B105.1(2) at the reduced flow rate |

For SI: 1 gallon per minute= 3.785 Lim.

a. The reduced fire-flow shall be not less than 1,000 gallons per minute.

b. The reduced fire-flow shall be not less than 1,500 gallons per minute.

GGGG. **Section L104.5.1 Stored pressure air supply. (Amended subsection)** A stored pressure air supply shall be designed based on Appendix Chapter F of the California Plumbing Code~~Chapter 24 of NFPA 1904~~ except that the provisions applicable only to mobile apparatus or not applicable to system design shall not

apply. A stored pressure air supply shall store not less than 5,000 Standard Cubic Feet (SCF) of air or be capable of refilling not less than 50 empty breathing air cylinders of a size and pressure used by the fire department, whichever is greater.

**Section 19.48.030 Validity** Should any section, paragraph, sentence or word of this Chapter or of the Code or Standards be declared invalid, all other portions of this Chapter shall remain in effect.

Section 2. Copies of this Ordinance shall be posted for two days prior to adoption in the display case located near the walkway in front of the Maudelle Shirek Building, 2134 Martin Luther King Jr. Way. Within 15 days of adoption, copies of this Ordinance shall be filed at each branch of the Berkeley Public Library and the title shall be published in a newspaper of general circulation.

At a regular meeting of the Council of the City of Berkeley held on November 12, 2019, this Ordinance was passed to print and ordered published by posting by the following vote:

Ayes: Bartlett, Davila, Droste, Hahn, Harrison, Kesarwani, Robinson, Wengraf, and Arreguin.

Noes: None.

Absent: None.

**NOTICE OF PUBLIC HEARING - BERKELEY CITY COUNCIL  
CITY COUNCIL CHAMBERS, 1231 ADDISON STREET**

**ADOPTION OF THE 2019 CALIFORNIA FIRE CODE WITH LOCAL AMENDMENTS**

Notice is hereby given that on **DECEMBER 3, 2019 at 6:00 P.M.** the City Council will conduct a public hearing to consider the adoption of the 2019 California Fire Code with Local Amendments as proposed by the Berkeley Fire Department. The adoption will include the non-structural provisions as provided in the 2018 International Fire Code.

A copy of the agenda material for this hearing will be available at the City Clerk’s Office and on the City’s website at [www.CityofBerkeley.info](http://www.CityofBerkeley.info) as of **November 21, 2019**.

For further information, please contact Fire Marshal Anthony Yuen at 510-981-5585.

Written comments should be mailed or delivered directly to the City Clerk, 2180 Milvia Street, Berkeley, CA 94704, in order to ensure delivery to all Councilmembers and inclusion in the agenda packet.

Communications to the Berkeley City Council are public record and will become part of the City’s electronic records, which are accessible through the City’s website. **Please note: e-mail addresses, names, addresses, and other contact information are not required, but if included in any communication to the City Council, will become part of the public record.** If you do not want your e-mail address or any other contact information to be made public, you may deliver communications via U.S. Postal Service or in person to the City Clerk. If you do not want your contact information included in the public record, please do not include that information in your communication. Please contact the City Clerk at 981-6900 or [clerk@cityofberkeley.info](mailto:clerk@cityofberkeley.info) for further information.

**Published:** The Berkeley Voice– November 15 and November 22, 2019

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I hereby certify that the Notice for this Public Hearing of the Berkeley City Council was posted at the display case located near the walkway in front of Council Chambers, 2131 Addison Street, as well as on the City’s website, on November 21, 2019.

Mark Numainville, CMC, City Clerk



Office of the City Manager

20

PUBLIC HEARING
December 3, 2019

To: Honorable Mayor and Members of the City Council
 From: Dee Williams-Ridley, City Manager
 Submitted by: Timothy Burroughs, Director, Department of Planning and Development
 Subject: Adoption of Berkeley Building Codes, including Local Amendments to California Building Standards Code

RECOMMENDATION

Conduct a public hearing, and upon conclusion adopt the second reading of Ordinance No. 7,678-N.S. repealing and reenacting the Berkeley Building, Residential, Electrical, Mechanical, Plumbing, Energy and Green Building Standards Codes in BMC Chapters 19.28, 19.29, 19.30, 19.32, 19.34, 19.36 and 19.37, and adopting related procedural and stricter provisions.

FISCAL IMPACTS OF RECOMMENDATION

Adoption of the revised and expanded 2019 California Buildings Standards Code, with the proposed local amendments, will increase the plan check and inspection workload. The substantially more complex and restrictive California Energy Code and the expanded California Green Building Standards Code, including additional acceptance testing, verification and documentation provisions, will increase plan check and inspection requirements. As identified in the City Council proceeding for the July 16, 2019, Ordinance Prohibiting Natural Gas Infrastructure in New Buildings, an additional staff position in the Building & Safety Division of the Planning and Development Department is needed to be able to implement the Natural Gas Prohibition, local reach codes, CALGreen EV requirements, and other Code amendments in support of the Berkeley Deep Green Building Initiative. The cost of this new position is estimated at \$273,341 per year for two years and was referred to the November 2019 budget process for Council consideration.

CURRENT SITUATION AND ITS EFFECTS

As part of a regular three-year cycle, the State Building Standards Commission has published the 2019 California Building Standards Code that must go into effect no later than January 1, 2020. The California Building Standards Code (California Code of Regulations, Title 24) includes the Building Code (Part 2), Residential Code (Part 2.5), Electrical Code (Part 3), Mechanical Code (Part 4), Plumbing Code (Part 5), Energy Code (Part 6), Historical Code (Part 8), Existing Building Code (Part 10), and Green Building Standards Code (Part 11). The Codes provide for minimum uniform standards for health and safety related to the built environment and for their enforcement through

a system of permits, plan review, and inspections.

The proposed ordinance provides for the adoption of the referenced California Codes along with certain local amendments, effective January 1, 2020. If this ordinance does not become effective by January 1, 2020, the 2019 California Building Standards Code will automatically become effective on that date, and the City will not be able to maintain or implement the local amendments tailored to Berkeley. The last day to file for a building permit to be reviewed under the current 2016 Code will be Tuesday, December 31, 2019.

The City's building-related codes include local amendments reflecting operations and local climatic, geological, or topographical conditions that need to be included as part of the adoption of the new code. Under state law, local jurisdictions may adopt other administrative provisions appropriate to the locality and may adopt stricter code provisions if justified by findings of local climatic, geological or topographical conditions. Stricter provisions of the Energy Code must also include a local finding of cost-effectiveness, and administrative approval of the adopted local amendment (reach code) at the California Energy Commission (CEC).

This ordinance, with the local amendments, is a Strategic Plan Priority Project, advancing the City of Berkeley's goals to create a resilient, safe, connected, and prepared city as well as being a global leader in addressing climate change, advancing environmental justice, and protecting the environment. These code adoption actions also support implementation of the City Council resolution declaring a shelter crisis, implementation of the ordinance banning Natural Gas infrastructure in new construction, implementation of Senate Bill 1226, and continuing responses to previous Council referrals to adopt Deep Green Building and Electric Vehicle Charging requirements.

BACKGROUND

The Council last adopted new California Building Standards Code with local amendments in 2016, which became effective on January 1, 2017. As with the last code adoption, staff is conducting community outreach to inform future applicants and other community members that all permit applications submitted before or on December 31, 2019 will be reviewed under the current building codes. Outreach efforts include Planning and Development Department's Open House on October 16, notifications on the homepage websites, announcements on the online permit center website, staff outreach to Energy Commission and Housing Advisory Commission, notification flyers at the Permit Service Center, an email blast to local contractors, and staff participation in a home electrification workshop on November 5.

When the Department reopens on January 2, 2020, new submitted applications will be reviewed for conformance to the 2019 California Building Standards Code with adopted local amendments.

Codes recommended for adoption are the Berkeley Building Code (Chapter 19.28),

which also includes the Historical Building Code and the Existing Building Code, the Berkeley Residential Code (Chapter 19.29), the Berkeley Electrical Code (Chapter 19.30), the Berkeley Mechanical Code (Chapter 19.32), the Berkeley Plumbing Code (Chapter 19.34), the Berkeley Energy Code (Chapter 19.26) and the Berkeley Green Code (Chapter 19.37).

Berkeley Building Code (Chapter 19.28)

The 2019 Berkeley Building Code includes numerous model code changes published by the State of California, impacting use and occupancies, allowable building heights and areas, fire protection features, means of egress, structural modifications, etc. These changes are designed to provide enhanced protection of public health, safety and general welfare as they relate to the construction and occupancy of buildings and structures.

The Codes published by the State also incorporate a newly revised HCD Appendix O for Emergency Housing, which has been substantially influenced by the technical provisions in the City of Berkeley Emergency Housing Ordinance approved by City Council on June 12, 2018 and the extension of Resolution 67,746-N.S., declaring a shelter crisis. The newly revised HCD Appendix O now includes by-right provisions for commercial modular buildings to be used as congregate sleeping quarters for emergency housing. This type of emergency housing was first introduced by the City of Berkeley at the Pathway STAIR Center on 2nd Street, codified in the Berkeley Municipal Code Chapter 19.28 Section 19.28.100, and is now approved at the state level. Since HCD Appendix O continues to defer to local authorities to establish minimum fire and life safety measures, the local amendments reflecting the particular characteristics and needs of Berkeley's emergency shelter responses are recommended for continuance.

Additionally, the 2019 Berkeley Building Code has been amended with additional administrative provisions to assist in facilitating an amnesty program for existing undocumented dwelling units. Specifically, when a building permit record for a residential unit does not exist, the building official will be authorized to make a determination of when the residential unit was constructed and then apply the building standards in effect when the residential unit was determined to be constructed or the current building standards, whichever is the least restrictive, provided the building does not become or continue to be a substandard or unsafe building. The Building Official will also be authorized to accept reasonable alternatives to the requirements of the prior or current code editions when dealing with unpermitted dwelling units. This amendment is intended to codify the Building Official's discretion and interpretative authority for legalization of unpermitted dwelling units as provided in Senate Bill No. 1226, which recognizes the Building Official's authority to apply the Building Standards Code in effect at the time a residential unit is determined to be constructed and requires the Department of Housing and Community Development to propose the adoption of a building standard to this effect (see Health & Safety Code, § 17958.12).

Berkeley Residential Code (Chapter 19.29)

The 2019 Berkeley Residential Code has been updated to include local climatic criteria, which refine the energy needs for dwelling units for the purpose of ensuring that the selected HVAC equipment meets the heating or cooling requirements and that the HVAC designers use the correct data to prevent unnecessary oversizing of the equipment. The Code also adopts Appendix Q for tiny houses less than 400 square feet, which relaxes various code requirements. Attention is specifically paid to features such as compact stairs, reduced ceiling heights and areas in lofts, reduction of ceiling heights in habitable rooms to 6'-8", reduction of ceiling heights in bathrooms and kitchens to 6'-4", and other similar requirements. The objective of these provisions is to facilitate construction of new and legalization of existing smaller dwelling units in support of easing the housing crisis. The Code also adopts Appendices R and S for light straw-clay and strawbale alternate construction methods. These alternate construction practices provide the ability to build dwelling units with sustainable materials that increase thermal efficiencies and have a low environmental impact.

Berkeley Mechanical Code (Chapter 19.32)

Staff proposes local amendments to the 2019 Berkeley Mechanical Code to include a new requirement to install residential kitchen range hoods in keeping with the June 26, 2018, (Item 52) referral response on the Berkeley Deep Green Building Initiative and in support of the July 16, 2019, Ordinance Prohibiting Natural Gas Infrastructure in New Buildings. Current requirements for kitchen hoods are limited to commercial cooking appliances. The proposed local amendment to the Mechanical Code would require kitchen range hoods, with a minimum air flow of 100 cfm and a maximum sound rating of 3 sones over residential stoves and cooktops within new and/or remodeled dwelling units. This amendment addresses indoor air quality and health concerns, particularly associated with cooking, and was supported by the Berkeley Energy Commission at their meeting on September 25, 2019. Consistent with the application of the California Building Standards Code, this requirement will apply to new construction, additions, alterations and repairs. Unless the building is being repaired, remodeled, expanded, or newly constructed, the codes do not retroactively apply to existing buildings, which can be maintained in accordance with the requirements under which they were built. However, the proposed amendment will effectively prevent removal of range hoods in existing residential units, which has been observed on multiple occasions by City housing inspectors. Instead, property owners will need to maintain existing range hoods in operable condition or replace them when necessary, rather than removing them as a non-required fixture.

Berkeley Energy Code (Chapter 19.26)

The 2019 California Energy Code published by the State increases energy efficiency and solar generation requirements from the 2016 Energy Code standards, moving closer to State goals of zero net energy buildings. The proposed local amendments to the 2019 Energy Code (also known as "reach code"), require further cost-effective

increases to support the intent and implementation of the Natural Gas Prohibition adopted by City Council on July 23, 2019 (Attachment 3). An overview of the California Energy Code cycle changes and the reach code requirements follows.

The 2019 Energy Code requires solar photovoltaic (PV) systems on new homes (single family and low-rise multifamily buildings of 3 stories or less) for the first time. The production of rooftop solar energy generation from solar PV systems, in combination with new energy efficiency measures, will result in a single family home built to 2019 Energy Code standards using about 53% less energy than the same home built to the 2016 Energy Code standards. The 2019 Energy Code introduces a new metric for demonstrating residential compliance called Energy Design Rating (EDR), based on the Home Energy Rating System (HERS) scale from 0-100, where 0 is a net zero energy home. A typical new single family home in Berkeley, built to 2019 Energy Code standards would have a Total EDR score of about 25. Total EDR is calculated by compliance software approved by the California Energy Commission (CEC) for each project and incorporates an Efficiency EDR component as well as solar PV generation and demand flexibility to determine the Total EDR score.

The 2019 Energy Code standards are expected to increase the price of constructing a new single family home by about \$9,500, but will save \$19,000 in energy and maintenance costs over 30 years, resulting in about a \$40/month decrease in a typical consumers combined mortgage and utility bills according to the CEC.

New 2019 Energy Code requirements for nonresidential buildings, high-rise residential buildings (4 or more stories), and hotel/motels are expected to reduce energy use by 30% in comparison to buildings meeting the 2016 Energy Code standards. These savings in energy use are primarily due to new more efficient lighting requirements.

The proposed electric-favored reach code was developed for the June 26, 2018, referral response on the Berkeley Deep Green Building Initiative and in support of the July 16, 2019, Ordinance Prohibiting Natural Gas Infrastructure in New Buildings. It is based on Statewide Cost Effectiveness Studies (Low-Rise Residential Study included as Attachment 2 and Nonresidential Study included as Attachment 3) and model code language that was collaboratively developed by the California Energy Codes and Standards Program, Building Decarbonization Coalition, and several Community Choice Aggregations (CCAs), including East Bay Community Energy (EBCE). Staff also worked with nearby jurisdictions, including Oakland and San Francisco, to promote regional consistency. PG&E has provided written support of this reach code (Attachment 4).

The reach code complements Berkeley's recently-adopted Natural Gas Prohibition Ordinance, which requires that new buildings, with land use permit applications submitted on or after January 1, 2020, be designed without natural gas infrastructure, subject to limited exceptions and exemptions. The proposed reach code impacts all building permit applications for newly constructed buildings submitted on or after January 1, 2020, including those which already have approved land use permits. The

proposed reach code encourages all-electric construction and specifies what is required for electric-readiness to enable future electrification when natural gas appliances are utilized.

Like the Natural Gas Prohibition, the reach code is designed to improve the comfort and safety of new buildings and to minimize the greenhouse gas emissions associated with their construction and operation. It recognizes the dangers of natural gas, the significant greenhouse gas emissions associated with its extraction, piping, and combustion, and the availability of efficient, all-electric alternatives, as documented in the July 16, 2019, report to City Council accompanying the first reading of the Natural Gas Prohibition.¹ The reach code, along with other local amendments described here, are directed by the June 26, 2018 referral response on the Berkeley Deep Green Building Initiative.

The reach code extends the solar PV requirement to nonresidential buildings, high-rise residential buildings, and hotel/motels. In addition, it provides two pathways for new buildings to demonstrate compliance with the Energy Code:

- New all-electric buildings, meaning that no natural gas or propane plumbing is installed within the building, must simply demonstrate compliance with the Energy Code.
- New mixed-fuel buildings, meaning that electricity and natural gas are used within the building, must exceed the energy efficiency requirements of the Energy Code by 10% for nonresidential buildings, high-rise residential buildings, and hotel/motels, or by 10 Total EDR points for single-family or low-rise residential buildings, or meet a set of prescriptive requirements, with equivalent efficiency savings, in place of these performance thresholds. In addition, the reach code includes electric-ready requirements for any natural gas appliance in new mixed-fuel buildings, to support future electrification. This pathway would also be required of projects that receive exemptions or exceptions to the Natural Gas Prohibition.

Both of these compliance pathways have been found to be cost-effective by the California Energy Codes and Standards Program.² The all-electric construction, utilizing efficient heat pump technology, is lower in cost and produces more savings in greenhouse gas emissions. Through EBCE, Berkeley currently has access to electricity that is 78-100% carbon-free, providing opportunity for significant greenhouse gas

¹ Revised Agenda Material for Supplemental Packet 2, "Adopt an Ordinance adding a new Chapter 12.80 to the Berkeley Municipal Code Prohibiting Natural Gas Infrastructure in New Buildings", July 16, 2019, https://www.cityofberkeley.info/Clerk/City_Council/2019/07_Jul/Documents/2019-07-16_Supp_2_Reports_Item_C_Rev_Harrison_pdf.aspx.

² The electric-ready aspects have not been studied for cost-effectiveness. However, the CEC does not consider them to be energy performance requirements, so that requirement is not applicable. Electric-readiness is also required by the Natural Gas Ordinance; the reach code provides the specific measures that are needed.

emissions savings through all-electric construction.

The Berkeley Energy Commission voted in support for the proposed reach code on September 25, 2019, without an exemption proposed by staff for new accessory dwelling units (ADUs) of 850 gross square feet or less (moved by Leger, second by Stromberg; motion carried 6-0-0, with three members absent). In keeping with Berkeley Energy Commission's direction to promote consistency in applicability of the Natural Gas Prohibition and with the knowledge of economic options for all-electric systems in ADUs, staff removed the initially proposed reach code ADU exemption.

Berkeley Green Code (Chapter 19.37)

The 2019 California Green Building Standards Code (CALGreen) published by the State makes moderate changes in comparison to the 2016 CALGreen, primarily concentrated on electric vehicle (EV) charging readiness and landscape irrigation requirements. The proposed local amendments, developed in response to City Council referrals on the Berkeley Deep Green Building Initiative and an Electric Vehicle Charging Ordinance, add additional EV charging requirements and requirements for low-carbon concrete, and maintain the current local amendments for construction and demolition (C&D) waste diversion. Unlike the reach code, no demonstration of cost-effectiveness is required for local amendments to CALGreen.

The proposed local amendments require increased EV charging readiness and installation in new buildings, based on the June 13, 2017 (Item 44), referral from City Council to develop an Electric Vehicle Charging Ordinance, existing requirements in place in Oakland and San Francisco, and on model code language developed by local CCAs including EBCE.

Specifically, the proposed EV amendments require:

- At least one parking space per dwelling unit at all new single family homes, duplexes, and townhouses to be equipped with raceway, wiring, and power to support a future Level 2 EV charging station.
- 20% of parking spaces at new multifamily buildings to be equipped with raceways, wiring, and power to support future Level 2 EV charging stations, and additional connecting raceways between the electrical service and the remaining 80% of parking spaces. The raceway connections could allow for future EV management systems to distribute EV charging capability to all parking spaces without additional electric service capacity.
- 10% of parking spaces (when 10 or more parking spaces are constructed) at new nonresidential buildings (including hotel/motels) to have Level 2 charging stations installed, and additional connecting raceways between the electrical service and 40% of parking spaces. A DC Fast Charge station may be installed in place of 10 required Level 2 charging stations.

These proposed EV amendments set ambitious new EV charging requirements. EV charging infrastructure is a critical component to EV adoption and it is significantly more expensive to install charging infrastructure as a retrofit than it is during new construction. A 2016 report for the City of Oakland³ found the cost of installing EV charging readiness infrastructure during new construction to be \$200-\$1,400 per parking space; retrofit costs for the same installations were up to seven times as expensive. CALGreen includes exceptions for EV charging readiness requirements in residential construction when the utility side costs, passed on to the homeowner or developer, will be \$400 or more per dwelling unit.

Ensuring that newly constructed residential and non-residential parking has EV charging capability will reduce long-term costs of EV infrastructure installation, while helping to increase EV adoption and decrease the 60% of Berkeley's greenhouse gas emissions that are currently associated with transportation. Berkeley's first Electric Mobility Roadmap, currently available in draft form,⁴ emphasizes that being able to charge at home or work is critical for supporting EV ownership and that, increasingly, daytime charging (at work or other nonresidential locations) could be used to leverage surplus renewable energy. The Roadmap estimates that Berkeley will need about 380 workplace EV charging stations by 2025 to be on track for the Berkeley Climate Action Plan goal of reducing greenhouse gas emissions by 80% from 2000 levels by 2050. To get to zero net carbon in line with State goals by 2045, this increases to 610 workplace EV charging stations. Requiring EV charging station installation in new nonresidential development, in concert with EV charging readiness requirements for residential and nonresidential developments, will substantially increase access to EV charging in Berkeley.

Proposed local amendments to CALGreen also include requirements for low-carbon concrete in new buildings in keeping with the June 26, 2018, referral response on the Berkeley Deep Green Building Initiative. The proposal utilizes recommendations from the Bay Area Low-Carbon Concrete Codes Project, a Bay Area Air Quality Management District-funded project for the County of Marin. Specifically, the local amendment requires cement reductions in concrete mix design of at least 25%. Cement used in concrete is the largest single material source of embodied emissions in buildings and is responsible for 8% of global emissions. Replacing cement with alternatives, such as fly ash, slag, silica fume, or rice hull ash, can reduce total emissions for concrete by 50%. The proposed requirements reduce the greenhouse gas emissions associated with this common carbon-intensive building material, while maintaining the strength and durability required for safe construction. The BRIDGE Housing/Berkeley Food and Housing Project new development project at 2012 Berkeley Way is a pilot project for the Bay Area Low-Carbon Concrete Codes Project.

³ Plug-In Electric Vehicle Infrastructure Cost-Effectiveness Report, prepared for the City of Oakland by Energy Solutions, July 20, 2016, available at <https://energy-solution.com/wp-content/uploads/2016/08/PEV-Infrastructure-Cost-Effectiveness-Summary-Report-2016-07-20a.pdf>

⁴ Available at <https://www.cityofberkeley.info/EVCharging/>

The Berkeley Energy Commission voted to support these proposed local CALGreen amendments for EV charging and low-carbon concrete on September 25, 2019.

Previous Local Amendments

Previous local amendments, with some revisions in code language and code sections, that are recommended for continuance in the reenacted Berkeley Building Code (BMC Chapter 19.28) include:

- Article 1. Administrative Provisions – local amendments concerning permits, plan reviews, fees, appeals, violations, unsafe buildings, and safety assessment placards
- Article 2. Restrictions in Fire Zones adding additional local requirements and enacting fire protection areas not covered by the state-mandated areas
- Article 3. Wood Burning Appliances - local amendment reducing the health risks caused by wood smoke based upon Berkeley's climatic conditions
- Article 4. Projection into Public Right of Way, an administrative amendment concerning revocation, removal and indemnification regarding construction in the Right of Way
- Article 5. Existing Buildings, adopting 2019 California Existing Building Code and certain chapters of the 2018 International Existing Building Code to reduce the risk from earthquakes
- Article 6. Repairs to Existing Buildings and Structures establishing updated regulations for the repairs of damaged structures to comply with the Stafford Act, which authorizes the Federal Emergency Management Agency (FEMA) to fund the repair and restoration of eligible facilities damaged in a declared disaster and requires that the repair and restoration be "on the basis of the design of such facility as it existed immediately prior to the major disaster and in conformity with current applicable codes, specifications and standards."
- Article 7. Technical Amendments to Structural Standards needed because of changes in the new code and Berkeley's close proximity to major earthquake faults. The Berkeley Building Official has actively participated in meetings of the Tri-chapter Uniform Code Committee, which is part of the International Code Council East Bay Chapter. The Tri-Chapter Uniform Code Committee recommended several structural amendments to the California Building and Residential Codes, which are included in the proposed local amendments for Berkeley.
- Article 8. Construction of Exterior Appurtenances, establishing more stringent

construction standards for exterior elevated elements and continuing the amendments adopted in July 2015 following the balcony collapse at 2020 Kittredge Street.

Berkeley Green Code (Chapter 19.37) Construction and Demolition debris amendments to require that 100% asphalt, concrete, excavated soil and land-clearing debris be diverted from disposal by recycling, reuse, and salvage, in addition to the general 65% diversion requirement are also recommended for continuance.

ENVIRONMENTAL SUSTAINABILITY

Adoption of the 2019 Berkeley Building Codes with local amendments is important to meeting Berkeley's Climate Action Plan, Zero Waste, and Fossil Fuel Free Berkeley goals. In particular, the Berkeley Energy Code makes significant gains towards reducing the greenhouse gas emissions associated with constructing and operating new buildings. Through favoring efficient, cost-effective, all-electric construction, the Berkeley Energy Code will minimize the natural gas use in buildings that currently accounts for 27% of community-wide greenhouse gas emissions.

The Berkeley Green Code, through expanded EV charging and low-carbon concrete requirements, limits the greenhouse gas emissions associated with transportation (currently 60% of Berkeley's total emissions) and use of concrete, a common building product that is responsible for 8% of global carbon emissions. In addition, retaining the increased applicability and general diversion requirements for construction and demolition materials to keep all land clearing debris, concrete, and asphalt out of landfills, supports Berkeley's goal of becoming Zero Waste by 2020.

RATIONALE FOR RECOMMENDATION

Local Codes must be adopted every three years or State Codes go into effect without local amendments. Adoption of local amendments and findings are needed to adapt the State Codes to Berkeley's particular administrative, topographic, geologic and climatic conditions. The purpose of the non-administrative local amendments is to provide a higher level of safety than is reflected in the State-adopted 2019 Codes. The fire and seismic danger and other local conditions, justify the Berkeley Code provisions that are stricter than the California Building Standards Code.

ALTERNATIVE ACTIONS CONSIDERED

Adopt the California Buildings Standards Code with fewer, or no, local amendments; or take no action, and let the state mandated codes take effect without local amendments designed for Berkeley. According to the California Building Standards Commission, the repeal of prior code is often overlooked by municipalities and is critically important to ensure that obsolete provisions are expressly repealed.

CONTACT PERSON

Alex Roshal, Chief Building Official, Manager of Building and Safety Division, Planning and Development Department, 981-7445

Sarah Moore, Sustainability Program Manager, Office of Energy and Sustainable Development, Planning and Development Department, 981-7494

Attachments:

- 1: Ordinance
- 2: 2019 Cost-Effectiveness Study: Low-Rise Residential New Construction, California Energy Code & Standards, August 1, 2019
- 3: 2019 Nonresidential New Construction Reach Code Cost-Effectiveness Study, California Code & Standards, July 25, 2019
- 4: PG&E Letter of Support for Berkeley's Efforts to Promote All-Electric New Construction, September 23, 2019
- 5: Public Hearing Notice

ORDINANCE NO. 7,678–N.S.

REPEALING AND REENACTING BERKELEY MUNICIPAL CODE CHAPTERS 19.28 (BERKELEY BUILDING CODE), 19.29 (BERKELEY RESIDENTIAL CODE), 19.30 (BERKELEY ELECTRICAL CODE), 19.32 (BERKELEY MECHANICAL CODE), 19.34 (BERKELEY PLUMBING CODE), 19.36 (BERKELEY ENERGY CODE), AND 19.37 (BERKELEY GREEN CODE)

BE IT ORDAINED by the Council of the City of Berkeley as follows:

Section 1. That Berkeley Municipal Code Chapter 19.28 is hereby repealed and reenacted to read as follows:

Chapter 19.28

BERKELEY BUILDING CODE*

Sections:

19.28.010 Adoption of the California Building Code

Article 1. Scope and Administrative Provisions

19.28.020 Adoption of Chapter 1 Scope and Administration

Article 2. Restrictions in Fire Zones

19.28.030 Chapter 7A Materials and Construction Methods for Exterior Wildlife Exposure

Article 3. Wood Burning Appliances

19.28.040 Wood Burning Appliances

Article 4. Projection into Public Right of Way

19.28.050 Encroachment into the Public Right of Way - Revocation and Removal Indemnification and Hold Harmless

Article 5. Existing Buildings

19.28.060 Adoption of 2019 California Existing Building Code and certain Chapters of the 2018 International Existing Building Code by Reference

Article 6. Repairs to Existing Buildings and Structures

19.28.070 Adoption of Regulations for the Repairs of Existing Structures

Article 7. Amendments to Structural Standards

19.28.080 Technical Amendments to Structural Standards

Article 8. Construction of Exterior Appurtenances
19.28.090 Technical Amendments for Construction of Exterior Projecting Elements and Appurtenances

Article 9. Emergency Housing
19.28.100 Emergency Housing and Emergency Housing Facilities

Notes:

* See Chapter 1.24 for abatement of nuisances by City.

19.28.010 Adoption of the California Building Code.

A. The California Building Code, 2019 edition, as adopted in Title 24 Part 2 of the California Code of Regulations, including Appendices I, J and O, is hereby adopted and made a part of this Chapter as though fully set forth herein, subject to the modifications thereto which are set forth in this Chapter. One copy of this Code is on file in the office of the City Clerk of the City of Berkeley.

B. The California Historical Building Code, 2019 edition, as adopted in Title 24 Part 8 of the California Code of Regulations, is hereby adopted and made a part of this Chapter as though fully set forth herein, subject to the modifications thereto which are set forth in this Chapter. One copy of this Code is on file in the office of the City Clerk of the City of Berkeley.

C. The California Existing Building Code, 2019 edition, as adopted in Title 24 Part 10 of the California Code of Regulations, including Appendix A, is hereby adopted and made a part of this Chapter as though fully set forth herein, subject to the modifications thereto which are set forth in this Chapter. One copy of this Code is on file in the office of the City Clerk of the City of Berkeley.

D. This Chapter shall be known as the "Berkeley Building Code" and shall be referred to in this Chapter as "this Code."

E. This Chapter will become effective on January 1, 2020, and shall not apply to any building permit submitted by December 31, 2019.

Article 1. Scope and Administrative Provisions

19.28.020 Adoption of Chapter 1 Scope and Administration

Chapter 1 of the 2019 California Building Code is adopted in its entirety subject to the modifications thereto which are set forth below.

CHAPTER 1 SCOPE AND ADMINISTRATION

SECTION 101 – GENERAL

101.1 Title. These regulations shall be known as the Berkeley Building Code, hereinafter referred to as "this Code".

101.4 Referenced codes. The other codes listed in Sections 101.4.1 through 101.4.9,

and referenced elsewhere in this Code, shall be considered part of the requirements of this Code to the extent prescribed in each such reference.

101.4.1 Gas. The provisions of the Berkeley Mechanical Code, based on the 2019 California Mechanical Code, and the Berkeley Plumbing Code, based on the 2019 California Plumbing Code, as amended herein, shall apply to the installation of gas piping from the point of delivery, gas appliances and related accessories as covered in this Code. These requirements apply to gas piping systems extending from the point of delivery to the inlet connections of appliances and the installation and operation of residential and commercial gas appliances and related accessories.

101.4.2 Mechanical. The provisions of the Berkeley Mechanical Code, based on the 2019 California Mechanical Code, as amended herein, shall apply to the installation, alterations, repairs and replacement of mechanical systems, including equipment, appliances, fixtures, fittings and/or appurtenances, including ventilating, heating, cooling, air-conditioning and refrigeration systems, incinerators and other energy-related systems.

101.4.3 Plumbing. The provisions of the Berkeley Plumbing Code, based on the 2019 California Plumbing Code, as amended herein, shall apply to the installation, alteration, repair and replacement of plumbing systems, including equipment, appliances, fixtures, fittings and appurtenances, and where connected to a water or sewage system and all aspects of a medical gas system. The provisions of the Berkeley Plumbing Code shall apply to private sewage disposal systems.

101.4.4 Residential property maintenance. The provisions of the Berkeley Housing Code, based on the 1997 Uniform Housing code, as amended in Chapter 19.40, shall apply to existing residential buildings and premises; equipment and facilities; light, ventilation, space heating, sanitation, life and fire safety hazards; responsibilities of owners, operators and occupants; and occupancy of existing premises and structures.

Notwithstanding any provisions contrary in this Chapter, any building or portion thereof constructed in compliance with the Berkeley Building Code shall not be deemed to be in violation of the Housing Code provisions that may conflict.

101.4.5 Fire prevention. The provisions of the Berkeley Fire Code based on the 2019 California Fire Code shall apply to matters affecting or relating to structures, processes and premises from the hazard of fire and explosion arising from the storage, handling or use of structures, materials or devices; from conditions hazardous to life, property or public welfare in the occupancy of structures or premises; and from the construction, extension, repair, alteration or removal of fire suppression and alarm systems or fire hazards in the structure or on the premises from occupancy or operation.

101.4.6 Energy. The provisions of the Berkeley Energy Code, based on the 2019 California Energy Code, as amended herein, shall apply to all matters governing the design and construction of buildings for energy efficiency.

101.4.7 Existing buildings. The provisions of the Berkeley Existing Building Code, based on the 2019 California Existing Building Code, as amended herein, shall apply to matters governing the repair, alteration, change of occupancy, addition to and relocation of existing buildings.

101.4.8 Electrical. The provisions of the Berkeley Electrical Code, based on the 2019 California Electrical Code, as amended herein, shall apply to the installation of electrical systems, including alterations, repairs, replacement, equipment, appliances, fixtures, fittings and appurtenances thereto.

101.4.9 Green. The provisions of the Berkeley Green Code, based on the 2019 California Green Building Standards Code, as amended herein, shall apply to enhanced design and construction of buildings through the use building concepts having a reduced negative impact or the positive environmental impact and encouraging sustainable construction practices.

101.5 References to prior codes. Unless superseded and expressly repealed, references in City forms, documents and regulations to the chapters and sections of former Berkeley Building Code editions, shall be construed to apply to the corresponding provisions contained within the 2019 Berkeley Building Code Ordinance No. 7,315–N.S. and all ordinances amendatory thereof. Any ordinances or parts of ordinances in conflict herewith are hereby superseded and expressly repealed.

SECTION 103 – DIVISION OF BUILDING AND SAFETY

103.1 Creation of enforcement agency. The Division of Building and Safety is hereby created and the official in charge thereof shall be known as the building official.

103.2 Appointment. The building official shall be appointed by the City Manager.

SECTION 104 – DUTIES AND POWERS OF BUILDING OFFICIAL

104.7 Division records. The building official shall keep official records of applications received, permits and certificates issued, fees collected, reports of inspections, and notices and orders issued. Such records shall be retained in the official records for the period required for retention of public records.

Add a new Subsection 104.12 to read:

104.12 Unpermitted dwelling units. When a building permit record for a residential unit does not exist, the building official is authorized to make a determination of when the residential unit was constructed and then apply the building standards in effect when the

residential unit was determined to be constructed or the current building standards, whichever is the least restrictive, provided the building does not become or continue to be a substandard or unsafe building. The Building Official is authorized to accept reasonable alternatives to the requirements of the prior or current code editions when dealing with unpermitted dwelling units.

SECTION 105 - PERMITS

105.3.2 Expiration of application. An application for a permit for any proposed work shall expire one year after the date of filing, unless it can be demonstrated by the applicant that such application has been pursued in good faith or a permit has been issued. The building official or the permit service center coordinator are authorized to grant one or more extensions of time for additional periods not exceeding a 180 days per extension. The extension shall be requested in writing and justifiable cause demonstrated. Requests for time extensions shall be accompanied by the payment of a fee set by resolution of the City Council.

If a project is associated with a code enforcement case, the dates specified in the code enforcement notices take precedence over the timelines specified in this section.

105.5 Expiration of permit. Permits issued by the building official shall expire one year from the date of issuance. The building official or the supervising building inspector are authorized to grant one or more extensions of time to complete the work for additional periods not exceeding one year per extension. The extension shall be requested in writing and justifiable cause demonstrated. Requests for time extensions shall be accompanied by the payment of a fee set by resolution of the City Council.

The issuance of a building permit shall not excuse the permittee or any other person from compliance with any notice and/or order to correct a code violation issued by the City.

When a permit is expired and a new permit is required to complete the work, a new permit application and plans shall be filed describing the remaining work to be done. If a site visit or other review is required to determine the extent of the remaining work, a fee may be charged to make such determination.

SECTION 109 – FEES

109.1 Payment of fees. Except when fees are deferred, a permit shall not be valid until the fees as set forth by resolution of City Council have been paid, nor shall an amendment to a permit be released until the additional fee, if any, has been paid.

109.2 Schedule of permit fees. On buildings, structures, electrical, gas, mechanical, and plumbing systems or alterations requiring a permit, a fee for each permit shall be paid as required, in accordance with the fee as set forth by resolution of the City Council. Fees for permits and inspections and other related services under this Code shall be assessed and paid as set forth by resolution of the City Council. Unless waived or deferred as

provided by local regulations, a plan review fee and other fees as specified in the resolution shall be paid at the time of submitting any documents for review and additional fees as specified in the resolution shall be paid at issuance of the permit.

109.4 Work commencing before permit issuance. Any person who commences any work on a building, structure, electrical, gas, mechanical or plumbing system before obtaining the necessary permit shall be subject to a fee as set forth by resolution of the City Council equal to and in addition to the permit fees for the portion of the scope of work performed without the permit.

109.7 Re-inspection fees. A re-inspection fee, as set forth by resolution of the City Council, may be assessed for each re-inspection when such portion of work for which an inspection is scheduled is not complete or when corrections previously called for are not made.

Re-inspection fees shall not be required each time a job is disapproved for failure to comply with the requirements of this Code. Rather this section shall be used to control the practice of calling for inspections before the job is ready for such inspection, or when the approved plans are not readily available to the inspector, or for failure to provide access on the date for which the inspection is requested, or when work deviates from the approved plans but no revision is submitted to the City.

To obtain a re-inspection, the applicant shall pay the re-inspection fee as set forth by resolution of the City Council. In instances where re-inspection fees have been assessed, no additional inspection of the work will be performed until the required fees have been paid.

SECTION 112 – SERVICE UTILITIES

112.4 Authority to connect utilities. Clearance for connection of one utility, either gas or electrical, will be withheld until final building, electrical, plumbing, and/or mechanical inspections are made and approval has been given for any new building or change in occupancy classification to an existing building for which connection to such utilities is sought, unless approval has been first obtained from the building official, as provided by a Temporary Certificate of Occupancy or Final Certificate of Occupancy.

112.5 Unsafe service utilities. Unsafe service utilities are hereby declared to be public nuisances and shall be abated, repaired, rehabilitated, demolished or removed in accordance with the procedures set forth in Chapter 19.40 of the Berkeley Municipal Code (BMC) for residential buildings and Berkeley Building Code for all other buildings, or any alternate procedure that may be adopted by the City of Berkeley. In addition, the City Attorney may pursue other appropriate action to prevent, restrain, correct or abate the violation as provided for in the BMC. Remedies under this section are cumulative. When service utilities are maintained in violation of this Code and in violation of a notice issued pursuant to the provisions of this section, the building official shall institute appropriate action to prevent, restrain, correct or abate the violation.

112.6 Authority to disconnect utilities in emergencies. The building official or his or her authorized representative shall have the authority to disconnect electrical power or other energy service supplied to the building, structure or building service equipment therein regulated by this Code in case of emergency where necessary to eliminate an immediate hazard to life or property. The building official or his or her authorized representative shall, whenever possible, notify the serving utility, and the owner of the building, structure or electrical system or equipment and any building occupants of the decision to disconnect prior to taking such action and shall notify them, in writing, of the disconnection as soon as possible thereafter.

112.7 Authority to condemn electrical system and equipment. Whenever the building official determines that an electrical system or electrical equipment regulated by this Code is hazardous to life, health or property, the building official may order in writing that such electrical system or equipment either be removed or restored to a safe condition. The written notice shall fix a reasonable time limit for compliance with such order. Persons shall not use or maintain defective electrical systems or equipment after receiving such notice except as may be provided therein.

When equipment or an installation is to be disconnected, a written notice of such disconnection and the reasons therefore shall be given within 24 hours of the order to disconnect to the serving utility, the owner and occupants of the building, structure or premises.

When equipment or an installation is maintained in violation of this Code and in violation of a notice issued pursuant to the provisions of this section, the building official shall institute appropriate action to prevent, restrain, correct or abate the violation.

Unsafe electrical systems or equipment are hereby declared to be public nuisances and shall be abated by repair, rehabilitation, demolition or removal in accordance with the procedures set forth in Chapter 19.40 of the BMC for residential buildings and Berkeley Building Code for all other buildings, or any alternate procedure that may be adopted by the City of Berkeley. In addition, the City Attorney may pursue other appropriate action to prevent, restrain, correct or abate the violation as provided for in the BMC. Remedies under this section are cumulative.

112.8 Connection after order to disconnect. Persons shall not make connections to a service utility system or equipment that has been disconnected or ordered to be disconnected by the building official, or the use of which has been ordered to be discontinued by the building official, until the building official authorizes the reconnection and use of the electrical system or equipment.

SECTION 113 – BOARD OF APPEALS

113.1 General. In order to hear and decide appeals of orders, decisions, or determinations made by the building official relative to the application and interpretation of this Code, there shall be and is hereby created a board of appeals consisting of the

Housing Advisory Commission pursuant to Section 19.44.020 of the Berkeley Municipal Code. The building official may convene and consult with an advisory panel of qualified individuals. This advisory panel is intended to help the building official in formulating and making staff recommendations to the Housing Advisory Commission. The advisory panel may provide written and/or oral presentations to the Housing Advisory Commission as needed.

113.3 Qualifications. The board of appeals shall consist of members meeting the qualifications required for the Housing Advisory Commission. The advisory panel shall consist of individuals found by the building official to be qualified by experience and training in the specific area of the appeal who are not employees of the jurisdiction.

SECTION 114 – VIOLATIONS

114.4 Violation penalties. Any person who violates a provision of this Code or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a building or structure in violation of the approved construction documents or directive of the building official, or of a permit or certificate issued under the provisions of this Code, shall be subject to penalties as prescribed by law. Violations of this Code are misdemeanors, but may be cited or charged, at the election of the enforcing officer, building official, or City Attorney, as infractions, subject to an election by the defendant under Penal Code Subsection 17(d). Nothing in this Section shall prevent any other remedy afforded by law.

SECTION 116 - UNSAFE STRUCTURES AND EQUIPMENT

116.1 Conditions. Structures or existing equipment that are or hereafter become structurally unsafe, insanitary or deficient because of inadequate means of egress facilities, inadequate light and ventilation, or which constitute a fire hazard, or are otherwise dangerous to human life or the public welfare, or that involve illegal or improper occupancy or inadequate maintenance shall be deemed an unsafe condition. Unsafe structures shall be taken down and removed or made safe, as the building official deems necessary and as provided for in this section. A vacant structure that is not secured against entry shall be deemed unsafe.

All such unsafe buildings, equipment, structures or appendages are hereby declared to be public nuisances and shall be abated by repair, rehabilitation, demolition or removal in accordance with the procedures set forth in Chapters 1.24, 19.28, 19.40 and/or 19.44 of the BMC as applicable. As an alternative, the building official, or other employee or official of this jurisdiction as designated by the City Council, may institute any other appropriate action to prevent, restrain, correct or abate the violation.

116.6 Safety Assessment Placards.

116.6.1 Intent. This section establishes standard placards to be used to indicate the condition of a structure for occupancy after a natural disaster and a rapid evaluation by

authorized personnel. The building official and his or her authorized representatives post the appropriate placard at each entry point to a building or structure upon completion of a safety assessment.

116.6.2 Application of provisions. The provisions of this section are applicable to all buildings and structures of all occupancies regulated by the City of Berkeley. The Council may extend the provisions as necessary.

116.6.3 Definitions.

116.6.3.1 "Safety Assessment" is a visual, non-destructive examination of a building or structure for the purpose of determining the condition for continued occupancy.

116.6.3.2 Placards. Following are titles and descriptions of the official jurisdiction placards to be used to designate the condition of a building structure for continued occupancy, partial or conditional occupancy, or unsafe to enter. Copies of placards are on file in the Building and Safety Division of the Planning and Development Department.

INSPECTED – Lawful Occupancy Permitted is to be posted on any building or structure wherein no apparent hazard has been found. This placard is not intended to mean there is no damage to the building or structure, but that any damage that occurred does not present a hazard to occupants.

RESTRICTED USE is to be posted on each building or structure that has been damaged wherein the damage has resulted in some form of restriction to the continued occupancy. The individual who posts this placard will note in general terms the type of damage encountered and will clearly and concisely note the restrictions on continued occupancy.

UNSAFE – Do Not Enter or Occupy is to be posted on each building or structure that has been damaged such that continued occupancy poses a threat to life safety. Building or structures posted with this placard shall not be entered under any circumstances except as authorized in writing by the building official, or his or her authorized representative. Safety assessment teams shall be authorized to enter these building at any time. This placard is not to be used or considered as a demolition order. The individual who posts this placard will note in general terms the type of damage encountered.

116.6.4 Content of placard. The BMC Section number and the words "City of Berkeley" shall be permanently affixed to each placard.

116.6.5 Unlawful to remove. Once a placard has been attached to a building or structure, it is not to be removed, altered or covered until done so by an authorized representative of the Building Official. It shall be unlawful for any person, firm or corporation to alter, remove, cover or deface a placard unless authorized pursuant to this section.

Article 2. Restrictions in Fire Zones

19.28.030 CBC Chapter 7A Materials and Construction Methods for Exterior Wildlife Exposure.

Chapter 7A of the 2019 California Building Code is adopted in its entirety subject to the modifications thereto which are set forth below.

701A – SCOPE, PURPOSE AND APPLICATION

701A.1 Scope. This chapter applies to building materials, systems and or assemblies used in the exterior design and construction of new buildings and structures, additions, alterations, repairs and re-roofs located within a Wildland-Urban Interface Fire Area as defined in Section 702A.

701A.2 Purpose. The purpose of this Chapter is to establish minimum standards for the protection of life and property by increasing the ability of a building located in any Fire Hazard Severity Zone within State Responsibility Areas or any building or structure in the Wildland-Urban Interface Fire Area to resist the intrusion of flame or burning embers projected by a vegetation fire and contributes to a systematic reduction in conflagration losses.

701A.3 Application. New buildings located in any Fire Hazard Severity Zone or new buildings and structures, additions, alterations, repairs and re-roofs located in any Wildland-Urban Interface Fire Area designated by the enforcing agency constructed after the application date shall comply with the provisions of this Chapter.

Exceptions:

1. Buildings or structures of an accessory character classified as a Group U occupancy and not exceeding 120 square feet in floor area, when located at least 30 feet from an applicable building or property lines.

701A.3.1 Application date and where required. New buildings for which an application for a building permit is submitted on or after July 1, 2008 located in any Fire Hazard Severity Zone or buildings and structures, additions, alterations, repairs and re-roofs for which an application for a building permit is submitted on or after July 1, 2008 located in the Wildland Interface Fire Area shall comply with all sections of this chapter.

702A – DEFINITIONS

FIRE ZONE ONE shall encompass the entire City of Berkeley except for Fire Zones Two and Three.

FIRE ZONE TWO encompasses those areas designated as Combined Hillside District in the Official Zoning map of the City of Berkeley and those areas designated as Very High in the official Fire Hazard Severity Zones (FHSZ) map of The Department of Forestry and Fire Protection (CAL FIRE), as they may be amended from time to time. The following properties, not part of the Combined Hillside District, are included in Fire Zone Two under the Very High designation of the FHSZ map: the eastern section of the University of

California, Berkeley main campus, block number 2042 (Alameda County Assessor's parcel numbering (APN) system), to the east city line; all of the Clark-Kerr campus, block number 7690, to the east city line; all of block number 7680 in the City of Berkeley; portions of block number 1702 in the City of Berkeley. See Exhibit A for the specific parcels by APN and address.

FIRE ZONE 3 encompasses those areas designated as Environmental Safety – Residential Districts on the Official Zoning Map of the City of Berkeley, as it may be amended from time to time.

LOCAL AGENCY VERY HIGH FIRE HAZARD SEVERITY ZONE means an area designated by a local agency upon the recommendation of the CDF Director pursuant to Government Code Sections 51177(c), 51178 and 51189 that is not a state responsibility area and where a local agency, city, county, city and county, or district is responsible for fire protection. Fire Zones 2 and 3 are designated as Local Agency High Fire Hazard Severity Zone.

WILDLAND-URBAN INTERFACE FIRE AREA is a geographical area identified by the state as a "Fire Hazard Severity Zone" in accordance with the Public Resources Code Sections 4201 through 4204 and Government Code Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires. Fire Zones 2 and 3 are designated as Wildland-Urban Interface Fire Area.

705A – ROOFING

705A.1 General. Roofs shall be a Class A minimum and shall comply with the requirements of Chapter 7A and Chapter 15. Roofs shall have a roofing assembly installed in accordance with its listing and the manufacturer's installation instructions. Wooden shakes and shingles are prohibited roof coverings regardless of the assembly rating of the roof system.

Exception: Replacement of less than 50% of the roof area within a 5 year period.

705A.5 Spark Arrestors. All chimneys of fireplaces, stoves, barbecues or heating appliances using solid fuel shall be provided with an approved spark arrestor whenever modification has been made to any of these appliances, or whenever a structure is re-roofed. The net free area of the spark arrestor shall be not less than four times the net free area of the outlet of the chimney. The spark arrestor shall have heat and corrosion resistance equivalent to twelve-gauge wire, nineteen gauge galvanized wire, or twenty-four-gauge stainless steel. Openings shall not permit the passage of spheres having a diameter larger than one-half inch and shall not block the passage of spheres having a diameter of less than three-eighths inch. The arrestor shall be securely attached to the chimney or stovepipe and shall be adequately supported. The use of bands, mollies, masonry anchors or mortar ties are recommended depending upon the individual need.

707A – EXTERIOR COVERING

707A.3.3 Replacement of Exterior Wall Covering. Materials for replacement of existing exterior wall covering shall meet or exceed the standards set forth in this Chapter.

Exception: Where less than 50% of any wall surface is being replaced or repaired, and the matching of the new plane to the existing plane on that wall is not possible.

711A – UNDERGROUND UTILITY CONNECTIONS

711A.1 Underground utility connections. For new construction, provisions shall be made for the undergrounding of all utilities serving the property, including but not limited to electrical, telephone and cable television, by the installation of appropriately sized underground conduits extending from the street property.

712A – ADDITIONAL REQUIREMENTS IN FIRE ZONE THREE

712A.1 General. In addition to meeting the other requirements of this Chapter, buildings or structures hereinafter erected, constructed, moved, altered, added, or repaired within Fire Zone Three shall comply with the following requirements for buildings and structures.

712A.2 Fire Warning System. All residential units shall be equipped with a Fire Warning System as specified by the residential smoke detector requirements of the current edition of the California Building Code and with an audible exterior alarm. The exterior alarm must meet the requirements of NFPA 72 or equivalent and generate 45 decibels ten feet from the alarm, or more.

712A.3 Automatic Fire Sprinklers, Berkeley Fire Code Section 903.3. Any new construction or new additions to existing structures requiring a permit determined to be \$100,000 or more in construction costs shall be required to install automatic fire sprinklers throughout the existing structure.

712A.4 Utilities. Utilities, pipes, furnaces, water heaters or other mechanical devices located in an exposed underfloor area of a building or structure shall be enclosed with material as required for exterior one hour fire resistive construction. Adequate covered access openings for servicing and ventilation of such facilities shall be provided as required by appropriate codes.

712A.5 Control of brush or vegetation. Brush and vegetation shall be controlled as required in the Berkeley Fire Code.

712A.6 Special Conditions. The following additional conditions must be met:

1. **Public access roads and fire trails.** No person(s) shall use any public access road or fire trail for the storage of any construction material, stationary construction equipment, construction office, portable refuse container, or earth from any grading or excavating.

2. Water Service. The water service to the site shall be installed with a ¾” hose bib connection prior to beginning any wood framing. The person responsible for the construction shall have at the site a 75 ft ¾” hose available.

Exhibit A
Parcels in Addition to the Combined Hillside District

The following additional parcels by Assessor’s Parcel Number and address are included in Fire Zone Two:

Parcel Number (APN)	Address
048-7680-001-02	3 Tanglewood Road
048-7680-002-01	5 Tanglewood Road
048-7680-031-00	7 Tanglewood Road
048-7680-019-00	11 Tanglewood Road
048-7680-014-00	19 Tanglewood Road
048-7680-032-01	25 Tanglewood Road
048-7680-027-00	29 Tanglewood Road
054-1702-067-00	10 Tanglewood Road
054-1702-068-00	18 Tanglewood Road
054-1702-069-00	22 Tanglewood Road
054-1702-070-00	28 Tanglewood Road
054-1702-063-00	2701 Belrose Avenue
054-1702-076-00	2715 Belrose Avenue
054-1702-075-00	2721 Belrose Avenue
054-1702-074-00	2729 Belrose Avenue
054-1702-073-00	2737 Belrose Avenue
054-1702-112-00	2801 Claremont Boulevard
054-1702-123-01	2811 Claremont Boulevard
054-1702-122-00	2815 Claremont Boulevard
054-1702-120-01	2821 Claremont Boulevard
054-1702-114-01	2816 Claremont Avenue
054-1702-115-00	2820 Claremont Avenue
054-1702-072-00	3005 Garber Street
054-1702-071-00	3015 Garber Street
054-1702-113-00	3020 Garber Street
054-1702-116-00	3017 Avalon Avenue

Article 3. Wood Burning Appliances

19.28.040 Wood Burning Appliances.

Chapter 31 of the 2019 California Building Code is adopted in its entirety subject to the modifications thereto which are set forth below.

3114 Wood Burning Appliances.

A. The purpose of this section is to reduce the health risks caused by wood smoke under the climatic conditions applicable to Berkeley.

B. For purposes of this section the following terms shall be defined as set forth below.

1. "EPA" means the United States Environmental Protection Agency.
2. "EPA Certified" means any wood heater that is labeled "EPA Certified" in accordance with the standards in Title 40, Part 60, Subpart AAA, of the Code of Federal Regulations or equivalent, in effect at the time the wood heater is installed.
3. "Pellet heater" means wood heaters that burn pellet fuel exclusively and are either EPA-certified or exempted under EPA requirements set forth in Part 60 Title 40, Subpart AAA, of the Code of Federal Regulations, February 26, 1988.
4. "Wood-burning" means an appliance that burns wood or any wood-based solid fuel, including but not limited to wood pellets.
5. "Wood burning cooking device" means any wood-burning device that is designed or primarily used for cooking.
6. "Wood-burning fireplace" means any permanently-installed masonry or factory-built wood-burning appliance, either open or with doors in front of the combustion chamber, which is neither a wood heater as defined in 40 CFR 60.531 nor designed and used for cooking.

C. No wood-burning fireplace or wood heater as defined in 40 CFR 60.531, that is not EPA certified or exempted by under EPA requirements may be installed in any occupancy.

Exception: Existing masonry fireplaces may be repaired in accordance with the applicable codes in effect at the time of the proposed repair or reconstruction. For purposes of this exception, the term repair includes resurfacing the combustion chamber, but does not include replacing any other part of the combustion chamber.

D. Wood burning cooking devices are not prohibited by this section.

E. Any person planning to install a wood-burning fireplace or heating stove must submit

verifiable documentation to the City showing that the appliance conforms to the requirements of this section.

Article 4. Projection into Public Right of Way

19.28.050 Encroachments into the Public Right of Way – Revocation, Removal, Indemnification and Hold Harmless.

Chapter 32 of the 2019 California Building Code is adopted in its entirety subject to the modifications thereto which are set forth below.

3202 – ENCROACHMENTS

3202.5 Projection into the Public Right of Way – Revocation, Removal, Indemnification and Hold Harmless.

Any permits granted pursuant to this Code which allow any projection upon, over, or under the public right of way may be revoked by the City at any time. Upon such revocation, the permittee or his or her successor(s) or assignee(s) shall forthwith remove such projection at his or her cost and expense and without any cost or expense whatsoever to the City.

Any person who is granted a permit pursuant to the provisions of this Code which allows a projection upon, over or under the public right of way shall by the issuance of such permit thereby indemnify and hold harmless the City of Berkeley, its officers and employees of and from any and all liabilities, claims, demands, actions or causes of action for injury or injuries to any person or persons or death or deaths of any person or persons or damage to property arising out of or occasioned in any way by the issuance of said permit, the work performed pursuant to such permit, or the existence of such projection. The obligation of such indemnification and hold harmless provision shall be applicable to the successor(s) and assignee(s) of the permittee.

Article 5. Existing Buildings

19.28.060 Adoption of 2019 California Existing Building Code and certain Chapters of the 2018 International Existing Building Code by reference.

2019 California Existing Building Code (CEBC), including Appendix A, is adopted in its entirety subject to the modifications thereto which are set forth below.

DIVISION II SCOPE AND ADMINISTRATION

All of the administrative provisions contained in Article 1 of Chapter 19.28, the Berkeley Building Code, shall apply to this Code as well and take precedence over any CEBC administrative provisions that may conflict.

101.9 Adoption of Certain Chapters of the 2018 International Existing Building Code by reference.

When seismic retrofit is not otherwise required by this Code, the following Chapters of the 2018 International Existing Building Code (IEBC) published by the International Code Council contained in the IEBC Appendix A are hereby adopted by reference as applicable to the types of buildings as designated therein as though fully set forth herein:

Chapter A2, Earthquake Hazard Reduction in Existing Reinforced Concrete and Reinforced Masonry Wall Buildings with Flexible Diaphragms,

Chapter A5, Earthquake Hazard Reduction in Existing Concrete Buildings.

Article 6. Repairs to Existing Buildings and Structures

19.28.070 Adoption of Regulations for the Repairs of Existing Structures.

Add a new Subsection 405.2.6 to Chapter 4 Repairs Section 405 Structural of the California Existing Building Code.

405.2.6 Seismic Evaluation and Design Procedures for Repairs. The seismic evaluation and design shall be based on the procedures specified in the California Building Code or ASCE 41 *Seismic Evaluation and Retrofit of Existing Buildings*. The procedures contained in Appendix A Chapters A1, A3 and A4 of the California Existing Building Code and Appendix A Chapters A2 and A5 of the International Existing Building Code shall be permitted to be used as specified in Section 405.2.6.2.

405.2.6.1 Compliance with CBC level seismic forces. Where compliance with the seismic design provisions of the California Building Code is required, the procedures shall be in accordance with one of the following:

1. One-hundred percent of the values in the California Building Code. Where the existing seismic force-resisting system is a type that can be designated as “Ordinary,” the values of R , Ω_0 , and C_d used for analysis in accordance with Chapter 16 of the California Building Code shall be those specified for structural systems classified as “Ordinary” in accordance with Table 12.2-1 of ASCE 7, unless it is demonstrated that the structural system will provide performance equivalent to that of a “Detailed,” “Intermediate” or “Special” system.
2. Compliance with ASCE 41 using both BSE-1 and BSE-2 earthquake hazard levels and the corresponding performance levels in Table 405.2.6.1.

Table 405.2.6.1 PERFORMANCE CRITERIA FOR CBC LEVEL SEISMIC FORCES

RISK CATEGORY (BASED ON CBC TABLE 1604.5)	PERFORMANCE LEVEL FOR USE WITH ASCE 41 BSE-1 EARTHQUAKE HAZARD LEVEL	PERFORMANCE LEVEL FOR USE WITH ASCE 41 BSE-2 EARTHQUAKE HAZARD LEVEL
I	Life Safety (LS)	Collapse Prevention (CP)
II	Life Safety (LS)	Collapse Prevention (CP)
III	Note a	Note a
IV	Immediate Occupancy (IO)	Life Safety (LS)

- a. Acceptance criteria for Risk Category III shall be taken as 80 percent of the acceptance criteria specified for Risk Category II performance levels, but need not be less than the acceptance criteria specified for Risk Category IV performance levels.

405.2.6.2 Compliance with reduced CBC level seismic forces. Where seismic evaluation and design is permitted to meet reduced California Building Code seismic force levels, the procedures used shall be in accordance with one of the following:

1. The California Building Code using 75 percent of the prescribed forces. Values of R , Ω_o , and C_d used for analysis shall be as specified in Section 405.2.6.1 Item 1.
2. Structures or portions of structures that comply with the requirements of the applicable chapter in Appendix A of the California Existing Building Code (CEBC) or Appendix A of the International Existing Building Code (IEBC) as specified in Items 2.1 through 2.5 below shall be deemed to comply with this section.
 - 2.1. The seismic evaluation and design of unreinforced masonry bearing wall buildings in Risk Category I or II are permitted to be based on the procedures specified in CEBC Appendix A Chapter A1, provided the design is no less stringent than required in Berkeley Municipal Code Section 19.38.130.
 - 2.2. Seismic evaluation and design of the wall anchorage system in reinforced concrete and reinforced masonry wall buildings with flexible diaphragms in Risk Category I or II are permitted to be based on the procedures specified in IEBC Appendix A Chapter A2.
 - 2.3. Seismic evaluation and design of cripple walls and sill plate anchorage in residential buildings of light-frame wood construction in Risk Category I or II are permitted to be based on the procedures specified in CEBC Appendix A Chapter A3.
 - 2.4. Seismic evaluation and design of soft, weak, or open-front wall conditions in

multiunit residential buildings of wood construction in Risk Category I or II are permitted to be based on the procedures specified in CEBC Appendix A Chapter A4.

2.5. Seismic evaluation and design of concrete buildings in all Risk Categories are permitted to be based on the procedures specified in IEBC Appendix A Chapter A5.

3. Compliance with ASCE 41 using the BSE-1 Earthquake Hazard Level defined in ASCE 41 and the performance level as shown in Table 405.2.6.2. The design spectral response acceleration parameters S_x and S_{x1} specified in ASCE 41 shall not be taken less than 75 percent of the respective design spectral response acceleration parameters SDS and $SD1$ defined by the *California Building Code* and its reference standards.

**Table 405.2.6.2
PERFORMANCE CRITERIA FOR REDUCED CBC LEVEL SEISMIC FORCES**

RISK CATEGORY (BASED ON CBC TABLE 1604.5)	PERFORMANCE LEVEL FOR USE WITH ASCE 41 BSE-1 EARTHQUAKE HAZARD LEVEL
I	Life Safety (LS)
II	Life Safety (LS)
III	Note a
IV	Immediate Occupancy (IO)

- a. Acceptance criteria for Risk Category III shall be taken as 80 percent of the acceptance criteria specified for Risk Category II performance levels, but need not be less than the acceptance criteria specified for Risk Category IV performance levels.

**Table 405.2.6.3
REFERENCED STANDARDS**

Standard Reference Number	Title	Referenced in Code Section Number
ASCE 41-17	Seismic Evaluation and Retrofit of Existing Buildings	405.2.6 Table 405.2.6.1 405.2.6.2 Table 405.2.6.2

Article 7. Technical Amendments to Structural Standards

19.28.080 Various Technical Amendments to Structural Standards.

Chapter 17 of the 2019 California Building Code is adopted in its entirety subject to the modifications thereto which are set forth below.

1705.3 Concrete construction. Special inspections and tests of concrete construction shall be performed in accordance with this section and Table 1705.3.

Exception: Special inspections and tests shall not be required for: 1. Isolated spread concrete footings of buildings three stories or less above grade plane that are fully supported on earth or rock, where the structural design of the footing is based on a specified compressive strength, f_c , no greater than 2,500 pounds per square inch (psi) (17.2 MPa).

Chapter 19 of the 2019 California Building Code is adopted in its entirety subject to the

modifications thereto which are set forth below.

1905.1.7 ACI 318, Section 14.1.4. Delete ACI 318, Section 14.1.4, and replace with the following:

14.1.4 - Plain concrete in structures assigned to Seismic Design Category C, D, E or F.

14.1.4.1 - Structures assigned to Seismic Design Category C, D, E or F shall not have elements of structural plain concrete, except as follows:

(a) ~~Structural plain concrete basement, foundation or other walls below the base are permitted in detached one and two family dwellings three stories or less in height constructed with stud bearing walls. In dwellings assigned to seismic design category D or E, the height of the wall shall not exceed 8 feet (2438 mm), the thickness shall not be less than 7¹/₂ inches (190 mm), and the wall shall retain no more than 4 feet (1219 mm) of unbalanced fill. Walls shall have reinforcement in accordance with 14.6.1.~~

(b) Isolated footings of plain concrete supporting pedestals or columns are permitted, provided the projection of the footing beyond the face of the supported member does not exceed the footing thickness.

~~**Exception:** In detached one and two family dwelling three stories or less in height, the projection of the footing beyond the face of the supported member is permitted to exceed the footing thickness.~~

(c) Plain concrete footings supporting walls are permitted, provided the footings have at least two continuous longitudinal reinforcing bars. Bars shall not be smaller than No. 4 and shall have a total area of not less than 0.002 times the gross cross-sectional area of the footing. ~~For footings that exceed 8" inches (203 mm) in thickness, a~~ minimum of one bar shall be provided at the top and bottom of the footing. Continuity of reinforcement shall be provided at corners and intersections.

Exceptions:

1. ~~In seismic design categories A, B and C, detached one and two family dwellings three stories or less in height and constructed with stud bearing walls, are permitted to have plain concrete footings without longitudinal reinforcement.~~
2. ~~For foundation systems consisting of a plain concrete footing and a plain concrete stem wall, a minimum of one bar shall be provided at the top of the stem wall and at the bottom of the footing.~~
3. ~~Where a slab on ground is cast monolithically with the footing, one No. 5 bar is permitted to be located at either the top of the slab or bottom of the footing.~~

Article 8. Construction of Exterior Appurtenances

19.28.090 Technical Amendments for Construction of Exterior Projecting Elements and Appurtenances.

Chapter 12 of the 2019 California Building Code is adopted in its entirety subject to the modifications thereto which are set forth below:

1202.7 Ventilation of weather exposed enclosed assemblies. Balconies, landings, decks, stairs and similar exterior projecting elements and appurtenances exposed to the weather and sealed underneath shall have cross ventilation for each separate enclosed space by ventilation openings protected against the entrance of rain and snow and as set forth in Section 2304.12.2.6. Blocking and bridging shall be arranged so as not to interfere with the movement of air. The net free ventilating area shall not be less than 1/150th of the area of the space ventilated. Ventilation openings shall comply with Section 1202.2.2. An access panel of sufficient size shall be provided on the underside of the enclosed space to allow for periodic inspection.

Exceptions:

1. An access panel is not required where the exterior coverings applied to the underside of joists are easily removable using only common tools.
2. Removable soffit vents 4 inches minimum in width can be used to satisfy both ventilation and access panel requirements.

Chapter 14 of the 2019 California Building Code is adopted in its entirety subject to the modifications thereto which are set forth below:

1403.14 Projections exposed to weather. Balconies, landings, decks, stairs and similar floor projections exposed to the weather shall be constructed of naturally durable wood, preservative-treated wood, corrosion resistant (e.g., galvanized) steel, or similar approved materials.

Chapter 23 of the 2019 California Building Code is adopted in its entirety subject to the modifications thereto which are set forth below:

2304.12.2.3 Supporting members for permanent appurtenances. Naturally durable or preservative-treated wood shall be utilized for those portions of wood members that form the structural supports of buildings, balconies, porches or similar permanent building appurtenances where such members are exposed to the weather without adequate protection from a roof, eave, overhang or other covering to prevent moisture or water accumulation on the surface or at joints between members.

2304.12.2.4 Laminated timbers. The portions of glued-laminated timbers that form the structural supports of a building or other structure, projecting element, or appurtenance and are exposed to weather and not fully protected from moisture by a roof, eave or similar covering shall be pressure treated with preservative or be manufactured from naturally durable or preservative-treated wood.

2304.12.2.5 Supporting members for permeable floors and roofs. Wood structural members that support moisture-permeable floors or roofs that are exposed to the weather, such as concrete or masonry slabs, shall be of naturally durable or preservative-treated wood unless and shall be separated from such floors or roofs by an impervious moisture barrier.

Article 9. Emergency Housing

19.28.100 Emergency Housing and Emergency Housing Facilities.

HCD Appendix O of the 2019 California Building Code is adopted on an emergency basis and reproduced in its entirety subject to the modifications thereto which are set forth below:

APPENDIX O EMERGENCY HOUSING

SECTION O101

GENERAL

O101.1 Scope. This appendix shall be applicable to emergency housing and emergency housing facilities, as defined in Section O102. The provisions and standards set forth in this appendix shall be applicable to emergency housing established pursuant to the declaration of a shelter crisis under Government Code section 8698 et seq. and located in new or existing buildings, structures, or facilities owned, operated, erected, or constructed by, for or on behalf of the City of Berkeley on land owned or leased by the City of Berkeley.

O101.2 Application. Notwithstanding any provisions of this Code to the contrary, the following requirements shall apply to emergency housing operated during a shelter crisis, as provided for in Government Code Section 8698 et seq. Other than the specific requirements set forth in this appendix, the facilities need not comply with the requirements of this Code for Group R occupancies unless otherwise specified in this Code.

SECTION O102

DEFINITIONS

N102.1 General. The following words and terms shall, for the purposes of this appendix, have the meanings shown herein. Refer to Chapter 2 of this code for general definitions.

DECLARATION OF SHELTER CRISIS. The duly proclaimed existence of a situation in which a significant number of persons are without the ability to obtain shelter, resulting in a threat to their health and safety. (See Government Code Section 8698)

DEPENDENT UNIT. Emergency housing not equipped with a kitchen area, toilet, and

sewage disposal system. Recreational vehicles that are not self-contained and without utility service connections shall be considered dependent units.

EMERGENCY HOUSING. Housing in a permanent or temporary structure(s), occupied during a declaration of state of emergency, local emergency, or shelter crisis. Emergency housing may include, but is not limited to, buildings and structures constructed in accordance with the California Building Standards Code; and emergency sleeping cabins, emergency transportable housing units, and tents constructed in accordance with this appendix.

EMERGENCY HOUSING FACILITIES. On-site common use facilities supporting emergency housing. Emergency housing facilities include, but are not limited to, kitchen areas, toilets, showers and bathrooms with running water. The use of emergency housing facilities is limited exclusively to the occupants of the emergency housing, personnel involved in operating the housing, and other emergency personnel.

EMERGENCY HOUSING SITE. A site containing emergency housing and emergency housing facilities supporting the emergency housing.

EMERGENCY SLEEPING CABIN. Relocatable hard-sided structure constructed in accordance with this appendix, which may be occupied only for emergency housing if allowed by the enforcing agency.

EMERGENCY TRANSPORTABLE HOUSING UNIT. A single or multiple section prefabricated structure that is transportable by a vehicle and that can be installed on a permanent or temporary site in response to a need for emergency housing. Emergency transportable housing units include, but are not limited to, manufactured homes, mobilehomes, multifamily manufactured homes, recreational vehicles, and park trailers. For the purposes of this appendix, emergency transportable housing units may also include commercial modulars as defined in the Health and Safety Code Section 18001.8, if approved by the enforcing agency. Emergency transportable housing units do not include factory-built housing as defined in the Health and Safety Code Section 19971.

LANDING PLATFORM. A landing provided as the top step of a stairway accessing a loft.

LOCAL EMERGENCY. Local Emergency as defined in the Government Code, Section 8558.

LOFT. A floor level located more than 30 inches (762 mm) above the main floor and open to it on at least one side with a ceiling height of less than 6 feet 8 inches (2032 mm), used as a living or sleeping space.

MANUFACTURED HOME. A structure designed to be used as a single-family dwelling, as defined in the Health and Safety Code, Section 18007.

MOBILEHOME. A structure designed to be used as a single-family dwelling, as defined in the Health and Safety Code, Section 18008.

MULTIFAMILY MANUFACTURED HOME. A structure designed to contain not less than two dwelling units, as defined in the Health and Safety Code, Section 18008.7.

PARK TRAILER. A trailer designed for human habitation that meets all requirements in the Health and Safety Code, Section 18009.3.

RECREATIONAL VEHICLE. A motor home, travel trailer, truck camper, or camping trailer, with or without motive power, designed for human habitation, that meets all requirements in the Health and Safety Code, Section 18010.

STATE OF EMERGENCY. State of Emergency as defined in the Government Code, Section 8558.

TENT. A structure, enclosure or shelter, with or without sidewalls or drops, constructed of fabric or pliable material supported by any manner except by air or the contents that it protects.

SECTION O103

EMERGENCY HOUSING

O103.1 General. Emergency sleeping cabins, emergency transportable housing units including commercial modulars, membrane structures and tents constructed and/or assembled in accordance with this appendix, shall be occupied only during declaration of state of emergency, local emergency, or shelter crisis.

Buildings and structures constructed in accordance with the California Building Standards Code, used as emergency housing, shall be permitted to be permanently occupied.

O103.2 Existing buildings. Existing residential and nonresidential buildings or structures shall be permitted to be used as emergency housing and emergency housing facilities provided such buildings or structures comply with the building code provisions and/or other regulations in effect at the time of original construction and/or alteration. Existing buildings or structures used as emergency housing shall not become or continue to be substandard buildings, as determined by the enforcing agency.

O103.2.1 New additions, alterations, and change of occupancy. New additions, alterations, and change of occupancy to existing buildings shall comply with the requirements of the California Building Standards Code effective at the time of addition, alteration, or change of occupancy. The requirements shall apply only to and/or within the specific area of the addition, alteration, or change of occupancy.

Exceptions:

1. Existing buildings and structures used for emergency housing and emergency housing facilities may not be required to comply with the California Energy Code, as determined by the enforcing agency.
2. Change in occupancy shall not mandate conformance with new construction requirements set forth in the California Building Standards Code, provided such change in occupancy meets the minimum fire and life safety requirements set forth in Section O112 of this appendix.

O103.3 Occupant load. Except as otherwise stated in this appendix, the maximum occupant load allowed in buildings and structures used as emergency housing shall be determined by the enforcing agency, but the interior floor area shall not be less than 70 square feet (6.5 m²) for one occupant. Where more than one person occupies the building/structure, the required floor area shall be increased at the rate of 50 square feet (4.65 m²) for each occupant in excess of one.

Exceptions:

1. Tents.
2. Recreational vehicles and park trailers designed for human habitation that meet the requirements in the Health and Safety Code, Sections 18009.3 and 18010, as applicable

O103.4 Fire and life safety requirements not addressed in this appendix. If not otherwise addressed in this appendix, fire and life safety measures, including, but not limited to, means of egress, fire separation, fire sprinklers, smoke alarms, and carbon monoxide alarms, shall be determined and enforced by the enforcing agency.

O103.5 Privacy. Emergency housing shall be provided with a privacy lock on each entrance door and all windows for use by the occupants.

O103.6 Heating. All sleeping areas shall be provided with adequate heating as determined by the enforcing agency.

SECTION O104

EMERGENCY SLEEPING CABINS

O104.1 General. Emergency sleeping cabins shall have an interior floor area of not less than 70 square feet (6.5 m²) for one occupant. Where more than one person occupies the cabin, the required floor area shall be increased at the rate of 50 square feet (4.65 m²) for each occupant in excess of one. The interior floor area shall not exceed 400 square feet (37 m²), excluding lofts.

O104.2 Live loads. Emergency sleeping cabins shall be designed to resist intrusion of wind, rain, and to support the following live loads:

1. Floor live loads not less than 40 pounds per square foot (1.92 kPa) of floor area.
2. Horizontal live loads not less than 15 pounds per square foot (718 Pa) of vertical

wall and roof area.

3. Roof live loads not less than 20 pounds per square foot (958 Pa) of horizontal roof area.
4. In areas where snow loads are greater than 20 pounds per square foot (958 Pa), the roof shall be designed and constructed to resist these additional loads.

O104.3 Minimum ceiling height. Habitable space and hallways in emergency sleeping cabins shall have a ceiling height of not less than 80 inches (2032 mm). Bathrooms, toilet rooms, and kitchens, if provided, shall have a ceiling height of not less than 76 inches (1930 mm). Obstructions shall not extend below these minimum ceiling heights including beams, girders, ducts, lighting and other obstructions.

Exception: Ceiling heights in lofts constructed in accordance with Section N108 are permitted to be less than 80 inches (2032 mm).

O104.4 Means of egress. Emergency sleeping cabins shall be provided with at least two forms of egress placed remotely from each other. One form of egress may be an egress window complying with Section N104.4.1. When a loft is provided, one form of egress shall be an egress window complying with Section N104.4.1, provided in the loft space.

O104.4.1 Egress window. The bottom of the clear opening of the egress window shall not be more than 44 inches (1118 mm) above the floor. The egress window shall have a minimum net clear opening height of 24 inches (610 mm), and a minimum net clear opening width of 20 inches (508 mm). The egress window shall have a minimum net clear opening area of 5 square feet (0.465 m²).

O104.5 Plumbing and gas service. If an emergency sleeping cabin contains plumbing or gas service, it shall comply with all applicable requirements of the California Plumbing Code and the California Mechanical Code.

O104.6 Electrical. Emergency sleeping cabins shall be provided with all of the following installed in compliance with the California Electrical Code:

1. Continuous source of electricity.

Exception: The source of electricity may be an emergency generator or renewable source of power such as solar or wind power.
2. At least one interior lighting fixture.
3. Electrical heating equipment listed for residential use and a dedicated receptacle outlet for the electrical heating equipment.

Exception: Electrical heating equipment and a dedicated receptacle outlet for the electrical heating equipment are not required if a nonelectrical source of heating is provided.
4. At least one GFCI-protected receptacle outlet for use by the occupant(s).

O104.7 Ventilation. Emergency sleeping cabins shall be provided with means of ventilation (natural and/or mechanical) allowing for adequate air replacement, as determined by the enforcing agency.

O104.8 Smoke alarms. Emergency sleeping cabins shall be provided with at least one smoke alarm installed in accordance with the California Residential Code, Section R314.

O104.9 Carbon monoxide alarms. If an emergency sleeping cabin contains a fuel-burning appliance(s) or a fireplace(s), a carbon monoxide alarm shall be installed in accordance with the California Residential Code, Section R315

SECTION O105

EMERGENCY TRANSPORTABLE HOUSING UNITS

O105.1 General. In addition to the requirements in this appendix, manufactured homes, mobilehomes, multifamily manufactured homes, commercial modulars, recreational vehicles, and park trailers used as emergency transportable housing shall comply with all applicable requirements in the Health and Safety Code, Division 13, Part 2; and Title 25, Division 1, Chapter 3, Subchapter 2.

No provisions of Sections O111 through O114 of this appendix shall be deemed to grant authorization for any additional work that may conflict with the standards specified in Section O105 applicable for emergency transportable housing units.

SECTION O106

TENTS AND MEMBRANE STRUCTURES

O106.1 General. Tents shall not be used to house occupants for more than 7 days unless such tents are maintained with tight wooden floors raised at least 4 inches (101.6 mm) above the ground level and are equipped with baseboards on all sides to a height of at least 6 inches (152.4 mm). Tents may be maintained with concrete slabs with the finished surface at least 4 inches (101.6 mm) above grade and equipped with curbs on all sides at least 6 inches (152.4 mm) high.

A tent shall not be considered a suitable sleeping place when it is found necessary to provide heating facilities in order to maintain a minimum temperature of 50 degrees Fahrenheit (10 degrees Celsius) within such tent during the period of occupancy.

Membrane structures installed and/or assembled in accordance with Chapter 31 of this code, may be permitted to be used as emergency housing and emergency housing facilities, as determined by the enforcing agency.

Tents and membrane structures shall comply with Chapter 31 of the California Fire Code and shall not be erected for a period of more than 180 days within a 12 month period.

Tents and membrane structures shall be limited to one level located at the level of Fire Department vehicle access road or lane. Tents and membrane structures complying with Chapter 31 of the California Fire Code shall not be subject to additional provisions of Sections O111 and O112 of this appendix.

Tents and membrane structures used for sleeping purposes shall be equipped with single station battery powered smoke alarms installed in accordance with Section 907.2.11 of the California Fire Code.

SECTION O107

ACCESSIBILITY

O107.1 General. Emergency housing shall comply with the applicable requirements in Chapter 11B and/or the US Access Board Final Guidelines for Emergency Transportable Housing.

Note: The Architectural and Transportation Barriers Compliance Board (US Access Board) issued the Final Guidelines for Emergency Transportable Housing on May 7, 2014. The final guidelines amended the 2004 ADA Accessibility Guidelines (2004 ADAAG) and the 2004 Architectural Barriers Act (ABA) Accessibility Guidelines (2004 ABAAG) to specifically address emergency transportable housing units provided to disaster survivors by entities subject to the ADA or ABA. The final rule ensures that the emergency transportable housing units are readily accessible to and usable by disaster survivors with disabilities.

SECTION O108

LOFTS IN EMERGENCY HOUSING

O108.1 Minimum loft area and dimensions. Lofts used as a sleeping or living space shall meet the minimum area and dimension requirements of Sections O108.1.1 through O108.1.3.

O108.1.1 Minimum area. Lofts shall have a floor area of not less than 35 square feet (3.25 m²).

O108.1.2 Minimum dimensions. Lofts shall be not less than 5 feet (1524 mm) in any horizontal dimension.

O108.1.3 Height effect on loft area. Portions of a loft with a sloping ceiling measuring less than 3 feet (914 mm) from the finished floor to the finished ceiling shall not be considered as contributing to the minimum required area for the loft.

Exception: Under gable roofs with a minimum slope of 6:12, portions of a loft with a sloping ceiling measuring less than 16 inches (406 mm) from the finished floor to the finished ceiling shall not be considered as contributing to the minimum required area for the loft.

O108.2 Loft access. The access to and primary egress from lofts shall be any type described in Sections O108.2.1 through O108.2.4.

O108.2.1 Stairways. Stairways accessing lofts shall comply with the California Residential Code or with Sections O108.2.1.1 through O108.2.1.6.

O108.2.1.1 Width. Stairways accessing a loft shall not be less than 17 inches (432 mm) in clear width at or above the handrail. The minimum width below the handrail shall be not less than 20 inches (508 mm).

O108.2.1.2 Headroom. The headroom in stairways accessing a loft shall be not less than 74 inches (1880 mm), as measured vertically, from a sloped line connecting the tread or landing platform nosings in the middle of their width.

O108.2.1.3 Treads and risers. Risers for stairs accessing a loft shall be not less than 7 inches (178 mm) and not more than 12 inches (305 mm) in height. Tread depth and riser height shall be calculated in accordance with one of the following formulas:

1. The tread depth shall be 20 inches (508 mm) minus $\frac{4}{3}$ of the riser height, or
2. The riser height shall be 15 inches (381 mm) minus $\frac{3}{4}$ of the tread depth.

O108.2.1.4 Landing platforms. The top step of stairways accessing lofts shall be constructed as a landing platform where the loft ceiling height is less than 74 inches (1880 mm). The landing platform shall be 18 inches (457 mm) to 22 inches (559 mm) in depth measured from the nosing of the landing platform to the edge of the loft, and 16 inches (406 mm) to 18 inches (457 mm) in height measured from the landing platform to the loft floor.

O108.2.1.5 Handrails. Handrails shall comply with the California Residential Code, Section R311.7.8.

N108.2.1.6 Stairway guards. Guards at open sides of stairways shall comply with the California Residential Code, Section R312.1.

O108.2.2 Ladders. Ladders accessing lofts shall comply with Sections O108.2.2.1 and O108.2.2.2.

O108.2.2.1 Size and capacity. Ladders accessing lofts shall have a rung width of not less than 12 inches (305 mm), and 10 inches (254 mm) to 14 inches (356 mm) spacing between rungs. Ladders shall be capable of supporting a 200 pound (90.7 kg) load on any rung. Rung spacing shall be uniform within 3/8-inch (9.5 mm).

O108.2.2.2 Incline. Ladders shall be installed at 70 to 80 degrees from horizontal.

O108.2.3 Alternating tread devices. Alternating tread devices are acceptable as allowed by the enforcing agency.

O108.2.4 Loft guards. Loft guards shall be located along the open side of lofts. Loft guards shall not be less than 36 inches (914 mm) in height or one-half of the clear height to the ceiling, whichever is less. Loft guards shall not have openings from the walking surface to the required guard height that allow passage of a sphere 4 inches (102 mm) in diameter.

SECTION O109

LOCATION, MAINTENANCE AND IDENTIFICATION

O109.1 Maintenance. Emergency housing and emergency housing facilities shall be maintained in a safe and sanitary condition, and free from vermin, vectors and other matter of an infectious or contagious nature. The grounds within emergency housing sites shall be kept clean and free from accumulation of debris, filth, garbage and deleterious matter. Emergency housing and emergency housing facilities shall not be occupied if a substandard condition exists, as determined by the enforcing agency.

O109.1.1 Fire hazards. Dangerous materials or materials that create a fire hazard, as determined by the enforcing agency, shall not be allowed on the grounds within emergency housing sites.

O109.3 Identification. Emergency housing shall be designated by address numbers, letters, or other suitable means of identification. The identification shall be in a conspicuous location facing the street or driveway fronting the building or structure. Each identification character shall be not less than 4 inches (102 mm) in height and not less than 0.5 inch (12.7 mm) in width, installed/painted on a contrasting background.

SECTION O110

EMERGENCY HOUSING FACILITIES SANITATION REQUIREMENTS

O110.1 Drinking water. Potable drinking water shall be provided for all occupants of emergency housing.

O110.2 Kitchens and food facilities. Where provided, kitchens and food facilities, as defined in Section 113789 of the California Health and Safety Code, which support emergency housing sites, shall comply with applicable food safety provisions of Sections 113980 – 114094.5 of the California Health and Safety Code.

Where occupants of dependent units are permitted or required to cook for themselves, a separate area shall be equipped and maintained as a common use kitchen. Refrigerated storage shall be provided for safe storage of food.

O110.3 Toilet and bathing facilities. When dependent units are used as emergency housing, the emergency housing site shall be provided with one toilet and one bathing facility for every 15 occupants of each gender. The enforcing agency may permit different types and ratios of toilet and bathing facilities. The approval shall be based upon a finding that the type and ratio of toilet and bathing facilities are sufficient to process the anticipated volume of sewage and waste water, while maintaining sanitary conditions for the occupants of the emergency housing.

Bathing facilities shall be provided with heating equipment which shall be capable of maintaining a temperature of 70 degrees F (21.0 degrees Celsius) within such facilities.

Lavatories with running water shall be installed and maintained in the toilet facilities or adjacent to the toilet facilities.

O110.4 Garbage, waste and rubbish disposal. All garbage, kitchen waste and rubbish shall be deposited in approved covered receptacles, which shall be emptied when filled and the contents shall be disposed of in a sanitary manner acceptable to the enforcing agency.

SECTION O111

EMERGENCY HOUSING LIGHTING AND VENTILATION REQUIREMENTS

O111.1 Lighting. Buildings or structures used for emergency housing shall be provided with natural light by means of exterior glazed openings in accordance with Section 1204.2 of the California Building Code, or shall be provided with artificial light in accordance with Section 1204.3 of the California Building Code.

O111.2 Ventilation. Buildings or structures used for emergency housing shall be provided with natural ventilation in accordance with Section 1202.5 of the California Building Code, or mechanical ventilation in accordance with the California Mechanical Code.

SECTION O112

EMERGENCY HOUSING FIRE AND LIFE SAFETY REQUIREMENTS

O112.1 Location on property. Buildings or structures used for emergency housing, including sleeping cabins, shall be located in accordance with the requirements of Table 602 and Section 705 of the California Building Code, based on their type of construction and fire-resistance ratings of the exterior walls. During a shelter crisis, the fire separation distances are permitted to be measured to the existing buildings on the adjacent parcels rather than to the interior lot lines, provided the open spaces are to remain unobstructed for the duration of the shelter crisis.

O112.2 Buildings on same lot. Buildings or structures used for emergency housing,

including sleeping cabins, shall be separated from each other and from other buildings on the same lot as set forth in Section 705.3 of the California Building Code. The Building Official and Fire Marshal may accept reasonable alternatives to these requirements provided reasonably equivalent fire and life safety is achieved.

O112.3 Means of egress. Buildings or structures used for emergency housing shall be provided with means of egress complying with Chapter 10 of the California Building Code, unless modified elsewhere in this appendix.

O112.4 Emergency escape and rescue. Each area of a building or structure used for sleeping purposes in emergency housing shall be provided with an emergency escape and rescue opening in accordance with Section 1030 of the California Building Code, unless modified elsewhere in this appendix.

O112.5 Smoke alarms. Buildings or structures used for emergency housing, which provide sleeping accommodations, shall be equipped with single station battery powered smoke alarms installed in accordance with the location requirements of Section 907.2.11 of the California Fire Code, unless modified elsewhere in this appendix.

O112.6 Carbon monoxide alarms. Buildings or structures used for emergency housing, which provide sleeping accommodations, and equipped with fuel-burning appliances shall be provided with carbon monoxide detection in accordance with Section 915 of the California Fire Code, unless modified elsewhere in this appendix.

O112.7 Fire alarm. A manual fire alarm system capable of arousing sleeping occupants in accordance with Section 907.2.10.1 of the California Fire Code shall be installed in buildings, structures, or groups of buildings or structures used for emergency housing and having a gross floor area of more than 2,500 square feet or having more than 49 sleeping occupants.

Exception: Individual buildings or structures in a group of buildings or structures with sufficient separation distances to allow each building or structure to function independently in case of a fire, as approved by the Fire Marshal.

O112.8 Automatic sprinkler systems. Fire sprinklers shall be provided for new and existing buildings or structures used for emergency housing, including sleeping cabins, which provide sleeping facilities, as required by Section 903.3 of the California Fire Code. Strict compliance with the requirements of Section 903.3 may not be required when approved by the Fire Marshal. The Fire Marshal is authorized to accept reasonably equivalent alternatives to the installation provisions of Section 903.3 when dealing with buildings or structures used for emergency housing.

O112.9 Fire extinguishers. Portable fire extinguishers shall be provided in accordance with Section 906.1 of the California Fire Code.

O112.10 Flammable or combustible liquids. The possession or storage of any flammable or combustible liquids or gases shall not be permitted (intact cigarette lighters excepted). The use of any type of open flame indoors is prohibited unless conditionally approved by the Fire Chief.

O112.11 Storage in attics, under-floor and concealed spaces. Combustible materials, including but not limited to the possessions of occupants, users and staff shall not be stored in attics, under-floor spaces, or within other concealed spaces of buildings or structures used for emergency housing with sleeping accommodations.

O112.12 Fire department access. Fire Department access to building and premises used for emergency housing shall be in compliance with Section 503, Appendix D and Section 504 of the California Fire Code, as approved by the Fire Chief.

O112.13 Water supply. An approved fire protection water supply complying with Section 507 of the California Fire Code, or as approved by the Fire Chief, shall be provided for each structure, group of structures or premises used for emergency housing.

SECTION O113

ADDITIONAL REQUIREMENTS

O113.1 Operating procedures. Operating procedures including a security plan and service requirements shall be developed by the professional service provider and shown to be consistent with the shelter standards imposed by the Alameda County Social Services Agency. These procedures shall be designed to maintain order and safety within the buildings or structures used for emergency housing.

SECTION O114

ALTERNATIVES AND MODIFICATIONS

O114.1 Alternatives and modifications. Alternative compliance and/or modifications that are reasonably equivalent to the requirements in this appendix may be granted by the Local Administrative Authority in individual cases when dealing with buildings or structures used for emergency housing.

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.5, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17922.14, 17927, 17928, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1 through 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; Civil Code Sections 1101.4 and 1101.5; and Government Code Sections 12955.1 and

12955.1.1. (Ord. 7613-NS § 3, 2018)

Section 2. That Berkeley Municipal Code Chapter 19.29 is hereby repealed and reenacted to read as follows:

Chapter 19.29

BERKELEY RESIDENTIAL CODE

Sections:

- 19.29.010 Adoption of California Residential Code.**
- 19.29.020 Title.**
- 19.29.030 Administrative Provisions.**
- 19.29.040 Subsection R301.2 Climatic and Geographic Design Criteria.**
- 19.29.050 Section R337 Materials and Construction Methods for Exterior Wildlife Exposure.**
- 19.29.060 Technical Amendments to Structural Standards.**

19.29.010 Adoption of California Residential Code.

The California Residential Code, 2019 Edition, as adopted in Title 24 Part 2.5 of the the California Code of Regulations, including Appendices H, Q, R, S is hereby adopted and made a part of this Chapter as though fully set forth herein, subject to the modifications thereto which are set forth in this Chapter. A copy of this Code is on file for use and examination by the public in the office of the City Clerk of the City of Berkeley.

19.29.020 Title.

This Code shall be known as the "Berkeley Residential Code" and may be cited as "this Code".

19.29.030 Administrative provisions.

All of the administrative provisions contained in Article 1 of Chapter 19.28, the Berkeley Building Code, shall apply to this Code as well and take precedence over any CRC administrative provisions that may conflict.

For regulations governing wood burning appliances see BMC 19.28.040.

19.29.040 CRC Subsection R301.2 Climatic and geographic design criteria.

**TABLE R301.2(1)
CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA**

GROUND SNOW LOAD ^o	WIND DESIGN				SEISMIC DESIGN CATEGOR Y ^f	SUBJECT TO DAMAGE FROM		
	Speed ^d (mph)	Topographi c Effects ^k	Special Wind Region ^l	Wind- borne Debri s Zone ^m		Weathering ^a	Frost line depth ^b	Termite ^c
ZERO	85	NO	NO	NO	D ₂ or E	NEGLIGIBLE	N/A	VERY HEAVY

MANUAL J DESIGN CRITERIAⁿ

Elevation	Latitude	Winter heating	Summer cooling	Altitude correction factor	Indoor design temperature	Design temperature cooling
345	38	40	80	1.0	70	75

WINTER DESIGN TEMP ^e	ICE BARRIER UNDERLAYMENT REQUIRED ^h	FLOOD HAZARDS ^g	AIR FREEZING INDEX ⁱ	MEAN ANNUAL TEMP ^j
See Footnote 'q'	NO	See Footnote 'p'	ZERO	57.2°F

MANUAL J DESIGN CRITERIAⁿ

Heating temperature difference	Cooling temperature difference	Wind velocity heating	Wind velocity cooling	Coincident wet bulb	Daily range	Winter humidity	Summer humidity
30	5	15 MPH	7.5 MPH	63	16	55	55

For SI: 1 pound per square foot = 0.0479 kPa, 1 mile per hour = 0.447 m/s.

- Where weathering requires a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this Code, the frost line depth strength required for weathering shall govern. The weathering column shall be filled in with the weathering index, "negligible," "moderate" or "severe" for concrete as determined from Figure R301.2.(4)]. The grade of masonry units shall be determined from ASTM C34, C55, C62, C73, C90, C129, C145, C216 or C652.
- Where the frost line depth requires deeper footings than indicated in Figure R403.1(1), the frost line depth strength required for weathering shall govern. The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.
- The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.

- d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2(5)A]. Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.
- e. Temperatures shall be permitted to reflect local climates or local weather experience as determined by the building official. [Also see Figure R301.2(1).]
- f. The jurisdiction shall fill in this part of the table with the seismic design category determined from Section R301.2.2.1.
- g. The jurisdiction shall fill in this part of the table with (a) the date of the jurisdiction's entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the date(s) of the Flood Insurance Study and (c) the panel numbers and dates of all currently effective FIRMs and FBFMs or other flood hazard map adopted by the authority having jurisdiction, as amended.
- h. In accordance with Sections R905.1.2, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall fill in this part of the table with "NO."
- i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3.(2) or from the 100-year (99%) value on the National Climatic Data Center data table "Air Freezing Index- USA Method (Base 32°)".
- j. The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table "Air Freezing Index- USA Method (Base 32°F)".
- k. In accordance with Section R301.2.1.5, where there is local historical data documenting structural damage to buildings due to topographic wind speed-up effects, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall indicate "NO" in this part of the table.
- l. In accordance with Figure R301.2(5)A, where there is local historical data documenting unusual wind conditions, the jurisdiction shall fill in this part of the table with "YES" and identify any specific requirements. Otherwise, the jurisdiction shall indicate "NO" in this part of the table.
- m. In accordance with Section R301.2.1.2, the jurisdiction shall indicate the wind-borne debris wind zone(s). Otherwise, the jurisdiction shall indicate "NO" in this part of the table.
- n. The jurisdiction shall fill in these sections of the table to establish the design criteria using Table 1a or 1b from ACCA Manual J or established criteria determined by the jurisdiction.
- o. The jurisdiction shall fill in this section of the table using the Ground Snow Loads in Figure R301.2(6).
- p. Flood Hazard Data for the City of Berkeley:
 - Date of Jurisdiction's Entry into the NFIP: December 7, 1973;
 - Date of adoption of the first code or ordinance for management of flood hazards: Ordinance No. 5085-N.S., July 25, 1978;
 - Date of Flood Insurance study: Aug 3, 2009;
 - Panel numbers and dates of all currently effective maps adopted by the AHJ

(Ordinance 7108-NS 9/29/09):

- FEMA’s “Use of Digital Flood Hazard Data” establishes that paper and digital maps are equivalent. Policy and related information are available from FEMA. The policy implements section 107 of Public Law 108-264, 118 Stat. 724 (2004)
 - Panel 13 (not available in printed form)
 - Panel 14 of 725, Map Number 06001C0014G, August 3, 2009
 - Panel 18 of 725, Map Number 06001C0018G, August 3, 2009
 - Panel 19 of 725, Map Number 06001C0019G, August 3, 2009
 - Panel 38 (not available in printed form)
 - Panel 51 (not available in printed form)
 - Panel 52 of 725, Map Number 06001C0052G, August 3, 2009
 - Panel 53 (not available in printed form)
 - Panel 54 of 725, Map Number 06001C0054G, August 3, 2009
 - Panel 56 of 725, Map Number 06001C0056G, August 3, 2009
 - Panel 57 of 725, Map Number 06001C0057G, August 3, 2009
 - Panel 80 of 725, Map Number 06001C0080G, August 3, 2009
- q. Heating Load Calculation Data for the City of Berkeley:
- 33 degrees F “Winter Median of Extremes”
 - 37 degrees F “Design Drybulb (0.2%)”
 - 40 degrees F “Design Drybulb (0.6%)”

19.29.050 CRC Section R337 Materials and Construction Methods for Exterior Wildlife Exposure.

Chapter 3 of the 2019 California Residential Code is adopted in its entirety subject to the modifications thereto which are set forth below.

R337.1 – SCOPE, PURPOSE AND APPLICATION

R337.1.1 Scope. This Chapter applies to building materials, systems and/or assemblies used in the exterior design and construction of new buildings and structures, additions, alterations, repairs and re-roofs located within a Wildland-Urban Interface Fire Area as defined in Section R337.2.

R337.1.2 Purpose. The purpose of this Chapter is to establish minimum standards for the protection of life and property by increasing the ability of a building located in any Fire Hazard Severity Zone within State Responsibility Areas or any building or structure in the Wildland-Urban Interface Fire Area to resist the intrusion of flame or burning embers projected by a vegetation fire and contributes to a systematic reduction in conflagration losses.

R337.1.3 Application. New buildings located in any Fire Hazard Severity Zone or new buildings and structures, additions, alterations, repairs and re-roofs located in any Wildland-Urban Interface Fire Area designated by the enforcing agency constructed after the application date shall comply with the provisions of this Chapter.

Exceptions:

1. Buildings or structures of an accessory character classified as a Group U occupancy and not exceeding 120 square feet in floor area, when located at least 30 feet from an applicable building or property lines.

R337.1.3.1 Application date and where required. New buildings for which an application for a building permit is submitted on or after July 1, 2008 located in any Fire Hazard Severity Zone or buildings and structures, additions, alterations, repairs and re-roofs for which an application for a building permit is submitted on or after July 1, 2008 located in the Wildland Interface Fire Area shall comply with all sections of this chapter.

R337.2 – DEFINITIONS

For the purposes of this Chapter, certain terms are defined below:

FIRE ZONE ONE shall encompass the entire City of Berkeley except for Fire Zones Two and Three.

FIRE ZONE TWO encompasses those areas designated as Combined Hillside District in the Official Zoning map of the City of Berkeley and those areas designated as Very High in the official Fire Hazard Severity Zones (FHSZ) map of The Department of Forestry and Fire Protection (CAL FIRE), as they may be amended from time to time. The following properties, not part of the Combined Hillside District, are included in Fire Zone Two under the Very High designation of the FHSZ map: the eastern section of the University of California, Berkeley main campus, block number 2042 (Alameda County Assessor's parcel numbering (APN) system), to the east city line; all of the Clark-Kerr campus, block number 7690, to the east city line; all of block number 7680 in the City of Berkeley; portions of block number 1702 in the City of Berkeley. See Exhibit A for the specific parcels by APN and address.

FIRE ZONE 3 encompasses those areas designated as Environmental Safety – Residential Districts on the Official Zoning Map of the City of Berkeley, as it may be amended from time to time.

LOCAL AGENCY VERY HIGH FIRE HAZARD SEVERITY ZONE means an area designated by a local agency upon the recommendation of the CDF Director pursuant to Government Code Sections 51177(c), 51178 and 51189 that is not a state responsibility area and where a local agency, city, county, city and county, or district is responsible for fire protection. Fire Zones 2 and 3 are designated as Local Agency High Fire Hazard Severity Zone.

WILDLAND-URBAN INTERFACE FIRE AREA is a geographical area identified by the state as a "Fire Hazard Severity Zone" in accordance with the Public Resources Code Sections 4201 through 4204 and Government Code Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires. Fire Zones 2 and 3 are designated as Wildland-Urban Interface Fire Area.

R337.5 – ROOFING

R337.5.1 General. Roofs shall be a Class A minimum and shall comply with the requirements of Sections R337 and R902. Roofs shall have a roofing assembly installed in accordance with its listing and the manufacturer's installation instructions. Wooden shakes and shingles are prohibited roof coverings regardless of the assembly rating of the roof system.

Exception: Replacement of less than 50% of the roof area within a 5 year period.

R337.5.5 Spark Arrestors. All chimneys of fireplaces, stoves, barbecues or heating appliances using solid fuel shall be provided with an approved spark arrestor whenever modification has been made to any of these appliances, or whenever a structure is re-roofed. The net free area of the spark arrestor shall be not less than four times the net free area of the outlet of the chimney. The spark arrestor shall have heat and corrosion resistance equivalent to twelve-gauge wire, nineteen gauge galvanized wire, or twenty-four-gauge stainless steel. Openings shall not permit the passage of spheres having a diameter larger than one-half inch and shall not block the passage of spheres having a diameter of less than three-eighths inch. The arrestor shall be securely attached to the chimney or stovepipe and shall be adequately supported. The use of bands, mollies, masonry anchors or mortar ties are recommended depending upon the individual need.

R337.7 – EXTERIOR COVERING

R337.7.3.3 Replacement of Exterior Wall Covering. Materials for replacement of existing exterior wall covering shall meet or exceed the standards set forth in this chapter.

Exception: Where less than 50% of any wall surface is being replaced or repaired, and the matching of the new plane to the existing plane on that wall is not possible.

R337.11 – UNDERGROUND UTILITY CONNECTIONS

R337.11.1 Underground utility connections. For new construction, provisions shall be made for the undergrounding of all utilities serving the property, including but not limited to electrical, telephone and cable television, by the installation of appropriately sized underground conduits extending from the street property.

R337.12 – ADDITIONAL REQUIREMENTS IN FIRE ZONE THREE

R337.12.1 General. In addition to meeting the other requirements of this Chapter, buildings or structures hereinafter erected, constructed, moved, altered, added, or repaired within Fire Zone Three shall comply with the following requirements for buildings and structures.

R337.12.2 Fire Warning System. All residential units shall be equipped with a Fire Warning System as specified by the residential smoke detector requirements of the current edition of the California Building Code and with an audible exterior alarm. The exterior alarm must meet the requirements of NFPA 72 or equivalent and generate 45

decibels ten feet from the alarm, or more.

R337.12.3 Automatic Fire Sprinklers, Berkeley Fire Code Section 903.3. Any new construction or new additions to existing structures requiring a permit determined to be \$100,000 or more in construction costs shall be required to install automatic fire sprinklers throughout the existing structure.

R337.12.4 Utilities. Utilities, pipes, furnaces, water heaters or other mechanical devices located in an exposed underfloor area of a building or structure shall be enclosed with material as required for exterior one hour fire resistive construction. Adequate covered access openings for servicing and ventilation of such facilities shall be provided as required by appropriate codes.

R337.12.5 Control of brush or vegetation. Brush and vegetation shall be controlled as required in the Berkeley Fire Code.

R337.12.6 Special Conditions. The following additional conditions must be met:

1. Public access roads and fire trails. No person(s) shall use any public access road or fire trail for the storage of any construction material, stationary construction equipment, construction office, portable refuse container, or earth from any grading or excavating.
2. Water Service. The water service to the site shall be installed with a ¾” hose bib connection prior to beginning any wood framing. The person responsible for the construction shall have at the site a 75 ft ¾” hose available.

Exhibit A
Parcels in Addition to the Combined Hillside District

The following additional parcels by Assessor’s Parcel Number and address are included in Fire Zone Two:

Parcel Number (APN)	Address
048-7680-001-02	3 Tanglewood Road
048-7680-002-01	5 Tanglewood Road
048-7680-031-00	7 Tanglewood Road
048-7680-019-00	11 Tanglewood Road
048-7680-014-00	19 Tanglewood Road
048-7680-032-01	25 Tanglewood Road
048-7680-027-00	29 Tanglewood Road
054-1702-067-00	10 Tanglewood Road
054-1702-068-00	18 Tanglewood Road
054-1702-069-00	22 Tanglewood Road
054-1702-070-00	28 Tanglewood Road
054-1702-063-00	2701 Belrose Avenue
054-1702-076-00	2715 Belrose Avenue

054-1702-075-00	2721 Belrose Avenue
054-1702-074-00	2729 Belrose Avenue
054-1702-073-00	2737 Belrose Avenue
054-1702-112-00	2801 Claremont Boulevard
054-1702-123-01	2811 Claremont Boulevard
054-1702-122-00	2815 Claremont Boulevard
054-1702-120-01	2821 Claremont Boulevard
054-1702-114-01	2816 Claremont Avenue
054-1702-115-00	2820 Claremont Avenue
054-1702-072-00	3005 Garber Street
054-1702-071-00	3015 Garber Street
054-1702-113-00	3020 Garber Street
054-1702-116-00	3017 Avalon Avenue

19.29.060 Technical Amendments to Structural Standards

Chapter 6 of the 2019 California Residential Code is adopted in its entirety subject to the modifications thereto which are set forth below.

Table R602.10.3(3) Bracing Requirements based on Seismic Design Category

Add a new footnote “g” to the end of CRC Table R602.10.3(3)^a to read:

g. In Seismic Design Categories D0, D1, and D2, Method GB is not permitted and the use of Method PCP is limited to one-story dwellings and accessory structures.

Add a new Subsection R602.10.4.5, to read:

R602.10.4.5 Limits on methods GB and PCP. In Seismic Design Categories D0, D1, and D2, Method GB is not permitted, but gypsum board is permitted to be placed on the opposite side of the studs from other types of braced wall panel sheathing. In Seismic Design Categories D0, D1, and D2, the use of Method PCP is limited to one-story dwellings and accessory structures.

Section 3. That Berkeley Municipal Code Chapter 19.30 is hereby repealed and reenacted to read as follows:

Chapter 19.30

BERKELEY ELECTRICAL CODE

Sections:

- 19.30.010** Adoption of California Electrical Code.
19.30.020 Title.
19.30.030 Administrative provisions.

19.30.010 Adoption of California Electrical Code.

The California Electrical Code, 2019 Edition, as adopted by the California Code of Regulations, Title 24, Part 3 is hereby adopted and made a part of this Chapter as though fully set forth herein subject to the modifications thereto which are set forth in this Chapter. A copy of this Code is on file for use and examination by the public in the office of the City Clerk of the City of Berkeley.

19.30.020 Title.

This Code shall be known as the "Berkeley Electrical Code" and may be cited as "this Code".

19.30.030 Administrative provisions.

All of the administrative provisions contained in Article 1 of Chapter 19.28, the Berkeley Building Code, shall apply to this Code as well and take precedence over any administrative provisions contained in Article 89 General Code Provisions that may conflict.

Section 4. That Berkeley Municipal Code Chapter 19.32 is hereby repealed and reenacted to read as follows:

Chapter 19.32

BERKELEY MECHANICAL CODE

Sections:

- 19.32.010 Adoption of the California Mechanical Code.**
- 19.32.020 Title.**
- 19.32.030 Administrative provisions.**
- 19.32.040 Amendments to the California Mechanical Code**

19.32.010 Adoption of the California Mechanical Code.

The California Mechanical Code, 2019 Edition, as adopted in Title 24 Part 4 of the California Code of Regulations, is hereby adopted and made a part of this Chapter as though fully set forth herein, subject to the modifications thereto which are set forth in this Chapter. A copy of this Code is on file for use and examination by the public in the office of the City Clerk of the City of Berkeley.

19.32.020 Title.

This Code shall be known as the "Berkeley Mechanical Code" and may be cited as "this Code".

19.32.030 Administrative provisions.

All of the administrative provisions contained in Article 1 of Chapter 19.28, the Berkeley Building Code, shall apply to this Code as well and take precedence over any CMC administrative provisions that may conflict.

19.32.040 Amendments to the California Mechanical Code

Chapter 4 of the 2019 California Mechanical Code is adopted in its entirety subject to the modifications thereto which are set forth below:

402.1.2 Ventilation in Dwelling Units. Requirements for ventilation air rate for single-family dwellings and residential dwelling units in multi-family buildings shall be in accordance with this chapter or section and ASHRAE 62.2. Each kitchen range shall be provided with a vented hood ducted to terminate outside the building, with a minimum air flow of 100 cfm and a maximum sound rating of 3 sones.

Exception: A vented range hood shall not be required in dwelling unit kitchens equipped with a local mechanical exhaust system installed in accordance with ASHRAE 62.2.

For regulations governing wood burning appliances, see BMC 19.28.040.

Section 5. That Berkeley Municipal Code Chapter 19.34 is hereby repealed and reenacted to read as follows:

Chapter 19.34**BERKELEY PLUMBING CODE****Sections:**

- 19.34.010 Adoption of the California Plumbing Code.**
- 19.34.020 Title.**
- 19.34.030 Administrative provisions.**
- 19.34.040 Gas Shut-Off Valves**

19.34.010 Adoption of the California Plumbing Code.

The California Plumbing Code, 2019 Edition, as adopted in Title 24 Part 5 of the California Code of Regulations, including Appendices A, B and D, is hereby adopted and made a part of this Chapter as though fully set forth herein, subject to the modifications thereto which are set forth in this Chapter. A copy of this Code is on file for use and examination by the public in the office of the City Clerk of the City of Berkeley.

19.36.020 Title.

This Code shall be known as the "Berkeley Plumbing Code" and may be cited as "this Code."

19.34.030 Administrative provisions.

All of the administrative provisions contained in Article 1 of Chapter 19.28, the Berkeley Building Code, shall apply to this Code as well and take precedence over any CPC administrative provisions that may conflict.

19.34.040 Gas Shut-Off Valves

Chapter 12 of the 2019 California Plumbing Code is adopted in its entirety subject to the modifications thereto which are set forth below.

1209.2 General Requirements for Gas Shut-Off Valves. Automatic gas shut-off valves installed either in compliance with this Section or voluntarily pursuant to a plumbing permit issued on or after the effective date of this Section, shall comply with the following:

1209.2.1 All valves shall:

1. Comply with all applicable requirements of the Berkeley Plumbing Code.
2. Be tested and listed by recognized testing agencies such as the Independent Laboratory of the International Approval Services (IAS), Underwriter's Laboratory (UL), International Association of Plumbing and Mechanical Officials (IAPMO) or any other agency approved by the State of California Office of the State Architect (OSA).
3. Be listed to ANSI Z21.93/CSA6.30 Excess Flow Valves for Natural and LP Gas with Pressures up to 5 Psig.
4. Be installed on downstream side of the gas utility meter.
5. Be installed in accordance with the manufacturer's instructions.
6. Be installed in accordance with a plumbing permit issued by the City of Berkeley.
7. Provide a method for expedient and safe gas shut-off in an emergency.
8. Provide a capability for ease of consumer or owner resetting in a safe manner.

1209.2.2 Motion activated seismic gas shut-off valves shall be mounted rigidly to the exterior of the building or structure containing the fuel gas piping, unless otherwise specified in the manufacturer's installation instructions.

1209.3 Definitions

For the purpose of this Section terms shall be defined as follows:

AUTOMATIC GAS SHUT- OFF VALVE shall mean either a motion activated gas shut-off valve or device or an excess flow gas shut-off valve or device.

DOWNSTREAM OF GAS UTILITY METER shall mean all gas piping on the property owner's side of the gas meter and after the service tee.

EXCESS FLOW GAS SHUT- OFF VALVE shall mean an approved valve or device that is activated by significant gas leaks or overpressure surges that can occur when pipes rupture inside a structure. Such valves are installed at each appliance, unless otherwise specified by the manufacturer's installation instructions.

MOTION ACTIVATED GAS SHUT OFF VALVE shall mean an approved gas valve activated by motion. Valves are set to activate in the event of a moderate or strong seismic event greater than 5.0 on the Richter scale.

UPSTREAM OF GAS UTILITY METER shall mean all gas piping installed by the utility up to and including the meter and the utility's service tee.

1209.4 Devices When Required. Approved automatic gas shut-off valves shall be installed as follows:

1209.4.1 New Construction. In any new building construction containing gas piping for which a building permit is first issued on or after the effective date of this Section.

1209.4.2 Existing Buildings. In any existing building, when any addition, alteration or repair is made for which a building permit is issued on or after the effective date of this Section and the valuation for the work exceeds \$50,000.

Exceptions:

1. Buildings with individually metered residential units when the building contains 5 or more residential units, unless the units are condominiums.
2. For residential or mixed use condominium buildings, valves are required when the value of the work exceeds \$50,000 in any single condominium unit or when any work done outside of the units exceeds \$50,000.
3. Commercial occupancies and uses in mixed use buildings of residential and non-residential occupancies with a single gas service line larger than 1 ½ inches that serves the entire building.
4. Automatic gas shut-off valves installed with a building permit on a building prior to the effective date of this Section provided the valves remain installed on the building or structure and are adequately maintained for the life of the building or structure.
5. Automatic gas shut-off valves installed on a gas distribution system owned or operated by a public utility.

Section 6. That Berkeley Municipal Code Chapter 19.36 is hereby repealed and reenacted to read as follows:

Chapter 19.36

BERKELEY ENERGY CODE

Sections:

19.36.010	Adoption of the California Energy Code.
19.36.020	Title.
19.36.030	Administrative provisions.
19.36.040	Amendments to the California Energy Code.
19.36.050	CEQA

19.36.010 Adoption of the California Energy Code.

The California Energy Code, 2019 Edition, as adopted in Title 24 Part 6 of the California Code of Regulations, is hereby adopted and made a part of this Chapter as though fully set forth herein, subject to the modifications thereto which are set forth in this Chapter. A copy of this Code is on file for use and examination by the public in the office of the City Clerk of the City of Berkeley.

19.36.020 Title.

This Code shall be known as the “Berkeley Energy Code” and may be cited as “this Code”.

19.36.030 Administrative provisions.

All of the administrative provisions contained in Article 1 of Chapter 19.28, the Berkeley Building Code, shall apply to this Code as well and take precedence over any California Energy Code administrative provisions that may conflict.

For regulations governing wood burning appliances see BMC 19.28.040.

19.36.040 Amendments to the California Energy Code.

SUBCHAPTER 1: ALL OCCUPANCIES – GENERAL PROVISIONS of the 2019 California Energy Code is adopted in its entirety subject to the modifications thereto which are set forth below:

Modify SECTION 100.1(b) to add the following definitions:

ALL-ELECTRIC BUILDING is a building that has no natural gas or propane plumbing installed within the building, and that uses electricity as the source of energy for its space heating, water heating, cooking, and clothes drying appliances.

CERTIFIED ENERGY ANALYST is a person registered as a Certified Energy Analyst with the California Association of Building Energy Consultants as of the date of submission of a Certificate of Compliance as required under Section 10-103.

MIXED-FUEL BUILDING is a building that is plumbed for the use of natural gas or

propane as fuel for space heating, water heating (including pools and spas), cooking or clothes drying appliances.

NATURAL GAS shall have the same meaning as “Fuel Gas” as defined in the California Plumbing Code and Mechanical Code.

NEWLY CONSTRUCTED BUILDING is a building that has never before been used or occupied for any purpose and does not include additions, alterations, or repairs.

REACH CODE is a cost-effective locally adopted energy standard that requires buildings to be designed to consume no more energy than permitted by the California Energy Code.

Add a new SECTION 100.3 to read as follows:

SECTION 100.3 REACH CODE

- (a) **Buildings Covered.** In addition to all requirements of the California Energy Code, newly constructed buildings shall comply with the following requirements of the Reach Code:
1. New nonresidential, high-rise residential, and hotel/motel buildings that are designed to utilize mixed-fuel (natural gas or propane in addition to electricity) shall be required to install solar panels on the Solar Zone, as defined in Section 110.10. With the exception of laboratory, industrial, and manufacturing uses or occupancies, the new nonresidential, high-rise residential, and hotel/motel buildings shall also comply with either the prescriptive requirements of Section 140.2, as amended herein, or have a compliance margin, as defined in Section 140.1, that meets or exceeds the Standard Design Building by 10%.
 2. New low-rise residential buildings that are designed to utilize mixed-fuel (natural gas or propane in addition to electricity) shall be required to either comply with the prescriptive requirements of Section 150.1(c), as amended herein, or meet a Total Energy Design Rating (EDR) margin, as defined by the California Energy Code, of 10. The performance requirements may be reduced, but not below the requirements for the Standard Design Building, if sufficient solar access is not available.
 3. If a Certified Energy Analyst prepares the Certificate of Compliance, the design shall be credited with one (1) EDR point or one (1) percent of compliance margin, to the extent that the resultant energy budget is no greater than the energy budget for the Standard Building Design.
 4. New nonresidential, high-rise residential, and hotel/motel Mixed-Fuel Buildings shall have electrical systems and designs that support a future retrofit to facilitate the installation of all-electric appliances for all gas appliance plumbing connections. This includes electrical conductors or raceways, bus bar capacity, and space for circuit breakers.

5. New low-rise residential Mixed-Fuel Buildings shall have electrical systems and designs that support a future retrofit to facilitate the installation of all-electric appliances for all gas appliance plumbing connections. This includes electrical conductors or raceways, bus bar capacity, and space for circuit breakers, and for equipment serving individual units only, service panel capacity and pre-wired and installed circuit breakers.

SUBCHAPTER 5: NONRESIDENTIAL, HIGH-RISE RESIDENTIAL AND HOTEL/MOTEL OCCUPANCIES – PERFORMANCE AND PRESCRIPTIVE COMPLIANCE APPROACHES FOR ACHIEVING ENERGY EFFICIENCY of the 2019 California Energy Code is adopted in its entirety subject to the modifications thereto which are set forth below:

SECTION 140.0(b) is modified to read as follows:

- (b) The requirements of Sections 120.0 through 130.5 (mandatory measures for nonresidential, high-rise residential and hotel/motel buildings) including the following additional mandatory measures:

1. **Photovoltaic Requirement.** The solar zone, as specified in Section 110.10, shall have a solar PV system installed, subject to the exceptions in Section 110.10.
2. **Electric Readiness: Circuit Capacity.** A Mixed-Fuel Building shall have conductors or raceway installed with termination points at the main electrical panel (via subpanels panels, if applicable) and at a location no more than 3 feet from each gas outlet or a designated location of a future electric replacement appliance. The conductors or raceway and any intervening subpanels shall be sized to meet the future electric power requirements as specified below at the service voltage. The capacity requirements may be adjusted for demand factors in accordance with the California Electric Code Article 220. Gas flow rates shall be determined in accordance with the California Plumbing Code Section 1208.4.

A. Domestic Hot Water:

- i. 24 amps at 240 volts per dwelling unit; or
- ii. The electrical power required to provide equivalent functionality of the gas powered equipment as calculated and documented by a licensed design professional associated with the project.

B. Space Heating:

- i. 24 amps at 240 volts per dwelling unit; or
- ii. The electrical power required to provide equivalent functionality of the gas powered equipment as calculated and documented by a licensed design professional associated with the project.

Exception to Section 140.0(b)2B: If permanent space cooling equipment is installed for all of the affected dwelling units, the conductors or raceway serving the cooling equipment may be increased in size to accommodate

the future electric space heating equipment.

C. Clothes Dryer:

- i. 24 amps at 240 volts per domestic dryer; or
- ii. The electrical power required to provide equivalent functionality of the gas powered equipment as calculated and documented by a licensed design professional associated with the project.

D. Cooking Equipment in Residential Space:

- i. Range or cooktop: 32 amps at 240 volts per appliance.
- ii. Stand-alone oven: 16 amps at 240 volts per appliance.

E. Pools and Spas:

- i. The electrical power required to provide equivalent functionality of the gas powered equipment as calculated and documented by a licensed design professional associated with the project.

3. **Electric Readiness: Service Capacity.**

A. A Mixed-Fuel Building shall have space for additional overcurrent protective devices as well as bus bars of adequate capacity in the main electrical panel and any subpanels to meet all of the building's potential future electrical requirements as specified in Section 140.0(b)2.

B. All newly installed raceways in a Mixed-Fuel Building between the main electric panel and any subpanels, and the point at which the conductors serving the building connect to the common conductors of the utility distribution system, shall be sized for conductors adequate to serve all of the building's potential future electric loads as specified in Section 140.0(b)2.

C. The capacity requirements may be adjusted for demand factors in accordance with the California Electric Code, Title 24, Part 3, Section 220.

4. **Electric Readiness: Other requirements.** A Mixed-Fuel Building shall include the following components for equipment that serve individual residential units:

A. Water Heating

- i. The conductors or raceway shall terminate in an area that meets all of the requirements below:
- ii. Is at least 3 feet by 3 feet by 7 feet high; and
- iii. If a condensate line is not attached to the water heater, a condensate line for future use shall be provided that is no less than $\frac{3}{4}$ inch in diameter, compliant with California Plumbing Code Section 814, is no more than 2 inches higher than the base of the installed water heater, and located within 12 inches of the water heater.

B. Space Heating.

- i. The conductors or raceway shall terminate in an area that has a condensate drain that is no less than ¾ inch in diameter, compliant with California Plumbing Code Section 814, is no more than two inches higher than the base of the installed heating equipment, and located within 12 inches of the designated location of the heating equipment.

Exception 1 to Sections 140.0(b)2, 3 and 4. If the design includes bus bar capacity, raceway or conductor capacity necessary for the installation of electrical equipment that can serve the intended function of the gas equipment.

Exception 2 to Sections 140.0(b)2, 3 and 4. Facilities where natural gas is necessary to meet the requirements of other permitting agencies or is demonstrated to be necessary for the purpose of protecting public health, safety and welfare.

NOTE: The requirements of Sections 140.0(b)2, 3 and 4 are not intended to trigger additional transformer capacity from the public utility at the time of construction.

SECTION 140.1 is modified to read as follows:

SECTION 140.1 – PERFORMANCE APPROACH: ENERGY BUDGETS

A building newly constructed All-Electric Building or a newly constructed Mixed-Fuel Building occupied for laboratory, industrial, or manufacturing uses complies with the performance approach if the energy budget calculated for the Proposed Design Building under Subsection (b) is no greater than the energy budget calculated for the Standard Design Building under Subsection (a).

A newly constructed Mixed-Fuel Building occupied for other than laboratory, industrial, or manufacturing uses, complies with the performance approach if the energy budget calculated for the Proposed Design Building under Subsection (b) has a compliance margin, relative to the energy budget calculated for the Standard Design Building under Subsection (a), of at least 10%.

- (a) **Energy Budget for the Standard Design Building.** The energy budget for the Standard Design Building is determined by applying the mandatory and prescriptive requirements to the proposed design building. The energy budget is the sum of the TDV energy for space-conditioning, indoor lighting, mechanical ventilation, service water heating, and covered process loads.
- (b) **Energy Budget for the Proposed Design Building.** The energy budget for a Proposed Design Building is determined by calculating the TDV energy for the Proposed Design Building. The energy budget is the sum of the TDV energy for space-conditioning, indoor lighting, mechanical ventilation and service water heating and covered process loads.
- (c) **Calculation of Energy Budget.** The TDV energy for both the Standard Design Building and the Proposed Design Building shall be computed by Compliance Software certified for this use by the Commission. The processes for Compliance

Software approval by the Commission are documented in the ACM Approval Manual.

Exception to Section 140.1: For newly constructed buildings, if the Certificate of Compliance is prepared and signed by a Certified Energy Analyst and the energy budget for the Proposed Design is no greater than the Standard Design Building, the required compliance margin is reduced by 1%.

SECTION 140.2 is modified to read as follows:

SECTION 140.2 – PRESCRIPTIVE APPROACH

To comply using the prescriptive approach, a building shall be designed with and shall have constructed and installed systems and components meeting the applicable requirements of Sections 140.3 through 140.9 and additionally the following measures as applicable intended to exceed the remaining prescriptive requirements:

(a) Mixed-Fuel Buildings of Hotel, Motels or High-Rise Multifamily Occupancies

1. Install fenestration with a solar heat gain coefficient no less than 0.45 in both common spaces and guest rooms.
2. Design Variable Air Volume (VAV) box minimum airflows to be equal to the zone ventilation minimums.
3. Include economizers and staged fan control in air handlers with a mechanical cooling capacity \geq 33,000 Btu/h.
4. Reduce the lighting power density (Watts/ft²) by ten percent (10%) from that required from Table 140.6-C.
5. In common areas, improve lighting without claiming any Power Adjustment Factor credits:
 - A. Control to daylight dimming plus off per Section 140.6(a)2.H; and
 - B. Perform Institutional Tuning per Section 140.6(a)2.J
6. Install one drain water heat recovery device per every three guest rooms that is field verified as specified in the Reference Appendix RA3.6.9.

(b) All Other Nonresidential Mixed-Fuel Buildings

1. Install fenestration with a solar heat gain coefficient no greater than 0.22.
2. Limit the fenestration area on east-facing and west-facing walls to one-half of the average amount of north-facing and south-facing fenestration.
3. Design Variable Air Volume (VAV) box minimum airflows to be equal to the zone ventilation minimums where VAV systems are installed.
4. Include economizers and staged fan control in air handlers with a mechanical cooling capacity \geq 33,000 Btu/h.
5. Reduce the lighting power density (Watts/ft²) by ten percent (10%) from that required from Table 140.6-C.

6. Improve lighting without claiming any Power Adjustment Factor credits:
 - A. Perform Institutional Tuning per Section 140.6(a)2.J, and
 - B. In office spaces, control to daylight dimming plus off per Section 140.6(a)2.H, and
 - C. Install Occupant Sensing Controls in Large Open Plan Offices per Section 140.6(a)2.I.

Exception to Section 140.2(b). Newly constructed Mixed-Fuel Buildings occupied for laboratory, industrial, or manufacturing uses.

SUBCHAPTER 7: LOW-RISE RESIDENTIAL BUILDINGS – MANDATORY FEATURES AND DEVICES of the 2019 California Energy Code is adopted in its entirety subject to the modifications thereto which are set forth below:

SECTION 150.0 is modified to read as follows:

SECTION 150.0 – MANDATORY FEATURES AND DEVICES

Low-rise residential buildings shall comply with the applicable requirements of Sections 150(a) through 150.0(~~r~~)(u).

NOTE: The requirements of Sections 150.0(a) through 150.0(~~r~~)(u) apply to newly constructed buildings. Sections 150.2(a) and 150.2(b) specify which requirements of Sections 150.0(a) through 150.0(r) also apply to additions or alterations.

SECTION 150.0(h) is modified to add a new subsection (5) to read as follows:

5. **Electric Readiness.** Systems using gas or propane space heating equipment shall include the following components:
 - A. For equipment serving individual dwelling units, a dedicated 240 volt, 30 amp or greater electrical circuit shall be provided for a future electric heater. In addition, all of the following shall be required:
 - i. The circuit shall terminate within 3 feet from the designated future location of an electric heater with no obstructions into a listed cabinet, box or enclosure labelled “For Future Electric Space Heater”; and
 - ii. The circuit shall be served by a dedicated double pole circuit breaker in the electrical panel labeled with the words “For Future Electric Space Heater”.
 - iii. If a condensate line is not attached to the heating equipment, a condensate line for future use shall be provided that is no less than ¾ inch in diameter, compliant with California Plumbing Code Section 814, is no more than two inches higher than the base of the installed heating equipment, and located within 12 inches of the designated location of the heating equipment.

Exception to Section 150.0(h)5.A: If a 240 volt 30 amp or greater electrical circuit exists for space cooling equipment.

- B. Equipment serving multiple dwelling units or common areas shall have conductors or raceway installed with termination points at the main electrical panel (via subpanels panels, if applicable) and at a location no more than 3 feet from each gas outlet or a designated location of a future electric replacement appliance. The conductors or raceway and any intervening subpanels shall be sized to meet the future electric power requirements as specified below and in Section 150.0(u).
- i. 24 amps at 240 volts per dwelling unit; or
 - ii. The electrical power required to provide equivalent functionality of the gas powered equipment as calculated and documented by a licensed design professional associated with the project.

Exception to Section 150.0(h)5.B: If permanent space cooling equipment is installed for all of the affected dwelling units, the raceway serving the cooling equipment may be increased in size to accommodate the future electric space heating equipment.

SECTION 150.0(n) is modified to read as follows:

(n) **Water heating system.**

1. Systems using gas or propane water heaters to serve individual dwelling units shall include the following components:
 - A. A dedicated 125 volt, 20 amp electrical receptacle that is connected to the electric panel with a 120/240 volt 3 conductor, 10 AWG copper branch circuit, within 3 feet from the water heater and accessible to the water heater with no obstructions. In addition, all of the following:
 - i. Both ends of the circuit and the unused conductor shall be labeled with the words "Hot Water Receptacle" and be electrically isolated; and
 - ii. A reserved single pole circuit breaker space in the electrical panel adjacent to the circuit breaker for the branch circuit in A above and labeled with the words "~~Future 240V Use~~ "For Future 240V Electric Water Heater""; and
 - B. A Category III or IV vent, or a Type B vent with straight pipe between the outside termination and the space where the water heater is installed; and
 - C. A condensate drain that is no more than 2 inches higher than the base of the installed water heater, and allows natural draining without pump assistance, and
 - D. A gas supply line with a capacity of at least 200,000 Btu/hr; and
 - E. Located in an area that is at least 3 feet by 3 feet by 7 feet high.

2. Water heating recirculation loops serving multiple dwelling units shall meet the requirements of Section 110.3(c)5.
3. Solar water-heating systems and collectors shall be certified and rated by the Solar Rating and Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPMO R&T), or by a listing agency that is approved by the executive director.
4. Instantaneous water heaters with an input rating greater than 6.8 kBTU/hr (2kW) shall meet the requirements of Section 110.3(c)7.
5. Water heating equipment serving multiple dwelling units or common areas shall have:
 - A. If a condensate line is not attached to the water heater, a condensate line for future use shall be provided that is no less than ¾ inch in diameter, compliant with California Plumbing Code Section 814, is no more than two inches higher than the base of the installed water heater, and located within 12 inches of the water heater; and
 - B. Conductors or raceway installed with termination points at the main electrical panel (via subpanels panels, if applicable) and into a listed cabinet, box or enclosure at a location no more than 3 feet from each gas outlet or a designated location of a future electric replacement appliance labelled "For future water heater." The conductors or raceway and any intervening subpanels shall be sized to meet the future electric power requirements as specified below and in Section 150.0(u).
 - i. 24 amps at 240 volts per dwelling unit or
 - ii. The electrical power required to provide equivalent functionality of the gas powered equipment as calculated and documented by a licensed design professional associated with the project.

SECTION 150.0 is modified to add new subsections (s, t, and u) to read as follows:

- (s) **Other Gas Equipment.** Buildings plumbed for all other natural gas or propane equipment shall include the following components for each gas terminal or stub out:
1. Clothes Drying.
 - A. Equipment serving individual dwelling units shall have a dedicated 240-volt, 30 amp or greater electrical receptacle within 3 feet of the appliance and accessible with no obstructions. In addition, all of the following:
 - i. The receptacle shall be labeled with the words "For Future Electric Clothes Dryer"; and
 - ii. A double pole circuit breaker in the electrical panel labeled with the words "For Future Electric Clothes Dryer".
 - B. Equipment serving multiple dwelling units or common areas shall have conductors or raceway installed with termination points at the main electrical

- panel (via subpanels panels, if applicable) and at a location no more than 3 feet from each gas outlet or a designated location of a future electric replacement appliance. The conductors or raceway and any intervening subpanels shall be sized to meet the future electric power requirements as specified below and in Section 150.0(u).
- i. 24 amps at 240 volts per dwelling unit or
 - ii. The electrical power required to provide equivalent functionality of the gas powered equipment as calculated and documented by a licensed design professional associated with the project.
2. Combined Cooktop and Oven or Stand Alone Cooktop
 - A. A dedicated 240-volt, 40 amp or greater circuit and 50 amp or greater electrical receptacle located within 3 feet of the appliance and accessible with no obstructions. In addition, all of the following:
 - i. The electrical receptacle shall be labeled with the words “For Future Electric Range” and be electrically isolated; and
 - ii. A double pole circuit breaker in the electrical panel labeled with the words “For Future Electric Range”.
 3. Stand Alone Cooking Oven
 - A. A dedicated 240-volt, 20 amp or greater receptacle within 3 feet of the appliance and accessible with no obstructions. In addition, all of the following:
 - i. The electrical receptacle shall be labeled with the words “For Future Electric Oven” and be electrically isolated; and
 - ii. A double pole circuit breaker in the electrical panel labeled with the words “For Future Electric Oven”.
 4. Pools and Spas
 - A. Gas or propane equipment pools or spas shall have conductors or raceway installed with termination points at the main electrical panel (via subpanels panels, if applicable) and at a location no more than 3 feet from each gas outlet or a designated location of a future electric replacement appliance. The conductors or raceway and any intervening subpanels shall be sized to meet the future electric power requirements as specified below and in Section 150.0(u).
 - i. The electrical power required to provide equivalent functionality of the gas powered equipment as calculated and documented by a licensed design professional associated with the project.
- (t) **Service Capacity**
1. All newly installed electrical panels and subpanels serving loads in a Mixed-Fuel Building shall have space for additional overcurrent protective devices and

adequate bus bar capacity to meet all of the building's potential future electrical requirements as specified in Sections 150.0(h), (n) and (s).

2. All newly installed raceways in a Mixed-Fuel Building between the utility service point and the main electric panel and any subpanels shall be adequately sized for conductors to serve all of the building's potential future electrical requirements as specified in Sections 150.0(h), (n) and (s).
3. The service capacity requirements of this section shall be determined in accordance with Section 150.0(u).

(u) Conductor, Raceway and Subpanel Sizing.

1. The capacity requirements may be adjusted for demand factors in accordance with the California Electric Code, Title 24, Part 3, Section 220.
2. Raceway and subpanel capacity shall be sized to be large enough to meet the requirements at the service voltage.

Exception to Sections 150.0(h)5, 150.0 (n)1.A.iii, 150.0 (n)1.E, 150.0 (n)5 and 150.0(s), 150.0(t) and 150.0(u): If the design includes the bus bar capacity raceway or conductor capacity necessary for the installation of electrical equipment that can serve the intended function of the gas equipment.

SUBCHAPTER 8: LOW-RISE RESIDENTIAL BUILDINGS – PERFORMANCE AND PRESCRIPTIVE COMPLIANCE APPROACHES of the 2019 California Energy Code is adopted in its entirety subject to the modifications thereto which are set forth below:

SECTION 150.1(b) is modified to read as follows:

(b) Performance Standards. A building complies with the performance standards if the energy consumption for the Proposed Design Building is no greater than the energy budget calculated for the Standard Design Building using Commission-certified compliance software as specified by the Alternative Calculation Methods Approval Manual. Newly Constructed Mixed-Fuel Buildings must additionally reach an EDR margin above the Standard Design in order to comply with performance standards.

1. **Newly Constructed Buildings.** The Energy Budget for newly constructed buildings is expressed in terms of the Energy Design Rating, which is based on TDV energy. The Energy Design Rating (EDR) has two components, the Energy Efficiency Design Rating, and the Solar Electric Generation and Demand Flexibility Design Rating. The Solar Electric Generation and Demand Flexibility Design Rating shall be subtracted from the Energy Efficiency Design Rating to determine the Total Energy Design Rating. The Proposed Building shall separately comply with the Energy Efficiency Design Rating and the Total Energy Design Rating.
 - A. An All-Electric Building complies with the performance standards if both the Total Energy Design Rating and the Energy Efficiency Design Rating for the

Proposed Building are no greater than the corresponding Energy Design Ratings for the Standard Design Building.

- B. A Mixed-Fuel Building complies with the performance standards if:
 - i. The Energy Efficiency Design Rating of the Proposed Building is no greater than the Energy Efficiency Design Rating for the Standard Design Building; and
 - ii. The Total Energy Design Rating for the Proposed Building is at least 10 points less than the Total Energy Design Rating for the Standard Design Building.

Exception 1 to Section 150.1(b)1.B.ii: If the Certificate of Compliance is prepared and signed by a Certified Energy Analyst and the Total Energy Design Rating of the Proposed Design is no greater than the Standard Design Building, the Total Energy Rating of the Proposed Building complies with this section if it is at least 9 points less than the Total Energy Design Rating for the Standard Design Building.

Exception 2 to Section 150.1(b)1.B.ii: Buildings with limited solar access are exempt if all of the following are met:

- a. The Total Energy Design Rating for the Proposed Building is no greater than the Standard Design Building; and
- b. A photovoltaic (PV) system meeting the minimum qualification requirements as specified in Joint Appendix JA11 is installed on all available areas with 80 contiguous square feet or more of effective annual solar access. Effective annual solar access shall be 70 percent or greater of the output of an unshaded PV array on an annual basis, wherein shade is due to existing permanent natural or manmade barriers external to the dwelling, including but not limited to trees, hills, and adjacent structures; and
- c. The Energy Efficiency Energy Design Rating for the Proposed Building is no greater than the respective value for the Standard Design Building by the EDR margin in Table 150.1(b)1 below.

Table 150.1(b)1: Energy Efficiency EDR Margins

<u>Building Type</u>	<u>Energy Efficiency EDR Margin</u>
<u>Single Family</u>	<u>2</u>
<u>Multifamily</u>	<u>0</u>

Exception to Section 150.1(b)1: A community shared solar electric generation system, or other renewable electric generation system, and/or community shared battery storage system, which provides dedicated power, utility energy reduction credits, or payments for energy bill reductions, to the permitted building and is

approved by the Energy Commission as specified in Title 24, Part 1, Section 10-115, may offset part or all of the solar electric generation system Energy Design Rating required to comply with the Standards, as calculated according to methods established by the Commission in the Residential ACM Reference Manual.

SECTION 150.1(c) is modified to read as follows:

- c. **Prescriptive standards/component packages.** Buildings that comply with the prescriptive standards shall be designed, constructed, and equipped to meet all of the requirements for the appropriate Climate Zone shown in TABLE 150.1-A or B as well as all of the requirements of Sections 150.1(c)15 and 16, whichever are more stringent. In TABLE 150.1-A and TABLE 150.1-B, a NA (not allowed) means that feature is not permitted in a particular Climate Zone and a NR (no requirement) means that there is no prescriptive requirement for that feature in a particular Climate Zone. Installed components shall meet the following requirements:

New Subsections 15 and 16 are added to SECTION 150.1(c) to read as follows:

15. Additional Prescriptive Requirements for Newly Constructed Single Family Mixed-Fuel Buildings:

- A. **Duct System Sealing and Leakage Testing.** The total duct system leakage shall not exceed 2 percent of the nominal system air handler air flow.
- B. **Insulation for a Heated Slab.** Perimeter insulation for a heated slab shall be installed with an R-value equal to or greater than R-10 and shall comply with the requirements of Section 110.8(g).
- C. **Compact Hot Water.** The hot water distribution system shall be designed and installed to meet minimum requirements for the basic compact hot water distribution credit according to the procedures outlined in the 2019 Reference Appendices RA4.4.6.
- D. **Ducted Central Forced Air Heating Systems. Central Fan Integrated Ventilation Systems.** The duct distribution system shall be designed to reduce external static pressure to meet a maximum fan efficacy equal to:
Gas Furnaces: 0.35 Watts per cfm
Heat Pumps: 0.45 Watts per cfm
according to the procedures outlined in the 2019 Reference Appendices RA3.3.
- E. **Energy Storage.** A battery energy storage system with a minimum capacity equal to 5 kWh shall be installed. The system shall have automatic controls programmed to have the ability to charge anytime PV generation is greater than the building load and discharge to the electric grid, during the highest priced time of use hours of the day.

16. **Additional Prescriptive Requirements for Newly Constructed Multifamily Mixed-Fuel Buildings:**

- A. **Insulation for a Heated Slab.** Perimeter insulation for a heated slab shall be installed with an R-value equal to or greater than R-10 and shall comply with the requirements of Section 110.8(g).
- B. **Compact Hot Water.** The hot water distribution system shall be designed and installed to meet minimum requirements for the basic compact hot water distribution credit according to the procedures outlined in the 2019 Reference Appendices RA4.4.6.
- C. **Central Fan Integrated Ventilation Systems.** Central forced air system fans used to provide outside air, shall have an air-handling unit fan efficacy less than or equal to 0.35 W/CFM. The airflow rate and fan efficacy requirements in this section shall be confirmed through field verification and diagnostic testing in accordance with all applicable procedures specified in Reference Residential Appendix RA3.3. Central Fan Integrated Ventilation Systems shall be certified to the Energy Commission as Intermittent Ventilation Systems as specified in Reference Residential Appendix RA3.7.4.2.
- D. **Energy Storage.** A battery energy storage system with a capacity equivalent to the PV system shall be installed. The system shall have automatic controls programmed to have the ability to charge anytime PV generation is greater than the building load and discharge to the electric grid, during the highest priced time of use hours of the day.

19.36.050 CEQA

These standards are is exempt from CEQA under 15061(b)(3) on the grounds that these standards are more stringent than the State energy standards, there are no reasonably foreseeable adverse impacts and there is no possibility that the activity in question may have a significant effect on the environment.

Section 7. That Berkeley Municipal Code Chapter 19.37 is hereby repealed and reenacted to read as follows:

Chapter 19.37

BERKELEY GREEN CODE

Sections:

- 19.37.010 Adoption of the California Green Building Standards Code.**
- 19.37.020 Title.**
- 19.37.030 Administrative provisions.**
- 19.37.040 Amendments to the California Green Building Standards Code.**

The California Green Building Standards Code (CALGreen), 2019 Edition, as adopted in Title 24 Part 11 of the California Code of Regulations, is hereby adopted and made a part of this Chapter as though fully set forth herein, subject to the modifications thereto which are set forth in this Chapter. A copy of this Code is on file for use and examination by the public in the office of the City Clerk of the City of Berkeley.

19.37.020 Title.

This Code shall be known as the “Berkeley Green Code” and may be cited as "this Code".

19.37.030 Administrative provisions.

All of the administrative provisions contained in Article 1 of Chapter 19.28, the Berkeley Building Code, shall apply to this Code as well and take precedence over any California Green Building Standards Code administrative provisions that may conflict.

For regulations governing wood burning appliances see BMC 19.28.040.

19.37.040 Amendments to the California Green Building Standards Code.

Chapter 2 Definitions of the California Green Buildings Code is adopted in its entirety subject to the modifications thereto which are set forth below:

Add a new definition to read:

ELECTRIC VEHICLE CHARGING SPACE (EV SPACE) RACEWAY EQUIPPED. An EV Space that includes a raceway between any enclosed, inaccessible or concealed areas and the electrical service panel or subpanel. No additional electrical panel capacity is required at time of construction.

Chapter 3 Green Building of the California Green Buildings Code is adopted in its entirety subject to the modifications thereto which are set forth below:

Add a new Subsection 301.1.2 to read:

301.1.2 Residential waste diversion. The requirements of Section 4.408 shall be required for:

1. Any additions or alterations, which increase the building's conditioned area, volume or size
2. Any building alterations with a permit valuation over \$100,000
3. Any interior or exterior demolitions valued over \$3,000

Modify Subsection 301.3.2 to read:

301.3.2 Nonresidential waste diversion. The requirements of Section 5.408 shall be required for additions ~~and~~, alterations and demolitions whenever a permit is required for work.

Chapter 4 Residential Mandatory Measures of the California Green Buildings Code is adopted in its entirety subject to the modifications thereto which are set forth below:

4.106.4.1 New one- and two-family dwellings and townhouses with attached or detached private garages, carports, or any other on-site parking. For each dwelling unit, install a listed raceway and associated conductors to accommodate a dedicated 208/240-volt branch circuit for a future EV charger. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. ~~The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.~~ The service panel and/or subpanel shall be provided with a 40 ampere minimum dedicated branch circuit and overcurrent protective device for a future EV charger.

4.106.4.1.1 Identification. The service panel or subpanel circuit directory shall identify the overcurrent protective device ~~space(s) reserved~~ for future EV charging as ~~"EV-CAPABLE"~~ "EV CHARGER READY". The raceway termination location shall be permanently and visibly marked as ~~"EV-CAPABLE"~~ "EV CHARGER READY".

4.106.4.2 New multifamily dwellings. If residential parking is available:

1. Twenty (20) ~~ten (10)~~ percent of the total number of parking spaces on a building

site, provided for all types of parking facilities, shall be electric vehicle charging spaces (EV spaces) capable of supporting future ~~EVSE~~ EV chargers. All raceways, conductors, 40-ampere minimum dedicated branch circuits, and branch circuit overcurrent protective devices, shall be installed as described in Sections 4.106.4.2.3 and 4.106.4.2.4. Calculations for the required number of EV spaces shall be rounded up to the nearest whole number.

2. Eighty (80) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be EV Spaces Raceway Equipped capable of supporting future Electric Vehicle Service Equipment (EVSE). Raceways shall be installed between any enclosed, inaccessible or concealed areas and the electrical service panel or subpanel. No additional electrical panel capacity is required at time of construction. Calculations for the required number of EV spaces shall be rounded up to the nearest whole number.

Notes:

1. Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging.
2. There is no requirement for EV spaces to be ~~constructed~~ or available until EV chargers are installed for use.

4.106.4.2.1 Electric vehicle charging space (EV space) locations. Construction documents shall indicate the location of proposed EV spaces. Where common use parking is provided at least one EV space shall be located in the common use parking area and shall be available for use by all residents.

4.106.4.2.1.1 Electric vehicle charging stations (EVCS). When EV chargers are installed, EV spaces required by Section 4.106.4.2.2, Item 3, shall comply with at least one of the following options:

1. The EV space shall be located adjacent to an accessible parking space meeting the requirements of the California Building Code, Chapter 11A, to allow use of the EV charger from the accessible parking space.
2. The EV space shall be located on an accessible route, as defined in the California Building Code, Chapter 2, to the building.

Exception: Electric vehicle charging stations designed and constructed in compliance with the California Building Code, Chapter 11B, are not required to comply with Section 4.106.4.2.1.1 and Section 4.106.4.2.2, Item 3.

Note: Electric vehicle charging stations serving public housing are required to comply with the California Building Code, Chapter 11 B.

4.106.4.2.2 Electric vehicle charging space (EV space) dimensions. The EV spaces shall be designed to comply with the following:

1. The minimum length of each EV space shall be 18 feet (5486 mm).
2. The minimum width of each EV space shall be 9 feet (2743 mm).
3. One in every 25 EV spaces, but not less than one, shall also have an 8-foot (2438 mm) wide minimum aisle. A 5-foot (1524 mm) wide minimum aisle shall be permitted provided the minimum width of the EV space is 12 feet (3658 mm).
 - a. Surface slope for this EV space and the aisle shall not exceed 1 unit vertical in 48 units horizontal (2.083 percent slope) in any direction.

4.106.4.2.3 Single EV space for a future EV charger required. Install a listed raceway and associated conductors capable of accommodating a 208/240-volt dedicated branch circuit for a future EV charger. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or enclosure in close proximity to the proposed location of the EV space. Construction documents shall identify the raceway termination point. ~~The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.~~ The service panel and/or subpanel shall be provided with a 40 ampere minimum dedicated branch circuit and overcurrent protective device for a future EV charger.

4.106.4.2.4 Multiple EV spaces for future EV chargers required. Install listed raceways and all associated conductors capable of accommodating 208/240-volt dedicated branch circuits for future EV chargers. The raceways shall originate at the main service or subpanel and shall terminate into listed cabinets, boxes or other enclosures in close proximity to the proposed locations of EV spaces. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. Construction documents shall indicate the raceway termination point and proposed location of future EV spaces and EV chargers. Construction documents shall also provide information on amperage of dedicated branch circuits, future EVSE, raceway method(s), wiring schematics and electrical load calculations to verify that the electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at the full rated amperage of the EVSE. Plan design shall be based upon a 40-ampere minimum branch circuit. Required raceways and related components that are planned to be installed underground, enclosed, inaccessible or in concealed areas and spaces shall be installed at the time of original construction.

4.106.4.2.5 Identification. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging

purposes as ~~“EV CAPABLE”~~ “EV CHARGER READY” in accordance with the California Electrical Code.

4.106.4.3 New hotels and motels. All newly constructed hotels and motels shall provide Electric Vehicle Charging Stations (EVCS) equipped with EV chargers as set forth in Section 4.106.4.3.1 Item 1, and EV Spaces Raceway Equipped as set forth in Section 4.106.4.3.1 Item 2 capable of supporting future installation of EVSE. The construction documents shall identify the location of the EVCS and the EV spaces.

Notes:

1. Construction documents are intended to demonstrate the project’s capability and capacity for facilitating future EV charging.
2. There is no requirement for EV spaces to be ~~constructed or~~ available until EV chargers are installed for use.

4.106.4.3.1 Number of required EV spaces. The number of required EV spaces shall be based on the total number of parking spaces provided for all types of parking facilities in accordance with ~~Table 4.106.4.3.1~~ the following:

1. Ten (10) percent of the total number of parking spaces shall be Electric Vehicle Charging Stations (EVCS), designed in accordance with Section 4.106.4.2.4, and equipped with EV chargers.
2. Forty (40) percent of the total number of parking spaces shall be EV Spaces Raceway Equipped capable of supporting future Electric Vehicle Service Equipment (EVSE). Raceways shall be installed between any enclosed, inaccessible or concealed areas and the electrical service panel or subpanel. No additional electrical panel capacity is required at time of construction.

Calculations for the required number of EV spaces shall be rounded up to the nearest whole number.

Exception: Installation of a Direct Current Fast Charger with the capacity to provide at least 80 kW of output may substitute for 10 EV Spaces as designed in accordance with Section 4.106.4.2.4.

Table 4.106.4.3.1 is deleted in its entirety.

4.106.4.3.2 Electric vehicle charging space (EV space) dimensions. The EV spaces shall be designed to comply with the following:

1. The minimum length of each EV space shall be 18 feet (5486 mm).
2. The minimum width of each EV space shall be 9 feet (2743 mm).

4.106.4.3.3 Single EV space EVCS required. When a single EV space EVCS is required, the EV space shall be designed in accordance with Section 4.106.4.2.3. Installation of the EV charger is required.

4.106.4.3.4 Multiple EV spaces EVCS required. When multiple EV spaces EVCS are required, the EV spaces shall be designed in accordance with Section 4.106.4.2.4. Installation of EV chargers is required.

4.106.4.3.5 Identification. ~~The service panels or subpanels shall be identified in accordance with Section 4.106.4.2.5.~~ The service panels or subpanels shall identify the overcurrent protective devices serving EVCS as “EV CHARGER”.

4.106.4.3.6 Accessible EV spaces. In addition to the requirements in Section 4.106.4.3, EV spaces for hotels/motels and all EVSE, ~~when installed,~~ shall comply with the accessibility provisions for EV charging stations in the California Building Code, Chapter 11B.

4.405 Material Sources

Add a new Subsection 4.405.1 to read:

4.405.1 Reduction in cement use. As allowed by the enforcing agency, cement used in concrete mix design shall be reduced not less than 25 percent. Products commonly used to replace cement in concrete mix designs include, but are not limited to:

1. Fly ash
2. Slag
3. Silica fume
4. Rice hull ash

Exception: Minimum cement reductions in concrete mix designs approved by the Engineer of Record may be lower where high early strength is needed for concrete products or to meet an accelerated project schedule.

Modify Subsection 4.408.1 to read:

4.408.1 Construction waste management. Recycle and/or salvage for reuse 100% of excavated soil and land-clearing debris, 100% of concrete, 100% of asphalt, and a minimum of 65 percent of the other nonhazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance.

Exceptions:

1. ~~Excavated soil and land-clearing debris.~~
2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite.
3. The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility.

Chapter 5 Nonresidential Mandatory Measures of the California Green Buildings Code is adopted in its entirety subject to the modifications thereto which are set forth below:

5.106.5.3 Electric vehicle (EV) charging. [N] Construction shall comply with Section 5.106.5.3.1 or Section 5.106.5.3.2 to ~~facilitate future~~ require installation of electric vehicle supply equipment (EVSE) including EV chargers. When EVSE(s) is/are installed, it shall be in accordance with the California Building Code, the California Electrical Code and as follows:

5.106.5.3.1 Single electric vehicle charging station (EVCS) charging space requirements. [N] When only a single ~~charging space~~ EVCS is required per ~~Table 5.106.5.3.3~~ Section 5.106.5.3.3, a raceway with all associated conductors is required to be installed at the time of construction and shall be installed in accordance with the *California Electrical Code*. Construction plans and specifications shall include, but are not limited to, the following:

1. The type and location of the EVSE including the EV charger.
2. A listed raceway and associated conductors capable of accommodating a 208/240-volt dedicated branch circuit.
3. The raceway shall not be less than trade size 1”.
4. The raceway shall originate at a service panel or a subpanel serving the area, and shall terminate in close proximity to the proposed location of the charging equipment and into a listed suitable cabinet, box, enclosure or equivalent.
5. ~~The service panel or subpanel shall have sufficient capacity to accommodate a minimum 40-ampere dedicated branch circuit for the future installation of the EVSE.~~ The service panel or subpanel shall be provided with a 40 ampere minimum dedicated branch circuit and overcurrent protective device to serve EVSE.

5.106.5.3.2 Multiple electric vehicle charging station (EVCS) charging space requirements. [N] When multiple EVCS charging spaces are required per ~~Table 5.106.5.3.3~~ Section 5.106.5.3.3 raceway(s) with associated conductors is/are required to be installed at the time of construction and shall be installed in

accordance with the California Electrical Code. Construction plans and specifications shall include, but are not limited to, the following:

1. The type and location of the EVSE including the EV chargers.
2. The raceway(s) shall originate at a service panel or a subpanel(s) serving the area, and shall terminate in close proximity to the proposed location of the charging equipment and into listed suitable cabinet(s), box(es), enclosure(s) or equivalent.
3. Plan design shall be based upon 40-ampere minimum branch circuits.
4. Electrical calculations shall substantiate the design of the electrical system, to include the rating of equipment and any on-site distribution transformers and have sufficient capacity to simultaneously charge all required EVs at its full rated amperage.
5. ~~The service panel or subpanel(s) shall have sufficient capacity to accommodate the required number of dedicated branch circuit(s) for the future installation of the EVSE.~~ The service panel or subpanel(s) shall be provided with a required number of 40 ampere minimum dedicated branch circuits and overcurrent protective devices to serve EVSE.

5.106.5.3.3 EV charging space calculation. [N] ~~Table 5.106.5.3.3 shall be used to determine if single or multiple charging space requirements apply for the future installation of EVSE.~~ When 10 or more parking spaces are constructed:

1. Ten (10) percent of the total number of parking spaces shall be EVCS with installed EV chargers designed in accordance with Section 5.106.5.3.1 or 5.106.5.3.2. Calculation for spaces shall be rounded up to the nearest whole number.
2. Forty (40) percent of the total number of parking spaces shall be EV Spaces Raceway Equipped capable of supporting future EVSE. Raceway(s) shall be installed between any enclosed, inaccessible or concealed areas and the electrical service panel or subpanel. No additional electrical panel capacity is required at time of construction. Calculation for spaces shall be rounded up to the nearest whole number.

Exceptions:

1. On a case-by-case basis where the local enforcing agency has determined EV charging and infrastructure is not feasible based upon one or more of the following conditions:
 - 1.1 Where there is insufficient electrical supply.

- 1.2 Where there is evidence suitable to the local enforcing agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 5.106.5.3, may adversely impact the construction cost of the project.
2. Installation of a Direct Current Fast Charger with the capacity to provide at least 80 kW of output may substitute for 10 EV Spaces as designed in accordance with Section 5.106.5.3.2.

Table 5.106.5.3.3 is deleted in its entirety.

5.106.5.3.4 [N] Identification. The service panel or subpanel(s) circuit directory shall identify the reserved overcurrent protective device space(s) for future EV charging as “EV CAPABLE”. The service panels or subpanels shall identify the overcurrent protective devices serving EVCS as “EV CHARGER”. The raceway termination location shall be permanently and visibly marked as “EV CAPABLE”.

5.106.5.3.5 [N] Future charging spaces. Future charging spaces qualify as designated parking as described in Section 5.106.5.2 *Designated parking for clean air vehicles.*

5.405 Material Sources

Add a new Subsection 5.405.1 to read:

5.405.1 Reduction in cement use. As allowed by the enforcing agency, cement used in concrete mix design shall be reduced not less than 25 percent. Products commonly used to replace cement in concrete mix designs include, but are not limited to:

1. Fly ash.
2. Slag.
3. Silica fume.
4. Rice hull ash.

Exception: Minimum cement reductions in concrete mix designs approved by the Engineer of Record may be lower where high early strength is needed for concrete products or to meet an accelerated project schedule.

5.408.3 Concrete, asphalt, excavated soil and land clearing debris. 100 percent of concrete, asphalt, trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed.

Section 8. Copies of this Ordinance shall be posted for two days prior to adoption in the display case located near the walkway in front of Council Chambers, 2134 Martin Luther King Jr. Way. Within 15 days of adoption, copies of this Ordinance shall be filed at each branch of the Berkeley Public Library and the title shall be published in a newspaper of general circulation.

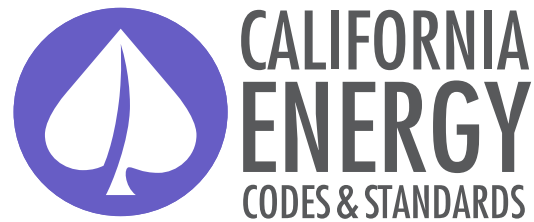
* * * * *

At a regular meeting of the Council of the City of Berkeley held on November 12, 2019, this Ordinance was passed to print and ordered published by posting by the following vote:

Ayes: Bartlett, Davila, Droste, Hahn, Harrison, Kesarwani, Robinson, Wengraf, and Arreguin.

Noes: None.

Absent: None.



A STATEWIDE UTILITY PROGRAM

Title 24, Parts 6 and 11
Local Energy Efficiency Ordinances

2019 Cost-effectiveness Study: Low-Rise Residential New Construction

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Last Modified: August 01, 2019

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Acronyms

2020 PV\$	Present value costs in 2020
ACH50	Air Changes per Hour at 50 pascals pressure differential
ACM	Alternative Calculation Method
AFUE	Annual Fuel Utilization Efficiency
B/C	Lifecycle Benefit-to-Cost Ratio
BEopt	Building Energy Optimization Tool
BSC	Building Standards Commission
CAHP	California Advanced Homes Program
CBECC-Res	Computer program developed by the California Energy Commission for use in demonstrating compliance with the California Residential Building Energy Efficiency Standards
CFI	California Flexible Installation
CFM	Cubic Feet per Minute
CMFNH	California Multifamily New Homes
CO ₂	Carbon Dioxide
CPC	California Plumbing Code
CZ	California Climate Zone
DHW	Domestic Hot Water
DOE	Department of Energy
DWHR	Drain Water Heat Recovery
EDR	Energy Design Rating
EER	Energy Efficiency Ratio
EF	Energy Factor
GHG	Greenhouse Gas
HERS Rater	Home Energy Rating System Rater
HPA	High Performance Attic
HPWH	Heat Pump Water Heater
HSPF	Heating Seasonal Performance Factor
HVAC	Heating, Ventilation, and Air Conditioning
IECC	International Energy Conservation Code
IOU	Investor Owned Utility
kBtu	kilo-British thermal unit
kWh	Kilowatt Hour
LBNL	Lawrence Berkeley National Laboratory

LCC	Lifecycle Cost
LLAHU	Low Leakage Air Handler Unit
VLLDCS	Verified Low Leakage Ducts in Conditioned Space
MF	Multifamily
NAECA	National Appliance Energy Conservation Act
NEEA	Northwest Energy Efficiency Alliance
NEM	Net Energy Metering
NPV	Net Present Value
NREL	National Renewable Energy Laboratory
PG&E	Pacific Gas and Electric Company
PV	Photovoltaic
SCE	Southern California Edison
SDG&E	San Diego Gas and Electric
SEER	Seasonal Energy Efficiency Ratio
SF	Single Family
CASE	Codes and Standards Enhancement
TDV	Time Dependent Valuation
Therm	Unit for quantity of heat that equals 100,000 British thermal units
Title 24	Title 24, Part 6
TOU	Time-Of-Use
UEF	Uniform Energy Factor
ZNE	Zero-net Energy

1 Introduction

The California Building Energy Efficiency Standards Title 24, Part 6 (Title 24) (Energy Commission, 2018b) is maintained and updated every three years by two state agencies, the California Energy Commission (Energy Commission) and the Building Standards Commission (BSC). In addition to enforcing the code, local jurisdictions have the authority to adopt local energy efficiency ordinances, or reach codes, that exceed the minimum standards defined by Title 24 (as established by Public Resources Code Section 25402.1(h)2 and Section 10-106 of the Building Energy Efficiency Standards). Local jurisdictions must demonstrate that the requirements of the proposed ordinance are cost-effective and do not result in buildings consuming more energy than is permitted by Title 24. In addition, the jurisdiction must obtain approval from the Energy Commission and file the ordinance with the BSC for the ordinance to be legally enforceable.

This report documents cost-effective combinations of measures that exceed the minimum state requirements, the 2019 Building Energy Efficiency Standards, effective January 1, 2020, for new single family and low-rise (one- to three-story) multifamily residential construction. The analysis includes evaluation of both mixed fuel and all-electric homes, documenting that the performance requirements can be met by either type of building design. Compliance package options and cost-effectiveness analysis in all sixteen California climate zones (CZs) are presented (see Appendix A – California Climate Zone Map for a graphical depiction of Climate Zone locations). All proposed package options include a combination of efficiency measures and on-site renewable energy.

2 Methodology and Assumptions

This analysis uses two different metrics to assess cost-effectiveness. Both methodologies require estimating and quantifying the incremental costs and energy savings associated with energy efficiency measures. The main difference between the methodologies is the manner in which they value energy and thus the cost savings of reduced or avoided energy use.

- **Utility Bill Impacts (On-Bill):** Customer-based Lifecycle Cost (LCC) approach that values energy based upon estimated site energy usage and customer on-bill savings using electricity and natural gas utility rate schedules over a 30-year duration accounting for discount rate and energy cost inflation.
- **Time Dependent Valuation (TDV):** Energy Commission LCC methodology, which is intended to capture the “societal value or cost” of energy use including long-term projected costs such as the cost of providing energy during peak periods of demand and other societal costs such as projected costs for carbon emissions, as well as grid transmission and distribution impacts. This metric values energy use differently depending on the fuel source (gas, electricity, and propane), time of day, and season. Electricity used (or saved) during peak periods has a much higher value than electricity used (or saved) during off-peak periods (Horii et al., 2014). This is the methodology used by the Energy Commission in evaluating cost-effectiveness for efficiency measures in Title 24, Part 6.

2.1 Building Prototypes

The Energy Commission defines building prototypes which it uses to evaluate the cost-effectiveness of proposed changes to Title 24 requirements. At the time that this report was written, there are two single family prototypes and one low-rise multifamily prototype. All three are used in this analysis in development of the above-code packages. Table 1 describes the basic characteristics of each prototype. Additional details on the prototypes can be found in the Alternative Calculation Method (ACM) Approval Manual (Energy Commission, 2018a). The prototypes have equal geometry on all walls, windows and roof to be orientation neutral.



Table 1: Prototype Characteristics

Characteristic	Single Family One-Story	Single Family Two-Story	Multifamily
Conditioned Floor Area	2,100 ft ²	2,700 ft ²	6,960 ft ² : (4) 780 ft ² & (4) 960 ft ² units
Num. of Stories	1	2	2
Num. of Bedrooms	3	3	(4) 1-bed & (4) 2-bed units
Window-to-Floor Area Ratio	20%	20%	15%

Source: 2019 Alternative Calculation Method Approval Manual (California Energy Commission, 2018a).

The Energy Commission's protocol for single family prototypes is to weight the simulated energy impacts by a factor that represents the distribution of single-story and two-story homes being built statewide, assuming 45 percent single-story and 55 percent two-story. Simulation results in this study are characterized according to this ratio, which is approximately equivalent to a 2,430-square foot (ft²) house.¹

The methodology used in the analyses for each of the prototypical building types begins with a design that precisely meets the minimum 2019 prescriptive requirements (zero compliance margin). Table 150.1-A in the 2019 Standards (Energy Commission, 2018b) lists the prescriptive measures that determine the baseline design in each climate zone. Other features are consistent with the Standard Design in the ACM Reference Manual (Energy Commission, 2019), and are designed to meet, but not exceed, the minimum requirements. Each prototype building has the following features:

- Slab-on-grade foundation.
- Vented attic.
- High performance attic in climate zones where prescriptively required (CZ 4, 8-16) with insulation installed at the ceiling and below the roof deck per Option B. (Refer to Table 150.1-A in the 2019 Standards.)
- Ductwork located in the attic for single family and within conditioned space for multifamily.

Both mixed fuel and all-electric prototypes are evaluated in this study. While in past code cycles an all-electric home was compared to a home with gas for certain end-uses, the 2019 code includes separate prescriptive and performance paths for mixed-fuel and all-electric homes. The fuel specific characteristics of the mixed fuel and all-electric prototypes are defined according to the 2019 ACM Reference Manual and described in Table 2.²

¹ 2,430 ft² = (45% x 2,100 ft²) + (55% x 2,700 ft²)

² Standards Section 150.1(c)8.A.iv.a specifies that compact hot water distribution design and a drain water heat recovery system or extra PV capacity are required when a heat pump water heater is installed prescriptively. The efficiency of the distribution and the drain water heat recovery systems as well as the location of the water heater applied in this analysis are based on the Standard Design assumptions in CBECC-Res which result in a zero-compliance margin for the 2019 basecase model.



Table 2: Characteristics of the Mixed Fuel vs All-Electric Prototype

Characteristic	Mixed Fuel	All-Electric
Space Heating/Cooling ¹	Gas furnace 80 AFUE Split A/C 14 SEER, 11.7 EER	Split heat pump 8.2 HSPF, 14 SEER, 11.7 EER
Water Heater ^{1,2, 3, 4}	Gas tankless UEF = 0.81	50gal HPWH UEF = 2.0 SF: located in the garage MF CZ 2,4,6-16: located in living space MF CZ 1,3,5: located in exterior closet
Hot Water Distribution	Code minimum. All hot water lines insulated	Basic compact distribution credit, (CZ 6-8,15) Expanded compact distribution credit, compactness factor = 0.6 (CZ 1-5,9-14,16)
Drain Water Heat Recovery Efficiency	None	CZ 1: unequal flow to shower = 42% CZ 16: equal flow to shower & water heater = 65% None in other CZs
Cooking	Gas	Electric
Clothes Drying	Gas	Electric

¹Equipment efficiencies are equal to minimum federal appliance efficiency standards.

²The multifamily prototype is evaluated with individual water heaters. HPWHs located in the living space do not have ducting for either inlet or exhaust air; CBECC-Res does not have the capability to model ducted HPWHs.

³UEF = uniform energy factor. HPWH = heat pump water heater. SF = single family. MF = multifamily.

⁴CBECC-Res applies a 50gal water heater when specifying a storage water heater. Hot water draws differ between the prototypes based on number of bedrooms.

2.2 Measure Analysis

The California Building Energy Code Compliance simulation tool, CBECC-RES 2019.1.0, was used to evaluate energy impacts using the 2019 Title 24 prescriptive standards as the benchmark, and the 2019 TDV values. TDV is the energy metric used by the Energy Commission since the 2005 Title 24 energy code to evaluate compliance with the Title 24 standards.

Using the 2019 baseline as the starting point, prospective energy efficiency measures were identified and modeled in each of the prototypes to determine the projected energy (Therm and kWh) and compliance impacts. A large set of parametric runs were conducted to evaluate various options and develop packages of measures that exceed minimum code performance. The analysis utilizes a parametric tool based on Micropas³ to automate and manage the generation of CBECC-Res input files. This allows for quick evaluation of various efficiency measures across multiple climate zones and prototypes and improves quality control. The batch process functionality of CBECC-Res is utilized to simulate large groups of input files at once. Annual utility costs were calculated using hourly data output from CBECC-Res and electricity and natural gas tariffs for each of the investor owned utilities (IOUs).

³ Developed by Ken Nittler of Enercomp, Inc.



The Reach Codes Team selected packages and measures based on cost-effectiveness as well as decades of experience with residential architects, builders, and engineers along with general knowledge of the relative acceptance of many measures.

2.2.1 Federal Preemption

The Department of Energy (DOE) sets minimum efficiency standards for equipment and appliances that are federally regulated under the National Appliance Energy Conservation Act (NAECA), including heating, cooling, and water heating equipment. Since state and local governments are prohibited from adopting policies that mandate higher minimum efficiencies than the federal standards require, the focus of this study is to identify and evaluate cost-effective packages that do not include high efficiency equipment. While this study is limited by federal preemption, in practice builders may use any package of compliant measures to achieve the performance goals, including high efficiency appliances. Often, these measures are the simplest and most affordable measures to increase energy performance.

2.2.2 Energy Design Rating

The 2019 Title 24 code introduces California’s Energy Design Rating (EDR) as the primary metric to demonstrate compliance with the energy code. EDR is still based on TDV but it uses a building that is compliant with the 2006 International Energy Conservation Code (IECC) as the reference building. The reference building has an EDR score of 100 while a zero-net energy (ZNE) home has an EDR score of zero (Energy Commission, 2018d). See Figure 1 for a graphical representation of this. While the Reference Building is used to determine the rating, the Proposed Design is still compared to the Standard Design based on the prescriptive baseline assumptions to determine compliance.

The EDR is calculated by CBECC-Res and has two components:

1. An “Efficiency EDR” which represents the building’s energy use without solar generation.⁴
2. A “Total EDR” that represents the final energy use of the building based on the combined impact of efficiency measures, PV generation and demand flexibility.

For a building to comply, two criteria are required:

- (1) the proposed Efficiency EDR must be equal to or less than the Efficiency EDR of the Standard Design, and
- (2) the proposed Total EDR must be equal to or less than the Total EDR of the Standard Design.

Single family prototypes used in this analysis that are minimally compliant with the 2019 Title 24 code achieve a Total EDR between 20 and 35 in most climates.

This concept, consistent with California’s “loading order” which prioritizes energy efficiency ahead of renewable generation, requires projects meet a minimum Efficiency EDR before PV is credited but allows for PV to be traded off with additional efficiency when meeting the Total EDR. A project may improve on building efficiency beyond the minimum required and subsequently reduce the PV generation capacity required to achieve the required Total EDR but may not increase the size of the PV system and trade this off with a reduction of efficiency measures. Figure 1 graphically summarizes how both Efficiency EDR and PV / demand flexibility EDR are used to calculate the Total EDR used in the 2019 code and in this analysis.

⁴ While there is no compliance credit for solar PV as there is under the 2016 Standards, the credit for installing electric storage battery systems that meet minimum qualifications can be applied to the Efficiency EDR.

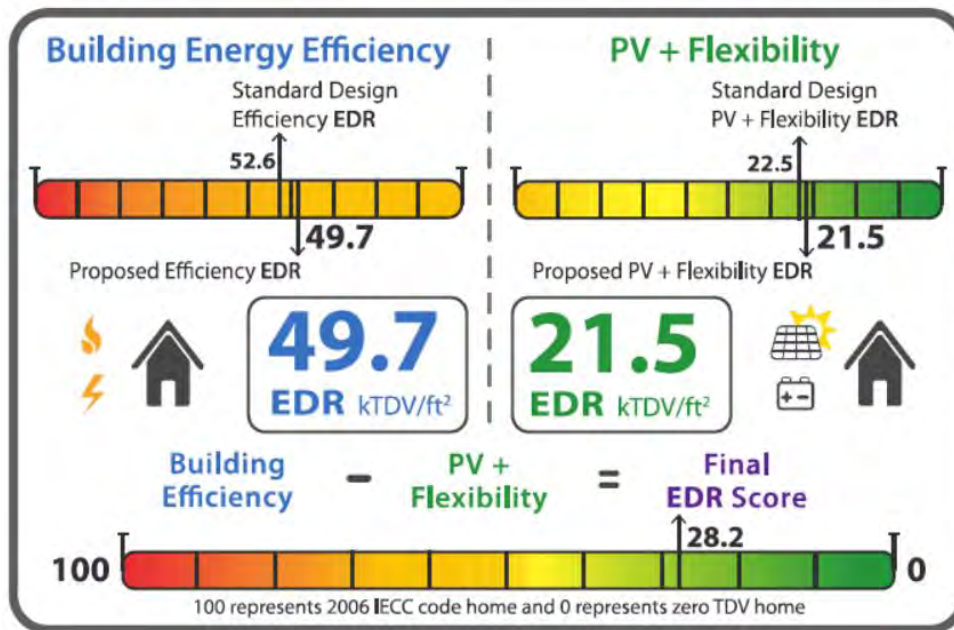


Figure 1: Graphical description of EDR scores (courtesy of Energy Code Ace⁵)

Results from this analysis are presented as EDR Margin, a reduction in the EDR score relative to the Standard Design. EDR Margin is a better metric to use than absolute EDR in the context of a reach code because absolute values vary, based on the home design and characteristics such as size and orientation. This approach aligns with how compliance is determined for the 2019 Title 24 code, as well as utility incentive programs, such as the California Advanced Homes Program (CAHP) & California Multifamily New Homes (CMFNH), which require minimum performance criteria based on an EDR Margin for low-rise residential projects. The EDR Margin is calculated according to Equation 1 for the two efficiency packages and Equation 2 for the Efficiency & PV and Efficiency & PV/Battery packages (see Section 2.3).

Equation 1

$$EDR\ Margin_{efficiency} = Standard\ Design\ Efficiency\ EDR - Proposed\ Design\ Efficiency\ EDR$$

Equation 2

$$EDR\ Margin_{efficiency\ \&\ PV} = Standard\ Design\ Total\ EDR - Proposed\ Design\ Total\ EDR$$

2.2.3 Energy Efficiency Measures

Following are descriptions of each of the efficiency measures evaluated under this analysis. Because not all of the measures described below were found to be cost-effective and cost-effectiveness varied by climate zone, not all measures are included in all packages and some of the measures listed are not included in any final package. For a list of measures included in each efficiency package by climate zone, see Appendix D – Single Family Measure Summary and Appendix F – Multifamily Measure Summary.

Reduced Infiltration (ACH50): Reduce infiltration in single family homes from the default infiltration assumption of five (5) air changes per hour at 50 Pascals (ACH50)⁶ by 40 to 60 percent to either 3 ACH50 or 2 ACH50. HERS

⁵ <https://energycodeace.com/>

⁶ Whole house leakage tested at a pressure difference of 50 Pascals between indoors and outdoors.

rater field verification and diagnostic testing of building air leakage according to the procedures outlined in the 2019 Reference Appendices RA3.8 (Energy Commission, 2018c). This measure was not applied to multifamily homes because CBECC-Res does not allow reduced infiltration credit for multifamily buildings.

Improved Fenestration: Reduce window U-factor to 0.24. The prescriptive U-factor is 0.30 in all climates. In climate zones 1, 3, 5, and 16 where heating loads dominate, an increase in solar heat gain coefficient (SHGC) from the default assumption of 0.35 to 0.50 was evaluated in addition to the reduction in U-factor.

Cool Roof: Install a roofing product that's rated by the Cool Roof Rating Council to have an aged solar reflectance (ASR) equal to or greater than 0.25. Steep-sloped roofs were assumed in all cases. Title 24 specifies a prescriptive ASR of 0.20 for Climate Zones 10 through 15 and assumes 0.10 in other climate zones.

Exterior Wall Insulation: Decrease wall U-factor in 2x6 walls to 0.043 from the prescriptive requirement of 0.048 by increasing exterior insulation from one-inch R-5 to 1-1/2 inch R-7.5. This was evaluated for single family buildings only in all climate zones except 6 and 7 where the prescriptive requirement is higher (U-factor of 0.065) and improving beyond the prescriptive value has little impact.

High Performance Attics (HPA): HPA with R-38 ceiling insulation and R-30 insulation under the roof deck. In climates where HPA is already required prescriptively this measure requires an incremental increase in roof insulation from R-19 or R-13 to R-30. In climates where HPA is not currently required (Climate Zones 1 through 3, and 5 through 7), this measure adds roof insulation to an uninsulated roof as well as increasing ceiling insulation from R-30 to R-38 in Climate Zones 3, 5, 6 and 7.

Slab Insulation: Install R-10 perimeter slab insulation at a depth of 16-inches. For climate zone 16, where slab insulation is required, prescriptively this measure increases that insulation from R-7 to R-10.

Duct Location (Ducts in Conditioned Space): Move the ductwork and equipment from the attic to inside the conditioned space in one of the three following ways.

1. Locate ductwork in conditioned space. The air handler may remain in the attic provided that 12 linear feet or less of duct is located outside the conditioned space including the air handler and plenum. Meet the requirements of 2019 Reference Appendices RA3.1.4.1.2. (Energy Commission, 2018c)
2. All ductwork and equipment located entirely in conditioned space meeting the requirements of 2019 Reference Appendices RA3.1.4.1.3. (Energy Commission, 2018c)
3. All ductwork and equipment located entirely in conditioned space with ducts tested to have less than or equal to 25 cfm leakage to outside. Meet the requirements of Verified Low Leakage Ducts in Conditioned Space (VLLDCS) in the 2019 Reference Appendices RA3.1.4.3.8. (Energy Commission, 2018c)

Option 1 and 2 above apply to single family only since the basecase for multifamily assumes ducts are within conditioned space. Option 3 applies to both single family and multifamily cases.

Reduced Distribution System (Duct) Leakage: Reduce duct leakage from 5% to 2% and install a low leakage air handler unit (LLAHU). This is only applicable to single family homes since the basecase for multifamily assumes ducts are within conditioned space and additional duct leakage credit is not available.

Low Pressure Drop Ducts: Upgrade the duct distribution system to reduce external static pressure and meet a maximum fan efficacy of 0.35 Watts per cfm for gas furnaces and 0.45 Watts per cfm for heat pumps operating at full speed. This may involve upsizing ductwork, reducing the total effective length of ducts, and/or selecting low pressure drop components such as filters. Fan watt draw must be verified by a HERS rater according to the procedures outlined in the 2019 Reference Appendices RA3.3 (Energy Commission, 2018c). New federal regulations that went into effect July 3, 2019 require higher fan efficiency for gas furnaces than for heat pumps and air handlers, which is why the recommended specification is different for mixed fuel and all-electric homes.



HERS Verification of Hot Water Pipe Insulation: The California Plumbing Code (CPC) requires pipe insulation on all hot water lines. This measure provides credit for HERS rater verification of pipe insulation requirements according to the procedures outlined in the 2019 Reference Appendices RA3.6.3. (Energy Commission, 2018c)

Compact Hot Water Distribution: Two credits for compact hot water distribution were evaluated.

1. **Basic Credit:** Design the hot water distribution system to meet minimum requirements for the basic compact hot water distribution credit according to the procedures outlined in the 2019 Reference Appendices RA4.4.6 (Energy Commission, 2018c). In many single family homes this may require moving the water heater from an exterior to an interior garage wall. Multifamily homes with individual water heaters are expected to easily meet this credit with little or no alteration to plumbing design. CBECC-Res software assumes a 30% reduction in distribution losses for the basic credit.
2. **Expanded Credit:** Design the hot water distribution system to meet minimum requirements for the expanded compact hot water distribution credit according to the procedures outlined in the 2019 Reference Appendices RA3.6.5 (Energy Commission, 2018c). In addition to requiring HERS verification that the minimum requirements for the basic compact distribution credit are met, this credit also imposes limitations on pipe location, maximum pipe diameter, and recirculation system controls allowed.

Drain Water Heat Recovery (DWHR): For multifamily buildings add DWHR that serves the showers in an unequal flow configuration (pre-heated water is piped directly to the shower) with 50% efficiency. This upgrade assumes all apartments are served by a DWHR with one unit serving each apartment individually. For a slab-on-grade building this requires a horizontal unit for the first-floor apartments.

Federally Preempted Measures:

The following additional measures were evaluated. Because these measures require upgrading appliances that are federally regulated to high efficiency models, they cannot be used to show cost-effectiveness in a local ordinance. The measures and packages are presented here to show that there are several options for builders to meet the performance targets. Heating and cooling capacities are autosized by CBECC-Res in all cases.

High Efficiency Furnace: For the mixed-fuel prototypes, upgrade natural gas furnace to one of two condensing furnace options with an efficiency of 92% or 96% AFUE.

High Efficiency Air Conditioner: For the mixed-fuel prototypes, upgrade the air conditioner to either single-stage SEER 16 / EER 13 or two-stage SEER 18 / EER 14 equipment.

High Efficiency Heat Pump: For the all-electric prototypes, upgrade the heat pump to either single-stage SEER 16 / EER 13 / HSPF 9 or two-stage SEER 18 / EER 14 / HSPF 10 equipment.

High Efficiency Tankless Water Heater: For the mixed-fuel prototype, upgrade tankless water heater to a condensing unit with a rated Uniform Energy Factor (UEF) of 0.96.

High Efficiency Heat Pump Water Heater (HPWH): For the all-electric prototypes, upgrade the federal minimum heat pump water heater to a HPWH that meets the Northwest Energy Efficiency Alliance (NEEA)⁷ Tier 3 rating. The evaluated NEEA water heater is an 80gal unit and is applied to all three building prototypes. Using the same

⁷ Based on operational challenges experienced in the past, NEEA established rating test criteria to ensure newly installed HPWHs perform adequately, especially in colder climates. The NEEA rating requires an Energy Factor equal to the ENERGY STAR performance level and includes requirements regarding noise and prioritizing heat pump use over supplemental electric resistance heating.

water heater provides consistency in performance across all the equipment upgrade cases, even though hot water draws differ across the prototypes.

2.3 Package Development

Three to four packages were evaluated for each prototype and climate zone, as described below.

- 1) **Efficiency – Non-Preempted**: This package uses only efficiency measures that don't trigger federal preemption issues including envelope, and water heating and duct distribution efficiency measures.
- 2) **Efficiency – Equipment, Preempted**: This package shows an alternative design that applies HVAC and water heating equipment that are more efficient than federal standards. The Reach Code Team considers this more reflective of how builders meet above code requirements in practice.
- 3) **Efficiency & PV**: Using the Efficiency – Non-Preempted Package as a starting point⁸, PV capacity is added to offset most of the estimated electricity use. This only applies to the all-electric case, since for the mixed fuel cases, 100% of the projected electricity use is already being offset as required by 2019 Title 24, Part 6.
- 4) **Efficiency & PV/Battery**: Using the Efficiency & PV Package as a starting point, PV capacity is added as well as a battery system.

2.3.1 Solar Photovoltaics (PV)

Installation of on-site PV is required in the 2019 residential code. The PV sizing methodology in each package was developed to offset annual building electricity use and avoid oversizing which would violate net energy metering (NEM) rules.⁹ In all cases, PV is evaluated in CBECC-Res according to the California Flexible Installation (CFI) assumptions.

The Reach Code Team used two options within the CBECC-Res software for sizing the PV system, described below. Analysis was conducted to determine the most appropriate sizing method for each package which is described in the results.

- Standard Design PV – the same PV capacity as is required for the Standard Design case¹⁰
- Specify PV System Scaling – a PV system sized to offset a specified percentage of the estimated electricity use of the Proposed Design case

2.3.2 Energy Storage (Batteries)

A battery system was evaluated in CBECC-Res with control type set to “Time of Use” and with default efficiencies of 95% for both charging and discharging. The “Time of Use” option assumes batteries are charged anytime PV generation is greater than the house load but controls when the battery storage system discharges. During the summer months (July – September) the battery begins to discharge at the beginning of the peak period at a maximum rate until fully discharged. During discharge the battery first serves the house load but will

⁸ In cases where there was no cost-effective Efficiency – Non-Preempted Package, the most cost-effective efficiency measures for that climate zone were also included in the Efficiency & PV Package in order to provide a combination of both efficiency and PV beyond code minimum.

⁹ NEM rules apply to the IOU territories only.

¹⁰ The Standard Design PV system is sized to offset the electricity use of the building loads which are typically electric in a mixed fuel home, which includes all loads except space heating, water heating, clothes drying, and cooking.

discharge to the electric grid if there is excess energy available. During other months the battery discharges whenever the PV system does not cover the entire house load and does not discharge to the electric grid. This control option is considered to be most reflective of the current products on the market. This control option requires an input for the “First Hour of the Summer Peak” and the Statewide CASE Team applied the default hour in CBECC-Res which differs by climate zone (either a 6pm or 7pm start). The Self Utilization Credit was taken when the battery system was modeled.

2.4 Incremental Costs

Table 4 below summarizes the incremental cost assumptions for measures evaluated in this study. Incremental costs represent the equipment, installation, replacement, and maintenance costs of the proposed measures relative to the base case.¹¹ Replacement costs are applied to HVAC and DHW equipment, PV inverters, and battery systems over the 30-year evaluation period. There is no assumed maintenance on the envelope, HVAC, or DHW measures since there should not be any additional maintenance cost for a more efficient version of the same system type as the baseline. Costs were estimated to reflect costs to the building owner. When costs were obtained from a source that didn’t already include builder overhead and profit, a markup of ten percent was added. All costs are provided as present value in 2020 (2020 PV\$). Costs due to variations in furnace, air conditioner, and heat pump capacity by climate zone were not accounted for in the analysis.

Equipment lifetimes applied in this analysis for the water heating and space conditioning measures are summarized in Table 3.

Table 3: Lifetime of Water Heating & Space Conditioning Equipment Measures

Measure	Lifetime
Gas Furnace	20
Air Conditioner	20
Heat Pump	15
Gas Tankless Water Heater	20
Heat Pump Water Heater	15

Source: City of Palo Alto 2019 Title 24 Energy Reach Code Cost-effectiveness Analysis Draft (TRC, 2018) which is based on the Database of Energy Efficiency Resources (DEER).¹²

¹¹ Interest costs due to financing are not included in the incremental costs presented in the Table 4 but are accounted for in the lifetime cost analysis. All first costs are assumed to be financed in a mortgage, see Section 2.5 for details.

¹² <http://www.deeresources.com>

Table 4: Incremental Cost Assumptions

Measure	Performance Level	Incremental Cost (2020 PV\$)		Source & Notes
		Single Family	Multifamily (Per Dwelling Unit)	
Non-Preempted Measures				
Reduced Infiltration	3.0 vs 5.0 ACH50	\$391	n/a	NREL's BEopt cost database (\$0.115/ft ² for 3 ACH50 & \$0.207/ft ² for 2 ACH50) + \$100 HERS rater verification.
	2.0 vs 5.0 ACH50	\$613	n/a	
Window U-factor	0.24 vs 0.30	\$2,261	\$607	\$4.23/ft ² window area based on analysis conducted for the 2019 and 2022 Title 24 cycles (Statewide CASE Team, 2018).
Window SHGC	0.50 vs 0.35	\$0	\$0	Data from CASE Report along with direct feedback from Statewide CASE Team that higher SHGC does not necessarily have any incremental cost (Statewide CASE Team, 2017d). Applies to CZ 1,3,5,16.
Cool Roof - Aged Solar Reflectance	0.25 vs 0.20	\$237	\$58	Costs based on 2016 Cost-effectiveness Study for Cool Roofs reach code analysis for 0.28 solar reflectance product. (Statewide Reach Codes Team, 2017b).
	0.20 vs 0.10	\$0	\$0	
Exterior Wall Insulation	R-7.5 vs R-5	\$818	n/a	Based on increasing exterior insulation from 1" R-5 to 1.5" R-7.5 in a 2x6 wall (Statewide CASE Team, 2017c). Applies to single family only in all climates except CZ 6, 7.
Under-Deck Roof Insulation (HPA)	R-13 vs R-0	\$1,338	\$334	Costs for R-13 (\$0.64/ft ²), R-19 (\$0.78/ft ²) and R-30 (\$1.61/ft ²) based on data presented in the 2019 HPA CASE Report (Statewide CASE Team, 2017b) along with data collected directly from builders during the 2019 CASE process. The R-30 costs include additional labor costs for cabling. Costs for R-38 from NREL's BEopt cost database.
	R-19 vs R-13	\$282	\$70	
	R-30 vs R-19	\$1,831	\$457	
	R-38 vs R-30	\$585	\$146	
Attic Floor Insulation	R-38 vs R-30	\$584	\$146	NREL's BEopt cost database: \$0.34/ft ² ceiling area
Slab Edge Insulation	R-10 vs R-0	\$553	\$121	\$4/linear foot of slab perimeter based on internet research. Assumes 16in depth.
	R-10 vs R-7	\$157	\$21	\$1.58/linear foot of slab perimeter based on NREL's BEopt cost database. This applies to CZ 16 only where R-7 slab edge insulation is required prescriptively. Assumes 16in depth.
Duct Location	<12 feet in attic	\$358	n/a	Costs based on a 2015 report on the Evaluation of Ducts in Conditioned Space for New California Homes (Davis Energy Group, 2015). HERS verification cost of \$100 for the Verified Low Leakage Ducts in Conditioned Space credit.
	Ducts in Conditioned Space	\$658	n/a	
	Verified Low Leakage Ducts in Conditioned Space	\$768	\$110	



Table 4: Incremental Cost Assumptions

Measure	Performance Level	Incremental Cost (2020 PV\$)		Source & Notes
		Single Family	Multifamily (Per Dwelling Unit)	
Distribution System Leakage	2% vs 5%	\$96	n/a	1-hour labor. Labor rate of \$96 per hour is from 2019 RSMeans for sheet metal workers and includes an average City Cost Index for labor for California cities & 10% for overhead and profit. Applies to single family only since ducts are assumed to be in conditioned space for multifamily
	Low Leakage Air Handler	\$0	n/a	Negligible cost based on review of available products. There are more than 6,000 Energy Commission certified units and the list includes many furnace and heat pump air handler product lines from the major manufacturers, including minimum efficiency, low cost product lines.
Low Pressure Drop Ducts (Fan W/cfm)	0.35 vs 0.45	\$96	\$48	Costs assume one-hour labor for single family and half-hour per multifamily apartment. Labor rate of \$96 per hour is from 2019 RSMeans for sheet metal workers and includes an average City Cost Index for labor for California cities.
	0.45 vs 0.58	\$96	\$48	
Hot Water Pipe Insulation	HERS verified	\$110	\$83	Cost for HERS verification only, based on feedback from HERS raters. \$100 per single family home and \$75 per multifamily unit before markup.
Compact Hot Water Distribution	Basic credit	\$150	\$0	For single family add 20-feet venting at \$12/ft to locate water heater on interior garage wall, less 20-feet savings for less PEX and pipe insulation at \$4.88/ft. Costs from online retailers. Many multifamily buildings are expected to meet this credit without any changes to distribution design.
	Expanded credit	n/a	\$83	Cost for HERS verification only. \$75 per multifamily unit before markup. This was only evaluated for multifamily buildings.
Drain Water Heat Recovery	50% efficiency	n/a	\$690	Cost from the 2019 DWHR CASE Report assuming a 2-inch DWHR unit. The CASE Report multifamily costs were based on one unit serving 4 dwelling units with a central water heater. Since individual water heaters serve each dwelling unit in this analysis, the Reach Code Team used single family costs from the CASE Report. Costs in the CASE Report were based on a 46.1% efficient unit, a DWHR device that meets the 50% efficiency assumed in this analysis may cost a little more. (Statewide CASE Team, 2017a).
Federally Pre-empted Measures				
Furnace AFUE	92% vs 80%	\$139	\$139	Equipment costs from online retailers for 40-kBtu/h unit. Cost saving for 6-feet of venting at \$26/foot due to lower cost venting requirements for condensing (PVC) vs non-condensing (stainless) furnaces. Replacement at year 20 assumes a 50% reduction in first cost. Value at year 30 based on remaining useful life is included.
	96% vs 80%	\$244	\$244	
Air Conditioner SEER/EER	16/13 vs 14/11.7	\$111	\$111	Costs from online retailers for 2-ton unit. Replacement at year 20 assumes a 50% reduction in first cost. Value at year 30 based on remaining useful life is included.
	18/14 vs 14/11.7	\$1,148	\$1,148	



Table 4: Incremental Cost Assumptions

Measure	Performance Level	Incremental Cost (2020 PV\$)		Source & Notes
		Single Family	Multifamily (Per Dwelling Unit)	
Heat Pump SEER/EER /HSPF	16/13/9 vs 14/11.7/8.2	\$411	\$411	Costs from online retailers for 2-ton unit. Replacement at year 15 assumes a 50% reduction in first cost.
	18/14/10 vs 14/11.7/8.2	\$1,511	\$1,511	
Tankless Water Heater Energy Factor	0.96 vs 0.81	\$203	\$203	Equipment costs from online retailers for 40-kBtu/h unit. Cost saving for 6-feet of venting at \$26/foot due to lower cost venting requirements for condensing (PVC) vs non-condensing (stainless) furnaces. Replacement at year 15 assumes a 50% reduction in first cost.
HPWH	NEEA Tier 3 vs 2.0 EF	\$294	\$294	Equipment costs from online retailers. Replacement at year 15 assumes a 50% reduction in first cost.
PV + Battery				
PV System	System size varies	\$3.72/W-DC	\$3.17/W-DC	First costs are from LBNL's Tracking the Sun 2018 costs (Barbose et al., 2018) and represent costs for the first half of 2018 of \$3.50/W-DC for residential system and \$2.90/W-DC for non-residential system ≤500 kW-DC. These costs were reduced by 16% for the solar investment tax credit, which is the average credit over years 2020-2022. Inverter replacement cost of \$0.14/W-DC present value includes replacements at year 11 at \$0.15/W-DC (nominal) and at year 21 at \$0.12/W-DC (nominal) per the 2019 PV CASE Report (California Energy Commission, 2017). System maintenance costs of \$0.31/W-DC present value assume \$0.02/W-DC (nominal) annually per the 2019 PV CASE Report (California Energy Commission, 2017). 10% overhead and profit added to all costs
Battery	System size varies by building type	\$656/kWh	\$656/kWh	\$633/kWh first cost based on the PV Plus Battery Study report (Statewide Reach Codes Team, 2018) as the average cost of the three systems that were analyzed. This cost was reduced by 16% for the solar investment tax credit, which is the average credit over years 2020-2022. Replacement cost at year 15 of \$100/kWh based on target price reductions (Penn, 2018).



2.5 Cost-effectiveness

Cost-effectiveness was evaluated for all sixteen climate zones and is presented based on both TDV energy, using the Energy Commission’s LCC methodology, and an On-Bill approach using residential customer utility rates. Both methodologies require estimating and quantifying the value of the energy impact associated with energy efficiency measures over the life of the measures (30 years) as compared to the prescriptive Title 24 requirements.

Results are presented as a lifecycle benefit-to-cost (B/C) ratio, a net present value (NPV) metric which represents the cost-effectiveness of a measure over a 30-year lifetime taking into account discounting of future savings and costs and financing of incremental first costs. A value of one indicates the NPV of the savings over the life of the measure is equivalent to the NPV of the lifetime incremental cost of that measure. A value greater than one represents a positive return on investment. The B/C ratio is calculated according to Equation 3.

Equation 3

$$\text{Benefit-to-Cost Ratio} = \frac{\text{NPV of lifetime benefit}}{\text{NPV of lifetime cost}}$$

In most cases the benefit is represented by annual utility savings or TDV savings and the cost by incremental first cost and replacement costs. However, in some cases a measure may have incremental cost savings but with increased energy related costs. In this case, the benefit is the lower first cost and the cost is the increase in utility bills. The lifetime costs or benefits are calculated according to Equation 4.

Equation 4

$$\text{NPV of lifetime cost/benefit} = \sum_{t=1}^n \text{Annual cost/benefit}_t * (1 + r)^t$$

Where:

- n = analysis term
- r = discount rate

The following summarizes the assumptions applied in this analysis to both methodologies.

- Analysis term of 30-years
- Real discount rate of 3 percent
- Inflation rate of 2 percent
- First incremental costs are financed into a 30-year mortgage
- Mortgage interest rate of 4.5 percent
- Average tax rate of 20 percent (to account for tax savings due to loan interest deductions)

2.5.1 On-Bill Customer Lifecycle Cost

Residential utility rates were used to calculate utility costs for all cases and determine On-Bill customer cost-effectiveness for the proposed packages. The Reach Codes Team obtained the recommended utility rates from each IOU based on the assumption that the reach codes go into effect January of 2020. Annual utility costs were calculated using hourly electricity and gas output from CBECC-Res and applying the utility tariffs summarized in Table 5. Appendix B – Utility Tariff Details includes the utility rate schedules used for this study. The applicable residential time-of-use (TOU) rate was applied to all cases.¹³ Annual electricity production in excess of annual electricity consumption is credited to the utility account at the applicable wholesale rate based on the approved

¹³ Under NEM rulings by the CPUC (D-16-01-144, 1/28/16), all new PV customers shall be in an approved TOU rate structure. <https://www.cpuc.ca.gov/General.aspx?id=3800>



NEM2 tariffs for that utility. Minimum daily use billing and mandatory non-bypassable charges have been applied. Future change to the NEM tariffs are likely; however, there is a lot of uncertainty about what those changes will be and if they will become effective during the 2019 code cycle (2020-2022).

The net surplus compensation rates for each utility are as follows:¹⁴

- PG&E: \$0.0287 / kWh
- SCE: \$0.0301 / kWh
- SDG&E: \$0.0355 / kWh

Utility rates were applied to each climate zone based on the predominant IOU serving the population of each zone according to Two SCE tariff options were evaluated: TOU-D-4-9 and TOU-D-PRIME. The TOU-D-PRIME rate is only available to customers with heat pumps for either space or water heating, a battery storage system, or an electric vehicle and therefore was only evaluated for the all-electric cases and the Efficiency & PV/Battery packages. The rate which resulted in the lowest annual cost to the customer was used for this analysis, which was TOU-D-4-9 in all cases with the exception of the single family all-electric cases in Climate Zone 14.

Table 5. Climate Zones 10 and 14 are evaluated with both SCE/SoCalGas and SDG&E tariffs since each utility has customers within these climate zones. Climate Zone 5 is evaluated under both PG&E and SoCalGas natural gas rates.

Two SCE tariff options were evaluated: TOU-D-4-9 and TOU-D-PRIME. The TOU-D-PRIME rate is only available to customers with heat pumps for either space or water heating, a battery storage system, or an electric vehicle and therefore was only evaluated for the all-electric cases and the Efficiency & PV/Battery packages. The rate which resulted in the lowest annual cost to the customer was used for this analysis, which was TOU-D-4-9 in all cases with the exception of the single family all-electric cases in Climate Zone 14.

Table 5: IOU Utility Tariffs Applied Based on Climate Zone

Climate Zones	Electric / Gas Utility	Electricity (Time-of-use)	Natural Gas
1-5, 11-13, 16	PG&E	E-TOU, Option B	G1
5	PG&E / SoCalGas	E-TOU, Option B	GR
6, 8-10, 14, 15	SCE / SoCal Gas	TOU-D-4-9 or TOU-D-PRIME	GR
7, 10, 14	SDG&E	TOU-DR1	GR

Source: Utility websites, See Appendix B – Utility Tariff Details for details on the tariffs applied.

Utility rates are assumed to escalate over time, using assumptions from research conducted by Energy and Environmental Economics (E3) in the 2019 study Residential Building Electrification in California study (Energy & Environmental Economics, 2019). Escalation of natural gas rates between 2019 and 2022 is based on the currently filed General Rate Cases (GRCs) for PG&E, SoCalGas and SDG&E. From 2023 through 2025, gas rates are assumed to escalate at 4% per year above inflation, which reflects historical rate increases between 2013 and 2018. Escalation of electricity rates from 2019 through 2025 is assumed to be 2% per year above inflation, based on electric utility estimates. After 2025, escalation rates for both natural gas and electric rates are assumed to drop to a more conservative 1% escalation per year above inflation for long-term rate trajectories beginning in 2026 through 2050. See Appendix B – Utility Tariff Details for additional details.

¹⁴ Net surplus compensation rates based on 1-year average February 2018 – January 2019.



2.5.2 TDV Lifecycle Cost

Cost-effectiveness was also assessed using the Energy Commission's TDV LCC methodology. TDV is a normalized monetary format developed and used by the Energy Commission for comparing electricity and natural gas savings, and it considers the cost of electricity and natural gas consumed during different times of the day and year. The 2019 TDV values are based on long term discounted costs of 30 years for all residential measures. The CBEECC-Res simulation software outputs are in terms of TDV kBTUs. The present value of the energy cost savings in dollars is calculated by multiplying the TDV kBTU savings by a net present value (NPV) factor, also developed by the Energy Commission. The NPV factor is \$0.173/TDV kBtu for residential buildings.

Like the customer B/C ratio, a TDV B/C ratio value of one indicates the savings over the life of the measure are equivalent to the incremental cost of that measure. A value greater than one represents a positive return on investment. The ratio is calculated according to Equation 5.

Equation 5

$$TDV \text{ Benefit} - to - Cost \text{ Ratio} = \frac{TDV \text{ energy savings} * NPV \text{ factor}}{NPV \text{ of lifetime incremental cost}}$$

2.6 Electrification Evaluation

In addition to evaluating upgrades to mixed fuel and all-electric buildings independently that do not result in fuel switching, the Reach Code Team also analyzed the impact on construction costs, utility costs, and TDV when a builder specifies and installs electric appliances instead of the gas appliances typically found in a mixed fuel building. This analysis compared the code compliant mixed fuel prototype, which uses gas for space heating, water heating, cooking, and clothes drying, with the code compliant all-electric prototype. It also compared the all-electric Efficiency & PV Package with the code compliance mixed fuel prototype. In these cases, the relative costs between natural gas and electric appliances, differences between in-house electricity and gas infrastructure and the associated infrastructure costs for providing gas to the building were also included.

A variety of sources were reviewed when determining incremental costs. The sources are listed below.

- SMUD All-Electric Homes Electrification Case Study (EPRI, 2016)
- City of Palo Alto 2019 Title 24 Energy Reach Code Cost-effectiveness Analysis (TRC, 2018)
- Building Electrification Market Assessment (E3, 2019)
- Decarbonization of Heating Energy Use in California Buildings (Hopkins et al., 2018)
- Analysis of the Role of Gas for a Low-Carbon California Future (Navigant, 2008)
- Rulemaking No. 15-03-010 An Order Instituting Rulemaking to Identify Disadvantaged Communities in the San Joaquin Valley and Analyze Economically Feasible Options to Increase Access to Affordable Energy in Those Disadvantages Communities (California Public Utilities Commission, 2016)
- 2010-2012 WO017 Ex Ante Measure Cost Study: Final Report (Itron, 2014)
- Natural gas infrastructure costs provided by utility staff through the Reach Code subprogram
- Costs obtained from builders, contractors and developers

Incremental costs are presented in Table 6. Values in parentheses represent a lower cost or cost reduction in the electric option relative to mixed fuel. The costs from the available sources varied widely, making it difficult to develop narrow cost estimates for each component. For certain components data is provided with a low to high range as well as what were determined to be typical costs and ultimately applied in this analysis. Two sets of typical costs are presented, one which is applied in the On-Bill cost effectiveness methodology and another applied in the TDV methodology. Details of these differences are explained in the discussion of site gas infrastructure costs in the following pages.



Table 6: Incremental Costs – All-Electric Code Compliant Home Compared to a Mixed Fuel Code Compliant Home

Measure	Incremental Cost (2020 PV\$) Single Family ¹				Incremental Cost (2020 PV\$) Multifamily ¹ (Per Dwelling Unit)			
	Low	High	Typical (On-Bill)	Typical (TDV)	Low	High	Typical (On-Bill)	Typical (TDV)
Heat Pump vs Gas Furnace/Split AC	(\$2,770)	\$620	(\$221)		Same as Single Family			
Heat Pump Water Heater vs Gas Tankless	(\$1,120)	\$1,120	\$0					
Electric vs Gas Clothes Dryer ²	(\$428)	\$820	\$0					
Electric vs Gas Cooking ²	\$0	\$1,800	\$0					
Electric Service Upgrade	\$200	\$800	\$600		\$150	\$600	\$600	
In-House Gas Infrastructure	(\$1,670)	(\$550)	(\$800)		(\$600)	(\$150)	(\$600)	
Site Gas Infrastructure	(\$25,000)	(\$900)	(\$5,750)	(\$11,836)	(\$16,250)	(\$310)	(\$3,140)	(\$6,463)
Total First Cost	(\$30,788)	\$3,710	(\$6,171)	(\$12,257)	(\$20,918)	\$4,500	(\$3,361)	(\$6,684)
Present Value of Equipment Replacement Cost			\$1,266				\$1,266	
Lifetime Cost Including Replacement & Financing of First Cost			(\$5,349)	(\$11,872)			(\$2,337)	(\$5,899)

¹Low and high costs represent the potential range of costs and typical represents the costs used in this analysis and determined to be most representative of the conditions described in this report. Two sets of typical costs are presented, one which is applied in the On-Bill cost effectiveness methodology and another applied in the TDV methodology.

²Typical costs assume electric resistance technology. The high range represents higher end induction cooktops and heat pump clothes dryers. Lower cost induction cooktops are available.

Typical incremental costs for switching from a mixed fuel design to an all-electric design are based on the following assumptions:

Appliances: The Reach Code Team determined that the typical first installed cost for electric appliances is very similar to that for natural gas appliances. This was based on information provided by HVAC contractors, plumbers and builders as well as a review of other studies. After review of various sources, the Reach Code Team concluded that the cost difference between gas and electric resistance options for clothes dryers and stoves is negligible and that the lifetimes of the two technologies are also similar.

HVAC: Typical HVAC incremental costs were based on the City of Palo Alto 2019 Title 24 Energy Reach Code Cost-effectiveness Analysis (TRC, 2018) which assumes approximately \$200 first cost savings for the heat pump relative to the gas furnace and air conditioner. Table 6 also includes the present value of the incremental replacement costs for the heat pump based on a 15-year lifetime and a 20-year lifetime for the gas furnace in the mixed fuel home.

DHW: Typical costs for the water heating system were based on equivalent installed first costs for the HPWH and tankless gas water heater. This accounts for slightly higher equipment cost but lower installation labor due to the elimination of the gas flue. Incremental replacement costs for the HPWH are based on a 15-year lifetime and a 20-year lifetime for the tankless water heater.

For multifamily, less data was available and therefore a range of low and high costs is not provided. The typical first cost for multifamily similarly is expected to be close to the same for the mixed fuel and all-electric designs. However, there are additional considerations with multifamily such as greater complexity for venting of natural gas appliances as well as for locating the HPWH within the conditioned space (all climates except Climate Zones 1, 3, and 5, see Table 2) that may impact the total costs.

Electric service upgrade: The study assumes an incremental cost to run 220V service to each appliance of \$200 per appliance for single family homes and \$150 per appliance per multifamily apartment based on cost estimates from builders and contractors. The Reach Code Team reviewed production builder utility plans for



mixed-fuel homes and consulted with contractors to estimate which electricity and/or natural gas services are usually provided to the dryer and oven. Typical practice varied, with some builders providing both gas and electric service to both appliances, others providing both services to only one of the appliances, and some only providing gas. For this study, the Reach Code Team determined that for single family homes the typical cost is best qualified by the practice of providing 220V service and gas to either the dryer and the oven and only gas service to the other. For multifamily buildings it's assumed that only gas is provided to the dryer and oven in the mixed fuel home.

It is assumed that no upgrades to the electrical panel are required and that a 200 Amp panel is typically installed for both mixed fuel and all-electric new construction homes. There are no incremental electrical site infrastructure requirements.

In-house gas infrastructure (from meter to appliances): Installation cost to run a gas line from the meter to the appliance location is \$200 per appliance for single family and \$150 per appliance per multifamily apartment based on cost estimates from builders and contractors. The cost estimate includes providing gas to the water heater, furnace, dryer and cooktop.

Site gas infrastructure: The cost-effective analysis components with the highest degree of variability are the costs for on-site gas infrastructure. These costs can be project dependent and may be significantly impacted by such factors as utility territory, site characteristics, distance to the nearest gas main and main location, joint trenching, whether work is conducted by the utility or a private contractor, and number of dwelling units per development. All gas utilities participating in this study were solicited for cost information. The typical infrastructure costs for single family homes presented in Table 6 are based on cost data provided by PG&E and reflect those for a new subdivision in an undeveloped area requiring the installation of natural gas infrastructure, including a main line. Infrastructure costs for infill development can also be highly variable and may be higher than in an undeveloped area. The additional costs associated with disruption of existing roads, sidewalks, and other structures can be significant. Total typical costs in Table 6 assume \$10,000 for extension of a gas main, \$1,686 for a service lateral, and \$150 for the meter.

Utility Gas Main Extensions rules¹⁵ specify that the developer has the option to only pay 50% of the total cost for a main extension after subtraction of allowances for installation of gas appliances. This 50% refund and the appliance allowance deductions are accounted for in the site gas infrastructure costs under the On-Bill cost-effectiveness methodology. The net costs to the utility after partial reimbursement from the developer are included in utility ratebase and recovered via rates to all customers. The total cost of \$5,750 presented in Table 6 reflects a 50% refund on the \$10,000 extension and appliance deductions of \$1,086 for a furnace, water heater, cooktop, and dryer. Under the On-Bill methodology this analysis assumes this developer option will remain available through 2022 and that the cost savings are passed along to the customer.

The 50% refund and appliance deductions were not applied to the site gas infrastructure costs under the TDV cost-effectiveness methodology based on input received from the Energy Commission and agreement from the Reach Code technical advisory team that the approach is appropriate. TDV cost savings impacts extend beyond the customer and account for societal impacts of energy use. Accounting for the full cost of the infrastructure upgrades was determined to be justified when evaluating under the TDV methodology.

¹⁵ PG&E Rule 15: https://www.pge.com/tariffs/tm2/pdf/GAS_RULES_15.pdf

SoCalGas Rule 20: <https://www.socalgas.com/regulatory/tariffs/tm2/pdf/20.pdf>

SDG&E Rule 15: http://regarchive.sdge.com/tm2/pdf/GAS_GAS-RULES_GRULE15.pdf



Less information was available for the costs associated with gas infrastructure for low-rise multifamily development. The typical cost in Table 6 for the On-Bill methodology is based on TRC's City of Palo Alto 2019 Title 24 Energy Reach Code Cost-effectiveness Analysis (TRC, 2018). These costs, provided by the City of Palo Alto, are approximately \$25,100 for an 8-unit new construction building and reflect connection to an existing main for infill development. Specific costs include plan review, connection charges, meter and manifold, plumbing distribution, and street cut fees. While these costs are specifically based on infill development and from one municipal utility, the estimates are less than those provided by PG&E reflecting the average cost differences charged to the developer between single family and multifamily in an undeveloped area (after accounting for deductions per the Gas Main Extensions rule). To convert costs charged to the developer to account for the full infrastructure upgrade cost (costs applied in the TDV methodology analysis), a factor of 2.06¹⁶ was calculated based on the single family analysis. This same factor was applied to the multifamily cost of \$3,140 to arrive at \$6,463 (see Table 6).

2.7 Greenhouse Gas Emissions

Equivalent CO₂ emission savings were calculated based on outputs from the CBECC-Res simulation software. Electricity emissions vary by region and by hour of the year. CBECC-Res applies two distinct hourly profiles, one for Climate Zones 1 through 5 and 11 through 13 and another for Climate Zones 6 through 10 and 14 through 16. For natural gas a fixed factor of 0.005307 metric tons/therm is used. To compare the mixed fuel and all-electric cases side-by-side, greenhouse gas (GHG) emissions are presented as CO₂-equivalent emissions per square foot of conditioned floor area.

3 Results

The primary objective of the evaluation is to identify cost-effective, non-preempted performance targets for both single family and low-rise multifamily prototypes, under both mixed fuel and all-electric cases, to support the design of local ordinances requiring new low-rise residential buildings to exceed the minimum state requirements. The packages presented are representative examples of designs and measures that can be used to meet the requirements. In practice, a builder can use any combination of non-preempted or preempted compliant measures to meet the requirements.

This analysis covered all sixteen climate zones and evaluated two efficiency packages, including a non-preempted package and a preempted package that includes upgrades to federally regulated equipment, an Efficiency & PV Package for the all-electric scenario only, and an Efficiency & PV/Battery Package. For the efficiency-only packages, measures were refined to ensure that the non-preempted package was cost-effective based on one of the two metrics applied in this study, TDV or On-Bill. The preempted equipment package, which the Reach Code Team considers to be a package of upgrades most reflective of what builders commonly apply to exceed code requirements, was designed to be cost-effective based on the On-Bill cost-effectiveness approach.

Results are presented as EDR Margin instead of compliance margin. EDR is the metric used to determine code compliance in the 2019 cycle. Target EDR Margin is based on taking the calculated EDR Margin for the case and rounding down to the next half of a whole number. Target EDR Margin for the Efficiency Package are defined based on the lower of the EDR Margin of the non-preempted package and the equipment, preempted package. For example, if for a particular case the cost-effective non-preempted package has an EDR Margin of 3 and the preempted package an EDR Margin of 4, the Target EDR Margin is set at 3.

¹⁶ This factor includes the elimination of the 50% refund for the main extension and adding back in the appliance allowance deductions.

For a package to qualify, a minimum EDR Margin of 0.5 was required. This is to say that a package that only achieved an EDR Margin of 0.4, for example, was not considered. An EDR Margin less than 0.5 generally corresponds to a compliance margin lower than 5% and was considered too small to ensure repeatable results. In certain cases, the Reach Code Team did not identify a cost-effective package that achieved the minimum EDR Margin of 0.5.

Although some of the efficiency measures evaluated were not cost-effective and were eliminated, the following measures are included in at least one package:

- Reduced infiltration
- Improved fenestration
- Improved cool roofs
- High performance attics
- Slab insulation
- Reduced duct leakage
- Verified low leakage ducts in conditioned space
- Low pressure-drop distribution system
- Compact hot water distribution system, basic and expanded
- High efficiency furnace, air conditioner & heat pump (*preempted*)
- High efficiency tankless water heater & heat pump water heater (*preempted*)

3.1 PV and Battery System Sizing

The approach to determining the size of the PV and battery systems varied based on each package and the source fuel. Table 7 describes the PV and battery sizing approaches applied to each of the four packages. For the **Efficiency Non-preempted and Efficiency – Equipment, Preempted packages** a different method was applied to each the two fuel scenarios. In all **mixed fuel cases**, the PV was sized to offset 100% of the estimated electrical load and any electricity savings from efficiency measures were traded off with a smaller PV system. Not downsizing the PV system after adding efficiency measures runs the risk of producing more electricity than is consumed, reducing cost-effectiveness and violating NEM rules. While the impact of this in most cases is minor, analysis confirmed that cost-effectiveness improved when reducing the system size to offset 100% of the electricity usage as opposed to keeping the PV system the same size as the Standard Design.

In the **all-electric Efficiency cases**, the PV system size was left to match the Standard Design (Std Design PV), and the inclusion of energy efficiency measures was not traded off with a reduced capacity PV system. Because the PV system is sized to meet the electricity load of a mixed fuel home, it is cost-effective to keep the PV system the same size and offset a greater percentage of the electrical load.

For the **Efficiency & PV case on the all-electric home**, the Reach Code Team evaluated PV system sizing to offset 100%, 90% and 80% of the total calculated electricity use. Of these three, sizing to 90% proved to be the most cost-effective based on customer utility bills. This is a result of the impact of the annual minimum bill which is around \$120 across all the utilities. The “sweet spot” is a PV system that reduces electricity bills just enough to match the annual minimum bill; increasing the PV size beyond this adds first cost but does not result in utility bill savings.



Table 7: PV & Battery Sizing Details by Package Type

Package	Mixed Fuel	All-Electric
Efficiency (Envelope & Equipment)	PV Scaled @ 100% electricity	Std Design PV
Efficiency & PV	n/a	PV Scaled @ 90%
Efficiency & PV/Battery	PV Scaled @ 100% electricity 5kWh / SF home 2.75kWh/ MF apt	PV Scaled @ 100% 5kWh / SF home 2.75kWh/ MF apt

A sensitivity analysis was conducted to determine the appropriate battery and PV capacity for the Efficiency & PV/Battery Packages using the 1-story 2,100 square foot prototype in Climate Zone 12. Results are shown in Figure 2. The current version of CBECC-Res requires a minimum battery size of 5 kWh to qualify for the self-utilization credit. CBECC-Res allows for PV oversizing up to 160% of the building’s estimated electricity load when battery storage systems are installed; however, the Reach Code Team considered this high, potentially problematic from a grid perspective, and likely not acceptable to the utilities or customers. The Reach Code Team compared cost-effectiveness of 5kWh and 7.5kWh battery systems as well as of PV systems sized to offset 90%, 100%, or 120% of the estimated electrical load.

Results show that from an on-bill perspective a smaller battery size is more cost-effective. The sensitivity analysis also showed that increasing the PV capacity from 90% to 120% of the electricity use reduced cost-effectiveness. From the TDV perspective there was little difference in results across all the scenarios, with the larger battery size being marginally more cost-effective. Based on these results, the Reach Code Team applied to the Efficiency & PV/Battery Package a 5kWh battery system for single family homes with PV sized to offset 100% of the electricity load. Even though PV scaled to 90% was the most cost-effective, sizing was increased to 100% to evaluate greater generation beyond the Efficiency & PV Package and to achieve zero net electricity. These results also show that in isolation, the inclusion of a battery system reduces cost-effectiveness compared to the same size PV system without batteries.

For multifamily buildings the battery capacity was scaled to reflect the average ratio of battery size to PV system capacity (kWh/kW) for the single family Efficiency & PV Package. This resulted in a 22kWh battery for the multifamily building, or 2.75kWh per apartment.

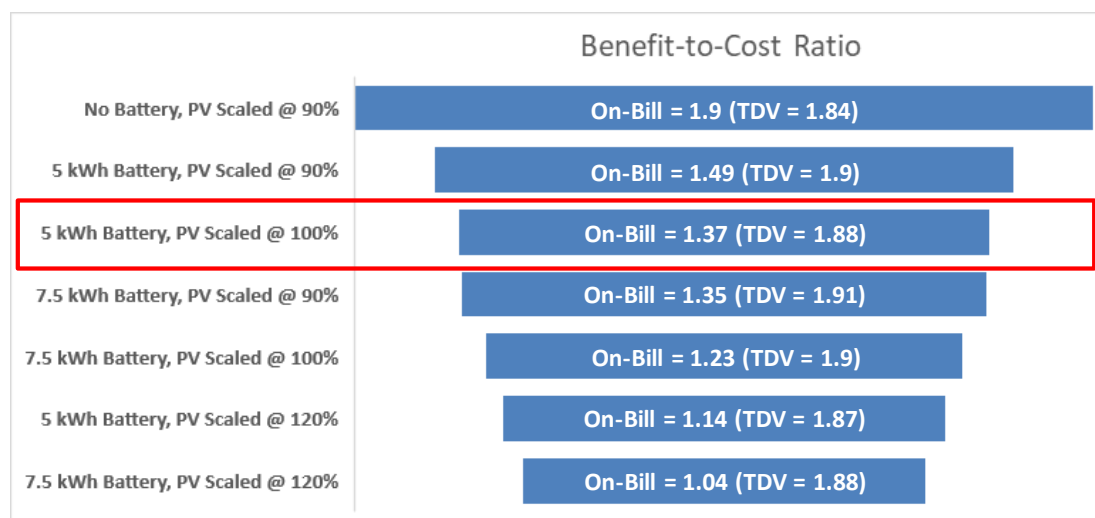


Figure 2: B/C ratio comparison for PV and battery sizing



3.2 Single Family Results

Table 8 through Table 10 contain cost effectiveness findings for the single family packages. Table 8 summarizes the package costs for all of the mixed fuel and all-electric efficiency, PV and battery packages. The mixed fuel results are evaluated and presented relative to a mixed fuel code compliant basecase while the all-electric results are relative to an all-electric code compliant basecase.

Table 9 and Table 10 present the B/C ratios for all the single family packages according to both the On-Bill and TDV methodologies for the mixed fuel and the all-electric cases, respectively. Results are cost-effective based on TDV for all cases except for Climate Zone 7 where no cost-effective combination of non-preempted efficiency measures was found that met the minimum 0.5 EDR Margin threshold. Cases where the B/C ratio is indicated as “>1” refer to instances where there are incremental cost savings in addition to annual utility bill savings. In these cases, there is no cost associated with the upgrade and benefits are realized immediately.

Figure 3 presents a comparison of Total EDRs for single family buildings and Figure 4 presents the EDR Margin results. Each graph compares the mixed fuel and all-electric cases as well as the various packages. The EDR Margin for the **Efficiency Package** for most climates is between 1.0 and 5.5 for mixed fuel cases and slightly higher, between 1.5 and 6.5, for the all-electric design. No cost-effective **mixed fuel or all-electric non-preempted Efficiency package** was found Climate Zone 7.

For the **mixed fuel case, the Efficiency & PV/Battery Package** increased the EDR Margin to values between 7.0 and 10.5. Because of the limitations on oversizing PV systems to offset natural gas use it is not feasible to achieve higher EDR Margins by increasing PV system capacity.

For the **all-electric case, the Efficiency & PV Package** resulted in EDR Margins of 11.0 to 19.0 for most climates; adding a battery system increased the EDR Margin by an additional 7 to 13 points. Climate zones 1 and 16, which have high heating loads, have much higher EDR Margins for the Efficiency & PV package (26.5-31.0). The Standard Design PV, which is what is applied in the all-electric Efficiency Package, is not sized to offset any of the heating load. When the PV system is sized to offset 90% of the total electricity use, the increase is substantial as a result. In contrast, in Climate Zone 15 the Standard Design PV system is already sized to cover the cooling electricity load, which represents 40% of whole building electricity use. Therefore, increasing the PV size to offset 90% of the electric load in this climate only results in adding approximately 120 Watts of PV capacity and subsequently a negligible impact on the EDR.

Additional results details can be found in Appendix C – Single Family Detailed Results with summaries of measures included in each of the packages in Appendix D – Single Family Measure Summary. A summary of results by climate zone is presented in Appendix G – Results by Climate Zone.



Table 8: Single Family Package Lifetime Incremental Costs

Climate Zone	Mixed Fuel			All-Electric			
	Non-Preempted	Equipment - Preempted	Efficiency & PV/Battery	Non-Preempted	Equipment - Preempted	Efficiency & PV	Efficiency & PV/Battery
CZ01	+\$1,355	+\$1,280	+\$5,311	+\$7,642	+\$2,108	+\$18,192	+\$24,770
CZ02	+\$1,504	+\$724	+\$5,393	+\$3,943	+\$2,108	+\$12,106	+\$18,132
CZ03	+\$1,552	+\$1,448	+\$5,438	+\$1,519	+\$2,108	+\$8,517	+\$14,380
CZ04	+\$1,556	+\$758	+\$5,434	+\$1,519	+\$2,108	+\$8,786	+\$14,664
CZ05	+\$1,571	+\$772	+\$5,433	+\$1,519	+\$2,108	+\$8,307	+\$14,047
CZ06	+\$1,003	+\$581	+\$4,889	+\$926	+\$846	+\$6,341	+\$12,036
CZ07	n/a	+\$606	+\$4,028	n/a	+\$846	+\$4,436	+\$9,936
CZ08	+\$581	+\$586	+\$4,466	+\$926	+\$412	+\$5,373	+\$11,016
CZ09	+\$912	+\$574	+\$4,785	+\$1,180	+\$846	+\$5,778	+\$11,454
CZ10	+\$1,648	+\$593	+\$5,522	+\$1,773	+\$949	+\$6,405	+\$12,129
CZ11	+\$3,143	+\$1,222	+\$7,026	+\$3,735	+\$2,108	+\$10,827	+\$17,077
CZ12	+\$1,679	+\$654	+\$5,568	+\$3,735	+\$2,108	+\$11,520	+\$17,586
CZ13	+\$3,060	+\$611	+\$6,954	+\$4,154	+\$2,108	+\$10,532	+\$16,806
CZ14	+\$1,662	+\$799	+\$5,526	+\$4,154	+\$2,108	+\$10,459	+\$16,394
CZ15	+\$2,179	-\$936	+\$6,043	+\$4,612	+\$2,108	+\$5,085	+\$11,382
CZ16	+\$3,542	+\$2,441	+\$7,399	+\$5,731	+\$2,108	+\$16,582	+\$22,838



Table 9: Single Family Package Cost-Effectiveness Results for the Mixed Fuel Case ^{1,2}

CZ	Utility	Efficiency							Efficiency & PV/Battery			
		Non-Preempted			Equipment - Preempted			Target	Total	On-Bill	TDV	Target
EDR	On-Bill	TDV	EDR	On-Bill	TDV	Efficiency	EDR	EDR				
Margin	B/C	B/C	Margin	Ratio	Ratio	Margin	Ratio	Margin	Ratio	Ratio	Margin	
01	PG&E	5.3	3.4	2.8	6.9	4.9	4.1	5.0	10.6	0.9	1.6	10.5
02	PG&E	3.3	1.6	1.7	3.3	3.8	3.6	3.0	10.1	0.5	1.6	10.0
03	PG&E	3.0	1.3	1.3	4.1	1.9	2.0	2.5	10.0	0.4	1.4	10.0
04	PG&E	2.5	0.9	1.2	2.7	2.4	2.7	2.5	10.1	0.3	1.5	10.0
05	PG&E	2.7	1.1	1.2	2.6	2.3	2.5	2.5	9.4	0.4	1.3	9.0
05	PG&E/SoCalGas	2.7	0.9	1.2	2.6	2.0	2.5	2.5	9.4	0.3	1.3	9.0
06	SCE/SoCalGas	2.0	0.7	1.2	2.0	1.6	2.0	1.5	9.8	0.8	1.3	9.5
07	SDG&E	0.0	-	-	1.5	1.5	1.4	0.0	9.2	0.1	1.3	9.0
08	SCE/SoCalGas	1.3	0.6	1.4	1.6	1.3	1.8	1.0	8.4	0.9	1.3	8.0
09	SCE/SoCalGas	2.6	0.7	2.0	2.9	1.8	3.7	2.5	8.8	1.0	1.5	8.5
10	SCE/SoCalGas	3.2	0.6	1.3	3.2	2.0	3.8	3.0	9.6	1.0	1.5	9.5
10	SDG&E	3.2	0.8	1.3	3.2	2.6	3.8	3.0	9.6	0.6	1.5	9.5
11	PG&E	4.3	0.8	1.2	5.1	2.5	3.7	4.0	9.2	0.4	1.5	9.0
12	PG&E	3.5	1.2	1.8	3.4	3.3	4.6	3.0	9.6	0.4	1.7	9.5
13	PG&E	4.6	0.8	1.3	5.8	5.3	8.4	4.5	9.7	0.4	1.6	9.5
14	SCE/SoCalGas	5.0	1.6	2.5	5.8	4.0	6.1	4.5	9.0	1.3	1.7	9.0
14	SDG&E	5.0	1.9	2.5	5.8	4.9	6.1	4.5	9.0	1.2	1.7	9.0
15	SCE/SoCalGas	4.8	1.0	1.6	5.0	>1	>1	4.5	7.1	1.1	1.5	7.0
16	PG&E	5.4	1.6	1.5	6.2	2.2	2.2	5.0	10.5	0.9	1.4	10.5

¹">1" indicates cases where there are both first cost savings and annual utility bill savings.

²Information about the measures included for each climate zone are described in Appendix D – Single Family Measure Summary.



Table 10: Single Family Package Cost-Effectiveness Results for the All-Electric Case^{1,2}

CZ	Utility	Efficiency							Efficiency & PV				Efficiency & PV/Battery			
		Non-Preempted			Equipment - Preempted			Target	Total	On-Bill	TDV	Target	Total	On-Bill	TDV	Target
		Efficiency EDR Margin	On-Bill B/C Ratio	TDV B/C Ratio	Efficiency EDR Margin	On-Bill B/C Ratio	TDV B/C Ratio	Efficiency EDR Margin								
01	PG&E	15.2	1.8	1.7	6.9	2.9	2.7	6.5	31.4	1.8	1.5	31.0	41.2	1.4	1.4	41.0
02	PG&E	4.9	1.2	1.1	5.1	2.3	2.1	4.5	19.4	1.8	1.4	19.0	30.1	1.4	1.4	30.0
03	PG&E	4.7	2.6	2.4	4.4	1.8	1.6	4.0	18.5	2.2	1.7	18.0	29.3	1.5	1.6	29.0
04	PG&E	3.4	1.9	1.8	3.9	1.5	1.5	3.0	17.2	2.1	1.6	17.0	28.6	1.5	1.6	28.5
05	PG&E	4.4	2.6	2.3	4.4	1.9	1.7	4.0	18.2	2.3	1.8	18.0	28.7	1.6	1.6	28.5
05	PG&E/SoCalGas	4.4	2.6	2.3	4.4	1.9	1.7	4.0	18.2	2.3	1.8	18.0	28.7	1.6	1.6	28.5
06	SCE/SoCalGas	2.0	1.3	1.4	2.9	2.2	2.3	2.0	14.3	1.2	1.5	14.0	26.1	1.2	1.4	26.0
07	SDG&E	0.0	-	-	2.2	1.6	1.7	0.0	11.3	1.9	1.5	11.0	24.2	1.3	1.5	24.0
08	SCE/SoCalGas	1.6	0.6	1.2	1.8	2.8	3.0	1.5	10.9	1.0	1.5	10.5	21.6	1.1	1.4	21.5
09	SCE/SoCalGas	2.8	0.8	2.0	3.3	2.1	3.2	2.5	11.5	1.1	1.6	11.5	21.3	1.1	1.5	21.0
10	SCE/SoCalGas	3.1	0.9	1.5	3.4	2.3	3.2	3.0	11.1	1.1	1.5	11.0	21.2	1.1	1.5	21.0
10	SDG&E	3.1	1.1	1.5	3.4	2.6	3.2	3.0	11.1	1.7	1.5	11.0	21.2	1.4	1.5	21.0
11	PG&E	4.6	1.2	1.5	5.9	3.0	3.3	4.5	14.2	1.8	1.6	14.0	23.2	1.5	1.6	23.0
12	PG&E	3.8	0.8	1.1	5.1	2.0	2.5	3.5	15.7	1.7	1.4	15.5	25.4	1.3	1.5	25.0
13	PG&E	5.1	1.1	1.4	6.0	2.9	3.3	5.0	13.4	1.7	1.5	13.0	22.5	1.4	1.5	22.0
14	SCE/SoCalGas	5.6	1.0	1.5	6.0	2.3	3.1	5.5	15.5	1.2	1.6	15.5	23.9	1.4	1.6	23.5
14	SDG&E	5.6	1.3	1.5	6.0	2.9	3.1	5.5	15.5	1.8	1.6	15.5	23.9	1.7	1.6	23.5
15	SCE/SoCalGas	5.6	1.1	1.6	7.3	3.3	4.5	5.5	6.2	1.1	1.6	6.0	13.5	1.2	1.5	13.0
16	PG&E	9.7	1.7	1.7	4.9	2.4	2.3	4.5	27.0	2.1	1.6	26.5	35.4	1.7	1.5	35.0

¹">1" indicates cases where there are both first cost savings and annual utility bill savings.

²Information about the measures included for each climate zone are described in Appendix D – Single Family Measure Summary



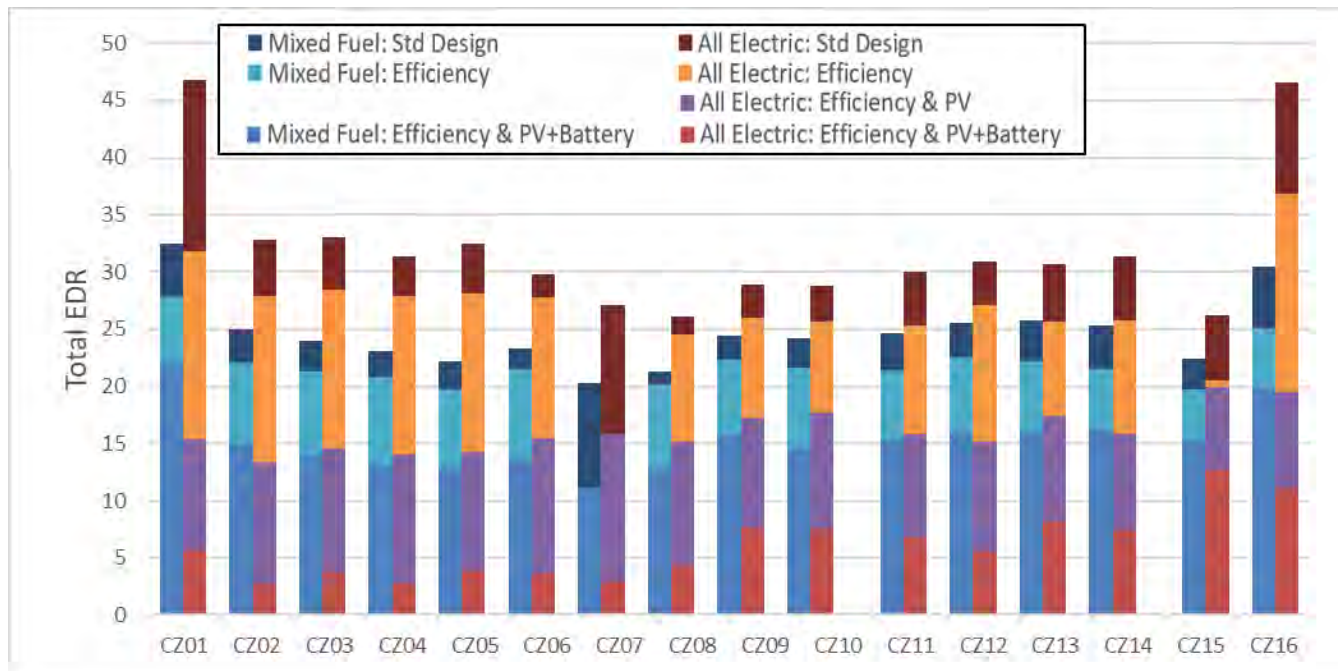


Figure 3: Single family Total EDR comparison

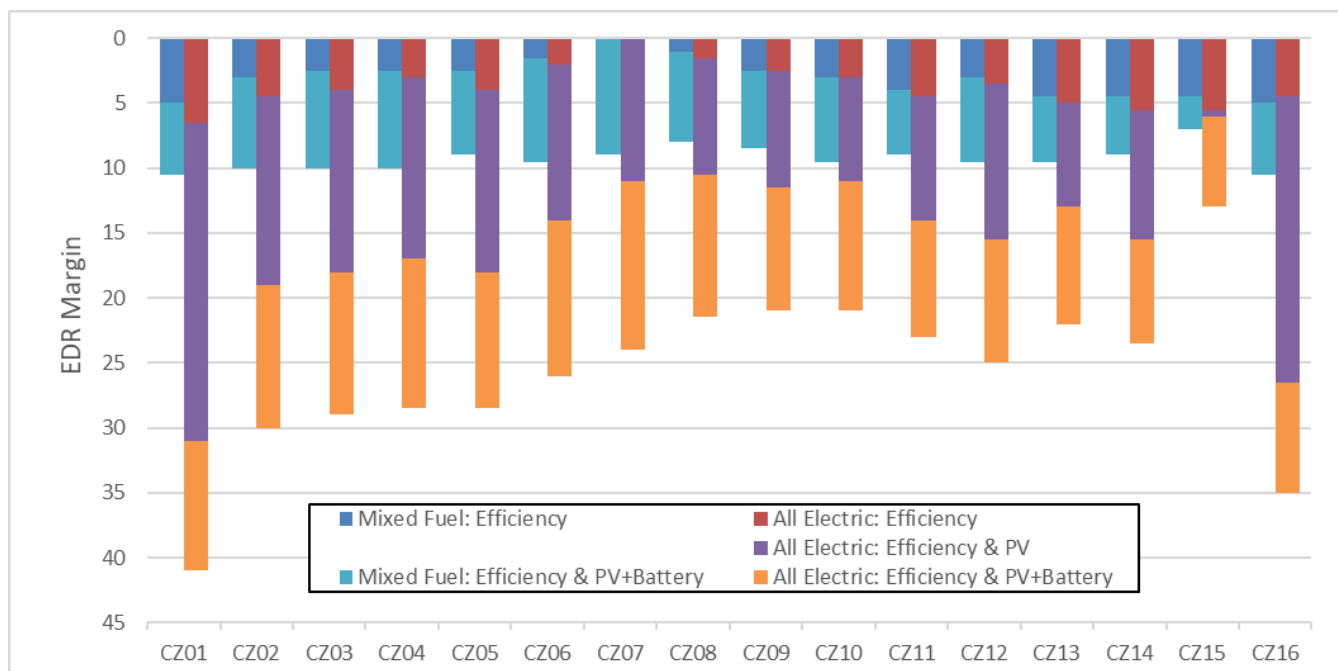


Figure 4: Single family EDR Margin comparison (based on Efficiency EDR Margin for the Efficiency packages and the Total EDR Margin for the Efficiency & PV and Efficiency & PV/Battery packages)



3.2.1 GHG Emission Reductions

Figure 5 compares annual GHG emissions for both mixed fuel and all-electric single family 2019 code compliant cases with Efficiency, Efficiency & PV and Efficiency & PV/Battery packages. GHG emissions vary by climate but are consistently higher in mixed fuel cases than all-electric. Standard Design mixed fuel emissions range from 1.3 (CZ 7) to 3.3 (CZ 16) lbs CO₂e/square foot of floor area, where all-electric Standard Design emissions range from 0.7 to 1.7 lbs CO₂e/ ft². Adding efficiency, PV and batteries to the mixed fuel code compliant prototype reduces GHG emissions by 20% on average to between 1.0 and 1.8 lbs CO₂e/ft², with the exception of Climate Zones 1 and 16. Adding efficiency, PV and batteries to the all-electric code compliant prototype reduces annual GHG emissions by 65% on average to 0.8 lbs CO₂e/ft² or less. None of the cases completely eliminate GHG emissions. Because of the time value of emissions calculation for electricity in CBEECC-Res, there is always some amount of GHG impacts with using electricity from the grid.

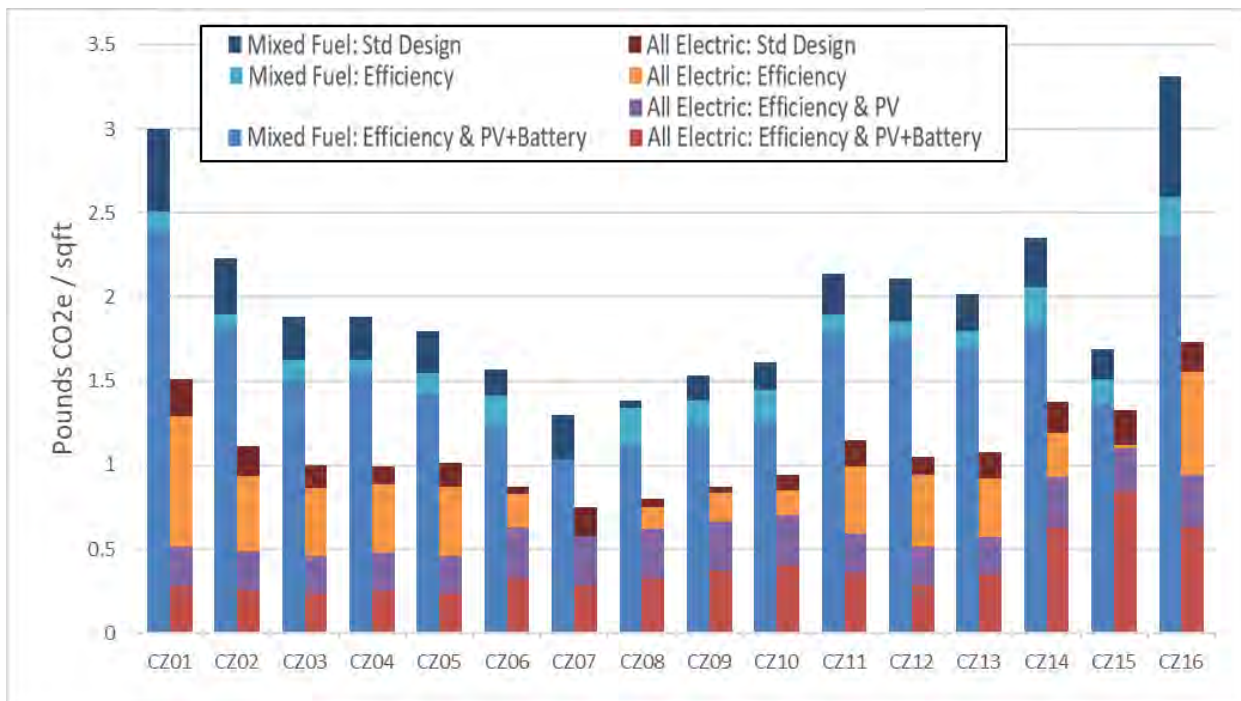


Figure 5: Single family greenhouse gas emissions comparison

3.3 Multifamily Results

Table 11 through Table 13 contain cost effectiveness findings for the multifamily packages. Table 11 summarizes the package costs for all the mixed fuel and all-electric efficiency, PV and battery packages.

Table 12 and Table 13 present the B/C ratios for all the packages according to both the On-Bill and TDV methodologies for the mixed fuel and the all-electric cases, respectively. All the packages are cost-effective based on TDV except Climate Zone 3 for the all-electric cases where no cost-effective combination of non-preempted efficiency measures was found that met the minimum 0.5 EDR Margin threshold. Cases where the B/C ratio is indicated as “>1” refer to instances where there are incremental cost savings in addition to annual utility bill savings. In these cases, there is no cost associated with this upgrade and benefits are realized immediately.

It is generally more challenging to achieve equivalent savings targets cost-effectively for the multifamily cases than for the single family cases. With less exterior surface area per floor area the impact of envelope measures



is diminished in multifamily buildings. Ducts are already assumed to be within conditioned space and therefore only one of the duct measures found to be cost-effective in single family homes can be applied.

Figure 6 presents a comparison of Total EDRs for the multifamily cases and Figure 7 presents the EDR Margin results. Each graph compares the mixed fuel and all-electric cases as well as the various packages. Cost-effective efficiency packages were found for all **mixed fuel cases**. The Target EDR Margins for the **mixed fuel Efficiency Package** are 0.5 for Climate Zones 3, 5 and 7, between 1.0 and 2.5 for Climate Zones 1, 2, 4, 6, 8 through 12 and 16, and between 3.0 and 4.0 in Climate Zones 13 through 15. For the **all-electric case, no cost-effective non-preempted efficiency packages** were found in Climate Zone 3. The Target EDR Margins are between 0.5 and 2.5 for Climate Zones 2, 4 through 10 and 12, and between 3.0 and 4.0 in Climate Zones 1, 11, and 13 through 16.

For the **mixed fuel case, the Efficiency & PV/Battery Package** results in an EDR Margin of between 8.5 and 11.5 across all climate zones. Most of these packages were not found to be cost-effective based on utility bill savings alone, but they all are cost-effective based on TDV energy savings. For the **all-electric case, the Efficiency & PV Package** resulted in EDR Margins of 10.5 to 17.5 for most climates; adding a battery system increased the EDR Margin by an additional 10 to 15 points. Climate zones 1 and 16, which have high heating loads, have much higher EDR Margins for the **Efficiency & PV package** (19.5-22.5). The Standard Design PV, which is what is applied in the **Efficiency Package**, is not sized to offset any of the heating load. When the PV system is sized to offset 90% of the total electricity use, the increase is substantial as a result. In Climate Zone 15 the Standard Design PV system is already sized to cover the cooling electricity load, which represents 30% of whole building electricity use. Therefore, increasing the PV size to offset 90% of the electric load in this climate only results in adding approximately 240 Watts of PV capacity per apartment and subsequently a much smaller impact on the EDR than in other climate zones. Because of the limitations on oversizing PV systems to offset natural gas use it is not feasible to achieve comparable EDR Margins for the mixed fuel case as in the all-electric case.

Additional results details can be found in Appendix E – Multifamily Detailed Results with summaries of measures included in each of the packages in Appendix F – Multifamily Measure Summary. A summary of results by climate zone is presented in Appendix G – Results by Climate Zone.



Table 11: Multifamily Package Incremental Costs per Dwelling Unit

Climate Zone	Mixed Fuel			All-Electric			
	Non-Preempted	Equipment - Preempted	Efficiency & PV/Battery	Non-Preempted	Equipment - Preempted	Efficiency & PV	Efficiency & PV/Battery
CZ01	+\$960	+\$507	+\$3,094	+\$949	+\$795	+\$5,538	+\$8,919
CZ02	+\$309	+\$497	+\$2,413	+\$361	+\$795	+\$3,711	+\$6,833
CZ03	+\$175	+\$403	+\$2,279	n/a	+\$795	+\$3,272	+\$6,344
CZ04	+\$329	+\$351	+\$2,429	+\$361	+\$795	+\$3,158	+\$6,201
CZ05	+\$180	+\$358	+\$2,273	+\$247	+\$795	+\$3,293	+\$6,314
CZ06	+\$190	+\$213	+\$2,294	+\$231	+\$361	+\$2,580	+\$5,590
CZ07	+\$90	+\$366	+\$2,188	+\$202	+\$361	+\$2,261	+\$5,203
CZ08	+\$250	+\$213	+\$2,353	+\$231	+\$361	+\$2,240	+\$5,249
CZ09	+\$136	+\$274	+\$2,234	+\$231	+\$361	+\$2,232	+\$5,236
CZ10	+\$278	+\$250	+\$2,376	+\$361	+\$361	+\$2,371	+\$5,395
CZ11	+\$850	+\$317	+\$2,950	+\$1,011	+\$795	+\$3,601	+\$6,759
CZ12	+\$291	+\$434	+\$2,394	+\$1,011	+\$795	+\$3,835	+\$6,943
CZ13	+\$831	+\$290	+\$2,936	+\$1,011	+\$795	+\$3,462	+\$6,650
CZ14	+\$874	+\$347	+\$2,957	+\$1,011	+\$795	+\$3,356	+\$6,380
CZ15	+\$510	-\$157	+\$2,604	+\$1,011	+\$1,954	+\$1,826	+\$5,020
CZ16	+\$937	+\$453	+\$3,028	+\$843	+\$795	+\$4,423	+\$7,533



Table 12: Multifamily Package Cost-Effectiveness Results for the Mixed Fuel Case^{1,2}

CZ	Utility	Efficiency							Efficiency & PV/Battery			
		Non-Preempted			Equipment - Preempted			Target	Total	On-Bill	TDV	Target
Efficiency	On-Bill	TDV	Efficiency	On-Bill	TDV	Efficiency	Total	On-Bill				
EDR	B/C	B/C	EDR	B/C	B/C	EDR	EDR	B/C	B/C	EDR		
Margin	Ratio	Ratio	Margin	Ratio	Ratio	Margin	Margin	Ratio	Ratio	Margin		
01	PG&E	3.4	1.1	1.2	2.3	1.3	1.4	2.0	11.5	0.4	1.2	11.5
02	PG&E	1.8	1.0	1.7	2.3	1.1	1.5	1.5	10.9	0.2	1.6	10.5
03	PG&E	0.6	1.0	1.1	1.6	1.1	1.2	0.5	10.3	0.1	1.4	10.0
04	PG&E	1.3	0.8	1.2	1.9	1.1	1.7	1.0	11.2	0.2	1.6	11.0
05	PG&E	0.5	1.0	1.0	1.5	1.2	1.3	0.5	9.9	0.2	1.4	9.5
05	PG&E/SoCalGas	0.5	0.8	1.0	1.5	1.1	1.3	0.5	9.9	0.1	1.4	9.5
06	SCE/SoCalGas	1.3	0.6	1.5	1.3	1.4	1.7	1.0	10.7	0.6	1.4	10.5
07	SDG&E	0.9	0.7	2.2	2.0	1.1	1.4	0.5	11.0	0.0	1.4	11.0
08	SCE/SoCalGas	1.5	0.7	1.4	1.1	1.4	1.7	1.0	9.9	0.7	1.3	9.5
09	SCE/SoCalGas	1.8	1.5	3.3	2.8	1.7	2.9	1.5	9.7	0.9	1.5	9.5
10	SCE/SoCalGas	1.7	0.8	1.7	2.9	2.0	3.3	1.5	10.4	1.0	1.6	10.0
10	SDG&E	1.7	1.1	1.7	2.9	2.6	3.3	1.5	10.4	0.2	1.6	10.0
11	PG&E	2.9	0.7	1.2	3.2	1.8	3.3	2.5	10.5	0.4	1.6	10.5
12	PG&E	1.9	1.1	2.2	2.8	1.2	2.2	1.5	10.3	0.3	1.7	10.0
13	PG&E	3.1	0.6	1.3	3.4	2.0	3.8	3.0	10.7	0.4	1.6	10.5
14	SCE/SoCalGas	3.1	0.7	1.2	3.3	2.0	3.0	3.0	9.6	1.1	1.4	9.5
14	SDG&E	3.1	0.9	1.2	3.3	2.5	3.0	3.0	9.6	0.5	1.4	9.5
15	SCE/SoCalGas	4.2	1.4	2.3	4.4	>1	>1	4.0	8.8	1.3	1.7	8.5
16	PG&E	2.4	1.1	1.2	2.9	1.8	2.1	2.0	9.9	0.5	1.3	9.5

¹">1" indicates cases where there are both first cost savings and annual utility bill savings.

²Information about the measures included for each climate zone are described in Appendix F – Multifamily Measure Summary.



Table 13: Multifamily Package Cost-effectiveness Results for the All-Electric Case^{1,2}

CZ	Utility	Efficiency							Efficiency & PV				Efficiency & PV/Battery				
		Non-Preempted			Equipment - Preempted				Target Efficiency EDR Margin	Total EDR Margin	On-Bill B/C Ratio	TDV B/C Ratio	Target Total EDR Margin	Total EDR Margin	On-Bill B/C Ratio	TDV B/C Ratio	Target Total EDR Margin
		Efficiency EDR Margin	On-Bill B/C Ratio	TDV B/C Ratio	Efficiency EDR Margin	On-Bill B/C Ratio	TDV B/C Ratio										
01	PG&E	3.6	1.6	1.4	3.3	2.4	2.3	3.0	22.5	2.0	1.5	22.5	34.5	1.3	1.4	34.5	
02	PG&E	1.9	1.7	2.1	3.2	1.6	1.6	1.5	17.5	2.4	1.8	17.5	30.9	1.4	1.7	30.5	
03	PG&E	0.0	-	-	2.7	1.7	1.6	0.0	16.1	2.4	1.7	16.0	29.5	1.3	1.6	29.5	
04	PG&E	1.4	1.4	1.5	2.2	1.2	1.1	1.0	15.0	2.4	1.8	15.0	28.9	1.3	1.8	28.5	
05	PG&E	0.6	1.1	0.9	3.6	2.1	2.0	0.5	17.1	2.5	1.8	17.0	30.3	1.4	1.7	30.0	
05	PG&E/SoCalGas	0.6	1.1	0.9	3.6	2.1	2.0	0.5	17.1	2.5	1.8	17.0	30.3	1.4	1.7	30.0	
06	SCE/SoCalGas	1.0	0.7	1.3	2.2	1.6	1.9	1.0	13.8	1.2	1.7	13.5	27.5	1.2	1.6	27.5	
07	SDG&E	0.6	0.6	1.0	1.9	1.6	1.7	0.5	12.8	2.1	1.8	12.5	27.1	1.2	1.6	27.0	
08	SCE/SoCalGas	1.2	0.9	1.7	1.9	1.6	1.8	1.0	11.6	1.3	1.8	11.5	24.2	1.2	1.6	24.0	
09	SCE/SoCalGas	1.6	1.3	2.7	1.5	1.6	1.6	1.5	11.3	1.3	1.9	11.0	23.3	1.3	1.7	23.0	
10	SCE/SoCalGas	1.8	1.2	2.0	1.8	1.7	2.0	1.5	10.8	1.3	1.8	10.5	23.3	1.3	1.7	23.0	
10	SDG&E	1.8	1.5	2.0	1.8	2.0	2.0	1.5	10.8	2.1	1.8	10.5	23.3	1.4	1.7	23.0	
11	PG&E	3.5	1.4	1.6	3.9	2.0	2.3	3.5	13.4	2.2	1.8	13.0	25.3	1.4	1.8	25.0	
12	PG&E	2.6	0.9	1.1	2.9	1.6	1.6	2.5	14.4	2.1	1.6	14.0	26.6	1.3	1.7	26.5	
13	PG&E	3.3	1.3	1.6	3.8	2.0	2.3	3.0	12.2	2.1	1.7	12.0	23.9	1.4	1.7	23.5	
14	SCE/SoCalGas	3.7	1.2	1.6	3.8	1.6	2.2	3.5	14.0	1.4	1.9	14.0	24.8	1.4	1.8	24.5	
14	SDG&E	3.7	1.5	1.6	3.8	2.0	2.2	3.5	14.0	2.2	1.9	14.0	24.8	1.7	1.8	24.5	
15	SCE/SoCalGas	4.4	1.5	2.3	6.4	1.2	1.7	4.0	7.1	1.4	2.1	7.0	16.9	1.3	1.8	16.5	
16	PG&E	4.1	2.1	2.1	3.2	1.6	1.7	3.0	19.6	2.6	1.9	19.5	29.9	1.6	1.7	29.5	

¹">1" indicates cases where there are both first cost savings and annual utility bill savings.

²Information about the measures included for each climate zone are described in Appendix F – Multifamily Measure Summary.



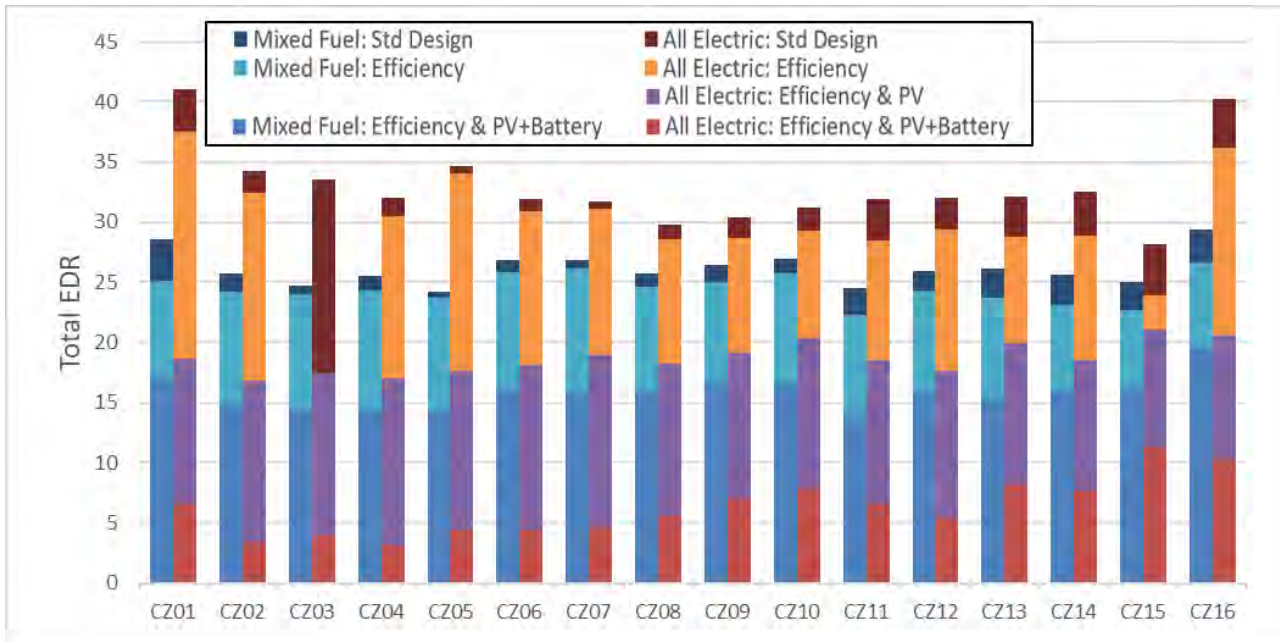


Figure 6: Multifamily Total EDR comparison

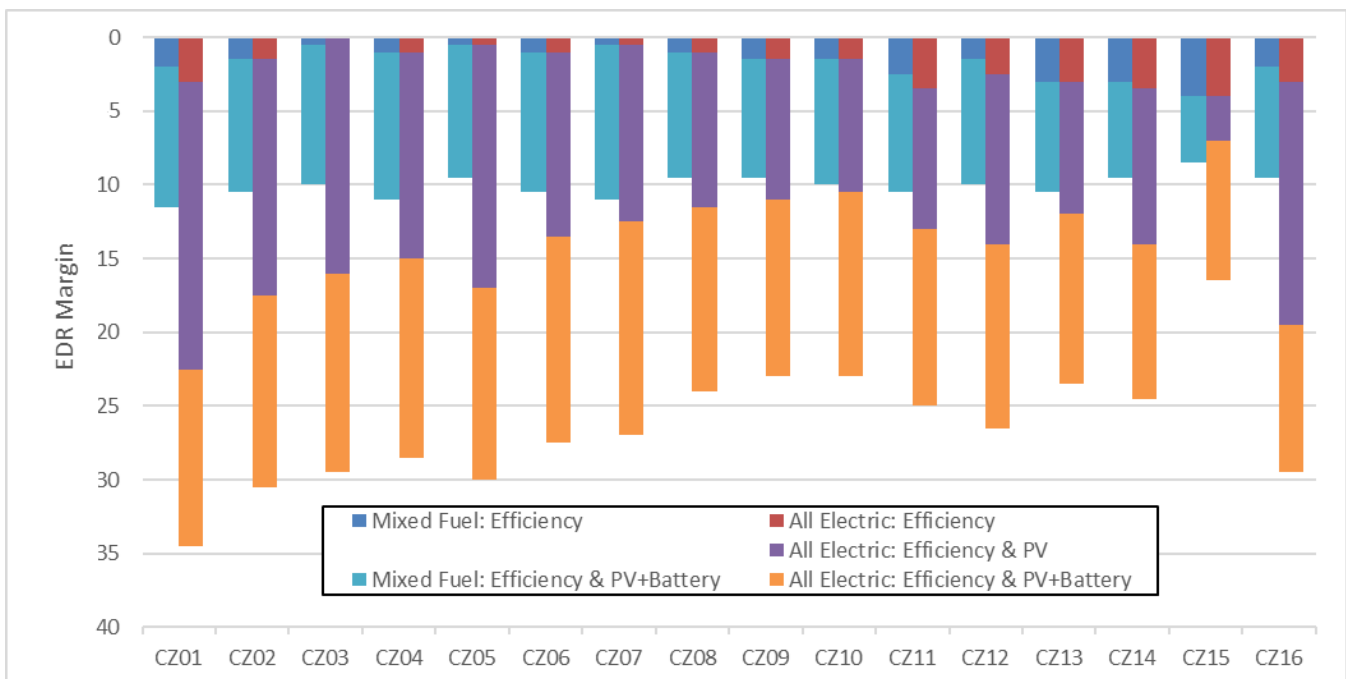


Figure 7: Multifamily EDR Margin comparison (based on Efficiency EDR Margin for the Efficiency packages and the Total EDR Margin for the Efficiency & PV and Efficiency & PV/Battery packages)



3.3.1 GHG Emission Reductions

Figure 8 compares annual GHG emissions for both mixed fuel and all-electric multifamily 2019 code compliant cases with Efficiency, Efficiency & PV and Efficiency & PV/Battery packages. GHG emissions vary by climate but are consistently higher in mixed fuel cases than all-electric. Standard design mixed fuel emissions range from 2.0 to 3.0 lbs CO₂e/square foot of floor area, where all-electric standard design emissions range from 1.2 to 1.7 lbs CO₂e/ ft². Adding PV, batteries and efficiency to the mixed fuel code compliant prototype reduces annual GHG emissions by 17% on average to between 1.7 and 2.2 lbs CO₂e/ft², except Climate Zone 16. Adding PV, batteries and efficiency to the all-electric code compliant prototype reduces annual GHG emissions by 64% on average to 0.6 lbs CO₂e/ft² or less with the exception of Climate Zones 14, 15 and 16. As in the single family case, none of the cases completely eliminate GHG emissions because of the time value of emissions calculation for electricity in CBECC-Res.

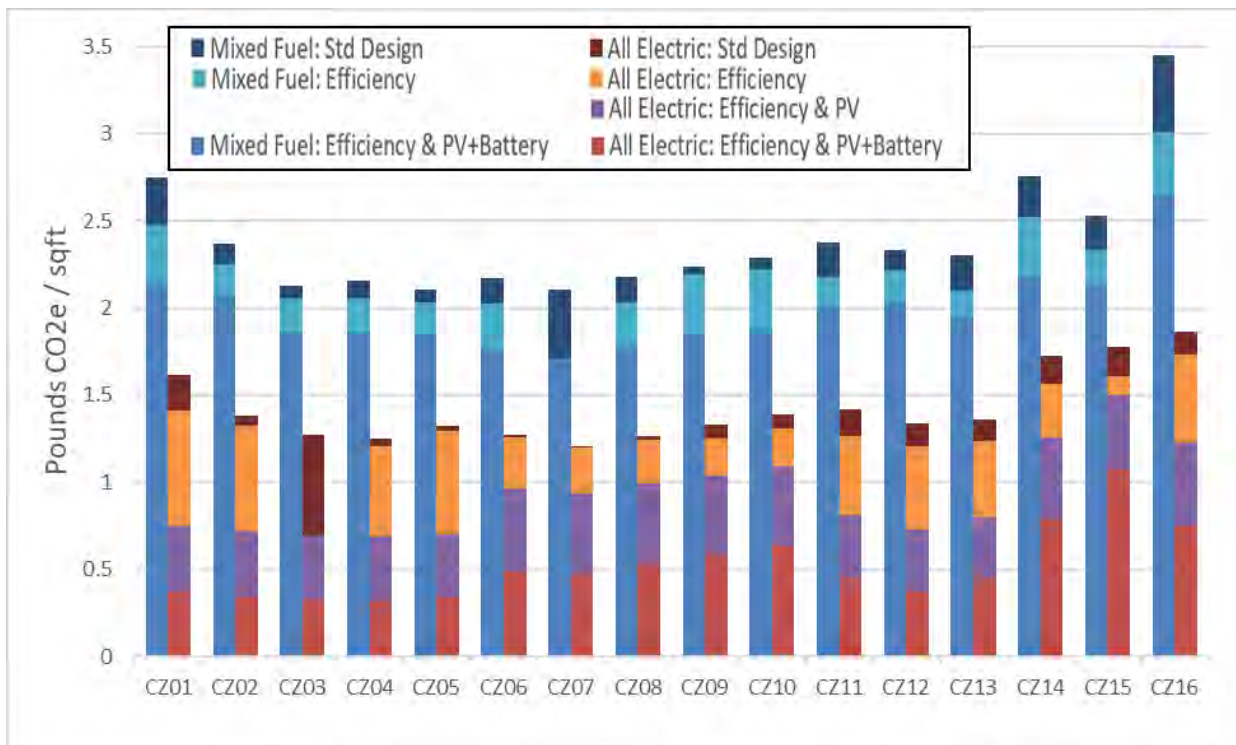


Figure 8: Multifamily greenhouse gas emissions comparison

3.4 Electrification Results

Cost-effectiveness results comparing mixed fuel and all-electric cases are summarized below. The tables show average annual utility bill impacts and lifetime utility bill impacts, which account for fuel escalation for electricity and natural gas (see Section 2.5), lifetime equipment cost savings, and both On-Bill and TDV cost-effectiveness (B/C ratio). Positive utility bill values indicate lower utility costs for the all-electric home relative to the mixed fuel case while negative values in red and parenthesis indicate higher utility costs for the all-electric case. Lifetime equipment cost savings include savings due to eliminating natural gas infrastructure and replacement costs for appliances based on equipment life. Positive values for the lifetime equipment cost savings indicate lower installed costs for the all-electric and negative values indicate higher costs. B/C ratios 1.0 or greater indicate positive cost-effectiveness. Cases where the B/C ratio is indicated as “>1” refer to instances where there was incremental cost savings in addition to annual utility bill savings. In these cases, there is no cost associated with this upgrade and benefits are realized immediately.



Three scenarios were evaluated:

1. **2019 Code Compliant:** Compares a 2019 code compliant all-electric home with a 2019 code compliant mixed fuel home.
2. **Efficiency & PV Package:** Compares an all-electric home with efficiency and PV sized to 90% of the annual electricity use to a 2019 code compliant mixed fuel home. The first cost savings in the code compliant all-electric house is invested in above code efficiency and PV reflective of the Efficiency & PV packages described above.
3. **Neutral Cost Package:** Compares an all-electric home with PV beyond code minimum with a 2019 code compliant mixed fuel home. The PV system for the all-electric case is sized to result in a zero lifetime incremental cost relative to a mixed fuel home.

3.4.1 Single Family

Table 14, Table 15, Figure 9, Figure 10, and Figure 11 present results of cost-effectiveness analysis for electrification of single family buildings, according to both the On-Bill and TDV methodologies. Based on typical cost assumptions arrived at for this analysis, the lifetime equipment costs for the single family code compliant all-electric option are approximately \$5,350 less than the mixed fuel code compliant option. Cost savings are entirely due to the elimination of gas infrastructure, which was assumed to be a savings of \$5,750. When evaluating cost-effectiveness based on TDV, the Utility Gas Main Extensions rules 50% refund and appliance allowance deduction are not applied and therefore the cost savings are twice as much.

Under the Efficiency & PV Package and the On-Bill analysis, the incremental cost of the efficiency and PV is typically more than the cost savings seen in the code compliant case, which results in a net cost increase in most climate zones for the all-electric case. In climates with small heating loads (7 and 15) there continues to be an incremental cost savings for the all-electric home. With the TDV analysis, there is still an incremental cost savings in all climates except 1 and 16 for single family.

Utility impacts differ by climate zone and utility, but utility costs for the code compliant all-electric option are typically higher than for the compliant mixed fuel design. There are utility cost savings across all climate zones and building types for the all-electric Efficiency & PV Package, resulting in a more cost-effective option.

The all-electric code compliant option is cost-effective based on the On-Bill approach for single family homes in Climate Zones 6 through 9, 10 (SCE/SoCalGas territory only), and 15. The code compliant option is cost-effective based on the TDV methodology in all climate zones except 1 and 16. If the same costs used for the On-Bill approach are also used for the TDV approach (incorporating the Utility Gas Main Extensions rules 50% refund and appliance allowance deduction), the all-electric code compliant option is cost-effective in Climate Zones 6 through 10. The Efficiency & PV all-electric option is cost-effective in all climate zones based on both the On-Bill and TDV methodologies. In many cases it is cost-effective immediately with lower equipment and utility costs.

The last set of results in Table 14 shows the neutral cost case where the cost savings for the all-electric code compliant home is invested in a larger PV system, resulting in a lifetime incremental cost of zero based on the On-Bill approach. This package results in utility cost savings in all cases except Climate Zones 1, 14 (SCE/SoCalGas territory only), and 16. For these three cases the Reach Code Team evaluated how much additional PV would be required to result in a cost-effective package. These results are presented in Table 15 and show that an additional 1.6kW in Climate Zone 1 results in a B/C ratio of 1.1. For Climate Zone 14 and 16 adding 0.25kW and 1.2kW, respectively, results in a B/C ratio of 1.2. Neutral cost cases are cost-effective based on the TDV methodology in all climate zones except 16.

3.4.2 Multifamily

Multifamily results are found in Table 16, Table 17, Figure 12, Figure 13, and Figure 14. Lifetime costs for the multifamily code compliant all-electric option are approximately \$2,300 less than the mixed fuel code compliant option, entirely due to the elimination of gas infrastructure. When evaluating cost-effectiveness based on TDV,



the Utility Gas Main Extensions rules 50% refund and appliance allowance deduction are not applied and therefore the cost savings are approximately 2.5 times higher.

With the Efficiency & PV Package and the On-Bill analysis, due to the added cost of the efficiency and PV there is a net cost increase for the all-electric case in all climate zones for except 7, 8, 9, and 15. With the TDV analysis, there is still an incremental cost savings in all climates. Like the single family results, utility costs are typically higher for the code compliant all-electric option but lower than the code compliant mixed fuel option with the Efficiency & PV Package.

The all-electric code compliant option is cost-effective based on the On-Bill approach for multifamily in Climate Zones 6 through 9, 10 and 14 (SCE/SoCalGas territory only), and 15. Based on the TDV methodology, the code compliant option for multifamily is cost-effective for all climate zones. If the same costs used for the On-Bill approach are also used for the TDV approach (incorporating the Utility Gas Main Extensions rules 50% refund and appliance allowance deduction), the all-electric code compliant option is cost-effective in Climate Zones 8 and 9. Like the single family cases, the Efficiency & PV all-electric option is cost-effective in all climate zones based on both the On-Bill and TDV methodologies.

The last set of results in Table 16 show the neutral cost case where the cost savings for the all-electric code compliant home is invested in a larger PV system, resulting in a lifetime incremental cost of zero based on the On-Bill approach. This package results in utility cost savings in all cases except Climate Zone 1. For this case the Reach Code Team evaluated how much additional PV would be required to result in a cost-effective package. These results are presented in Table 17 and show that an additional 0.3kW per apartment results in a B/C ratio of 1.1. Neutral cost cases are cost-effective based on the TDV methodology in all climate zones except 16.

Table 14: Single Family Electrification Results

CZ	Utility	On-Bill Cost-effectiveness ¹						TDV Cost-effectiveness		
		Average Annual Utility Bill Savings			Lifetime NPV			Lifetime NPV		
		Electricity	Natural Gas	Net Utility Savings	Utility Bill Savings	Equipment Cost Savings	On-Bill B/C Ratio ²	TDV Cost Savings	Equipment Cost Savings	TDV B/C Ratio
2019 Code Compliant Home										
01	PG&E	-\$1,194	+\$712	-\$482	-\$14,464	+\$5,349	0.4	-\$13,081	+\$11,872	0.9
02	PG&E	-\$825	+\$486	-\$340	-\$10,194	+\$5,349	0.5	-\$7,456	+\$11,872	1.6
03	PG&E	-\$717	+\$391	-\$326	-\$9,779	+\$5,349	0.5	-\$7,766	+\$11,872	1.5
04	PG&E	-\$710	+\$387	-\$322	-\$9,671	+\$5,349	0.6	-\$7,447	+\$11,872	1.6
05	PG&E	-\$738	+\$367	-\$371	-\$11,128	+\$5,349	0.5	-\$8,969	+\$11,872	1.3
05	PG&E/SoCalGas	-\$738	+\$370	-\$368	-\$11,034	+\$5,349	0.5	-\$8,969	+\$11,872	1.3
06	SCE/SoCalGas	-\$439	+\$289	-\$149	-\$4,476	+\$5,349	1.2	-\$4,826	+\$11,872	2.5
07	SDG&E	-\$414	+\$243	-\$171	-\$5,134	+\$5,349	1.0	-\$4,678	+\$11,872	2.5
08	SCE/SoCalGas	-\$347	+\$249	-\$97	-\$2,921	+\$5,349	1.8	-\$3,971	+\$11,872	3.0
09	SCE/SoCalGas	-\$377	+\$271	-\$107	-\$3,199	+\$5,349	1.7	-\$4,089	+\$11,872	2.9
10	SCE/SoCalGas	-\$403	+\$280	-\$123	-\$3,684	+\$5,349	1.5	-\$4,458	+\$11,872	2.7
10	SDG&E	-\$496	+\$297	-\$198	-\$5,950	+\$5,349	0.9	-\$4,458	+\$11,872	2.7
11	PG&E	-\$810	+\$447	-\$364	-\$10,917	+\$5,349	0.5	-\$7,024	+\$11,872	1.7
12	PG&E	-\$740	+\$456	-\$284	-\$8,533	+\$5,349	0.6	-\$6,281	+\$11,872	1.9
13	PG&E	-\$742	+\$413	-\$329	-\$9,870	+\$5,349	0.5	-\$6,480	+\$11,872	1.8
14	SCE/SoCalGas	-\$661	+\$413	-\$248	-\$7,454	+\$5,349	0.7	-\$7,126	+\$11,872	1.7
14	SDG&E	-\$765	+\$469	-\$296	-\$8,868	+\$5,349	0.6	-\$7,126	+\$11,872	1.7
15	SCE/SoCalGas	-\$297	+\$194	-\$103	-\$3,090	+\$5,349	1.7	-\$5,364	+\$11,872	2.2
16	PG&E	-\$1,287	+\$712	-\$575	-\$17,250	+\$5,349	0.3	-\$17,391	+\$11,872	0.7



CZ	Utility	On-Bill Cost-effectiveness ¹						TDV Cost-effectiveness		
		Average Annual Utility Bill Savings			Lifetime NPV			Lifetime NPV		
		Electricity	Natural Gas	Net Utility Savings	Utility Bill Savings	Equipment Cost Savings	On-Bill B/C Ratio ²	TDV Cost Savings	Equipment Cost Savings	TDV B/C Ratio
Efficiency & PV Package										
01	PG&E	-\$99	+\$712	+\$613	+\$18,398	-\$12,844	1.4	+\$13,364	-\$6,321	2.1
02	PG&E	-\$89	+\$486	+\$397	+\$11,910	-\$6,758	1.8	+\$9,307	-\$234	39.7
03	PG&E	-\$87	+\$391	+\$304	+\$9,119	-\$3,169	2.9	+\$6,516	+\$3,355	>1
04	PG&E	-\$85	+\$387	+\$302	+\$9,074	-\$3,438	2.6	+\$6,804	+\$3,086	>1
05	PG&E	-\$98	+\$367	+\$268	+\$8,054	-\$2,959	2.7	+\$5,625	+\$3,564	>1
05	PG&E/SoCalGas	-\$98	+\$370	+\$272	+\$8,148	-\$2,959	2.8	+\$5,625	+\$3,564	>1
06	SCE/SoCalGas	-\$188	+\$289	+\$102	+\$3,049	-\$992	3.1	+\$4,585	+\$5,531	>1
07	SDG&E	-\$137	+\$243	+\$106	+\$3,174	+\$912	>1	+\$2,176	+\$7,436	>1
08	SCE/SoCalGas	-\$160	+\$249	+\$89	+\$2,664	-\$25	107.9	+\$3,965	+\$6,499	>1
09	SCE/SoCalGas	-\$169	+\$271	+\$102	+\$3,067	-\$429	7.1	+\$5,368	+\$6,094	>1
10	SCE/SoCalGas	-\$173	+\$280	+\$107	+\$3,216	-\$1,057	3.0	+\$5,165	+\$5,466	>1
10	SDG&E	-\$137	+\$297	+\$160	+\$4,805	-\$1,057	4.5	+\$5,165	+\$5,466	>1
11	PG&E	-\$147	+\$447	+\$300	+\$8,988	-\$5,478	1.6	+\$9,776	+\$1,045	>1
12	PG&E	-\$92	+\$456	+\$364	+\$10,918	-\$6,172	1.8	+\$9,913	+\$352	>1
13	PG&E	-\$144	+\$413	+\$269	+\$8,077	-\$5,184	1.6	+\$8,960	+\$1,339	>1
14	SCE/SoCalGas	-\$241	+\$413	+\$172	+\$5,164	-\$5,111	1.0	+\$9,850	+\$1,412	>1
14	SDG&E	-\$139	+\$469	+\$330	+\$9,910	-\$5,111	1.9	+\$9,850	+\$1,412	>1
15	SCE/SoCalGas	-\$107	+\$194	+\$87	+\$2,603	+\$264	>1	+\$2,598	+\$6,787	>1
16	PG&E	-\$130	+\$712	+\$582	+\$17,457	-\$11,234	1.6	+\$9,536	-\$4,710	2.0
Neutral Cost Package										
01	PG&E	-\$869	+\$712	-\$157	-\$4,704	+\$0	0	-\$6,033	+\$6,549	1.1
02	PG&E	-\$445	+\$486	+\$40	+\$1,213	+\$0	>1	+\$868	+\$6,505	>1
03	PG&E	-\$335	+\$391	+\$56	+\$1,671	+\$0	>1	+\$483	+\$6,520	>1
04	PG&E	-\$321	+\$387	+\$66	+\$1,984	+\$0	>1	+\$1,062	+\$6,521	>1
05	PG&E	-\$335	+\$367	+\$31	+\$938	+\$0	>1	-\$163	+\$6,519	40.1
05	PG&E/SoCalGas	-\$335	+\$370	+\$34	+\$1,031	+\$0	>1	-\$163	+\$6,519	40.1
06	SCE/SoCalGas	-\$227	+\$289	+\$63	+\$1,886	+\$0	>1	+\$3,258	+\$6,499	>1
07	SDG&E	-\$72	+\$243	+\$171	+\$5,132	+\$0	>1	+\$3,741	+\$6,519	>1
08	SCE/SoCalGas	-\$144	+\$249	+\$105	+\$3,162	+\$0	>1	+\$4,252	+\$6,515	>1
09	SCE/SoCalGas	-\$170	+\$271	+\$100	+\$3,014	+\$0	>1	+\$4,271	+\$6,513	>1
10	SCE/SoCalGas	-\$199	+\$280	+\$81	+\$2,440	+\$0	>1	+\$3,629	+\$6,494	>1
10	SDG&E	-\$155	+\$297	+\$143	+\$4,287	+\$0	>1	+\$3,629	+\$6,494	>1
11	PG&E	-\$426	+\$447	+\$21	+\$630	+\$0	>1	+\$1,623	+\$6,504	>1
12	PG&E	-\$362	+\$456	+\$94	+\$2,828	+\$0	>1	+\$2,196	+\$6,525	>1
13	PG&E	-\$370	+\$413	+\$43	+\$1,280	+\$0	>1	+\$1,677	+\$6,509	>1
14	SCE/SoCalGas	-\$416	+\$413	-\$4	-\$107	+\$0	0	+\$2,198	+\$6,520	>1
14	SDG&E	-\$391	+\$469	+\$79	+\$2,356	+\$0	>1	+\$2,198	+\$6,520	>1
15	SCE/SoCalGas	-\$98	+\$194	+\$97	+\$2,900	+\$0	>1	+\$2,456	+\$6,483	>1
16	PG&E	-\$878	+\$712	-\$166	-\$4,969	+\$0	0	-\$8,805	+\$6,529	0.7

¹Red values in parentheses indicate an increase in utility bill costs or an incremental first cost for the all-electric home.

²>1" indicates cases where there are both first cost savings and annual utility bill savings.



Table 15: Comparison of Single Family On-Bill Cost Effectiveness Results with Additional PV

CZ	Utility	Neutral Cost				Min. Cost Effectiveness			
		PV Capacity (kW)	Utility Bill Savings	Equipment Cost Savings	On-Bill B/C Ratio	PV Capacity (kW)	Utility Bill Savings	Equipment Cost Savings	On-Bill B/C Ratio
01	PG&E	4.7	-\$4,704	+\$0	0	6.3	+\$6,898	-\$6,372	1.1
14	SCE/SoCalGas	4.5	-\$107	+\$0	0	4.8	+\$1,238	-\$1,000	1.2
16	PG&E	4.1	-\$4,969	+\$0	0	5.3	+\$5,883	-\$4,753	1.2

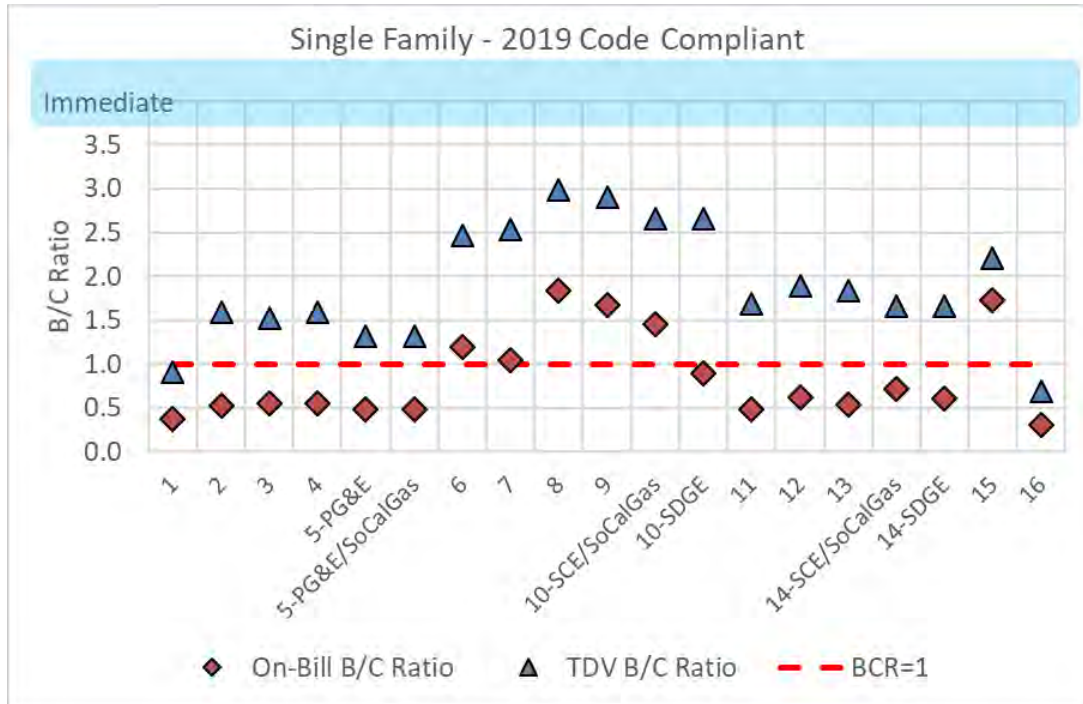


Figure 9: B/C ratio results for a single family all-electric code compliant home versus a mixed fuel code compliant home



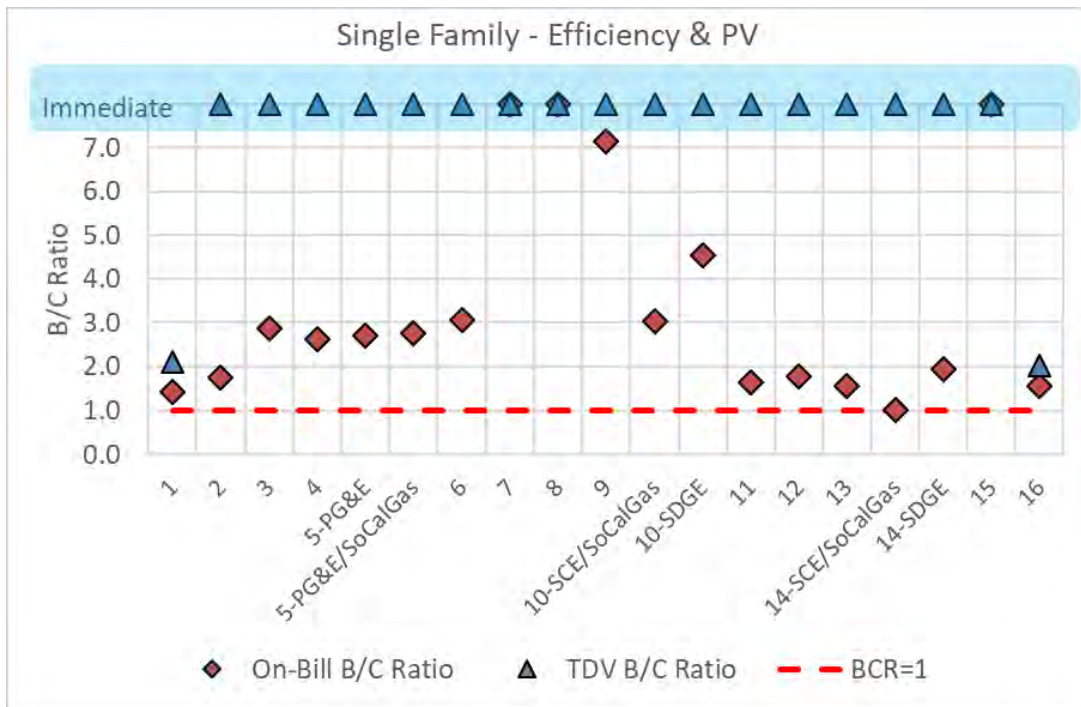


Figure 10: B/C ratio results for the single family Efficiency & PV all-electric home versus a mixed fuel code compliant home

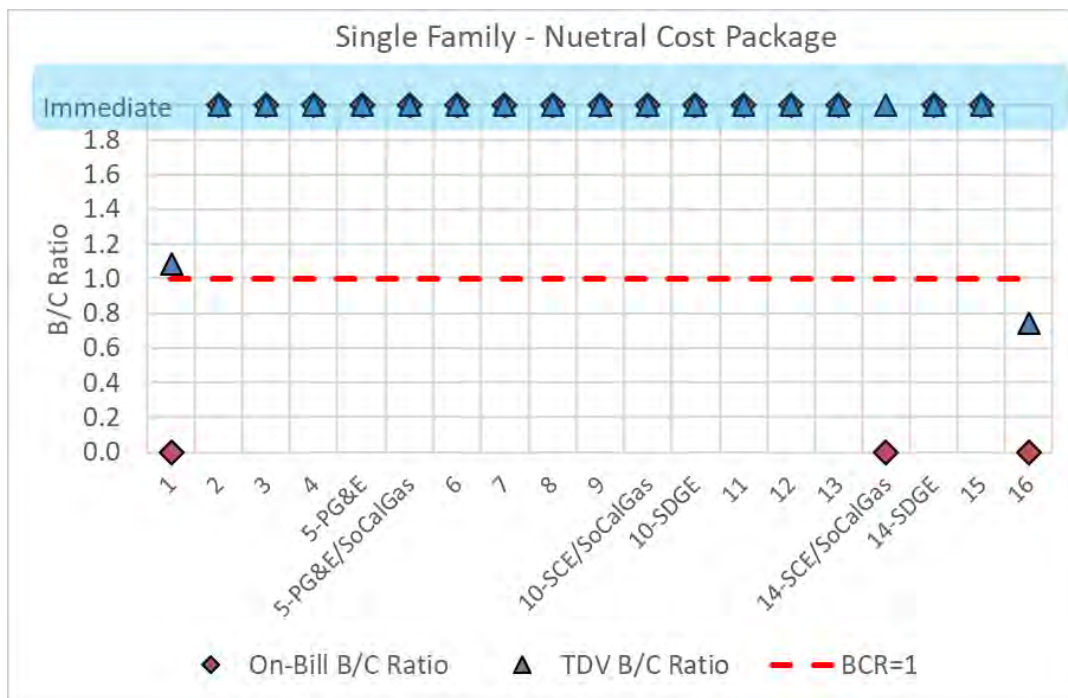


Figure 11: B/C ratio results for the single family neutral cost package all-electric home versus a mixed fuel code compliant home



Table 16: Multifamily Electrification Results (Per Dwelling Unit)

CZ	Utility	On-Bill Cost-effectiveness ¹						TDV Cost-effectiveness		
		Average Annual Utility Bill Savings			Lifetime NPV			Lifetime NPV		
		Electricity	Natural Gas	Net Utility Savings	Utility Bill Savings	Equipment Cost Savings	On-Bill B/C Ratio ²	TDV Cost Savings	Equipment Cost Savings	TDV B/C Ratio
2019 Code Compliant Home										
01	PG&E	-\$396	+\$193	-\$203	-\$6,079	+\$2,337	0.4	-\$5,838	+\$5,899	1.0
02	PG&E	-\$310	+\$162	-\$148	-\$4,450	+\$2,337	0.5	-\$4,144	+\$5,899	1.4
03	PG&E	-\$277	+\$142	-\$135	-\$4,041	+\$2,337	0.6	-\$4,035	+\$5,899	1.5
04	PG&E	-\$264	+\$144	-\$120	-\$3,595	+\$2,337	0.6	-\$3,329	+\$5,899	1.8
05	PG&E	-\$297	+\$140	-\$157	-\$4,703	+\$2,337	0.5	-\$4,604	+\$5,899	1.3
05	PG&E/SoCalGas	-\$297	+\$178	-\$119	-\$3,573	+\$2,337	0.7	-\$4,604	+\$5,899	1.3
06	SCE/SoCalGas	-\$191	+\$161	-\$30	-\$902	+\$2,337	2.6	-\$2,477	+\$5,899	2.4
07	SDG&E	-\$206	+\$136	-\$70	-\$2,094	+\$2,337	1.1	-\$2,390	+\$5,899	2.5
08	SCE/SoCalGas	-\$169	+\$157	-\$12	-\$349	+\$2,337	6.7	-\$2,211	+\$5,899	2.7
09	SCE/SoCalGas	-\$177	+\$159	-\$18	-\$533	+\$2,337	4.4	-\$2,315	+\$5,899	2.5
10	SCE/SoCalGas	-\$183	+\$159	-\$23	-\$697	+\$2,337	3.4	-\$2,495	+\$5,899	2.4
10	SDG&E	-\$245	+\$139	-\$106	-\$3,192	+\$2,337	0.7	-\$2,495	+\$5,899	2.4
11	PG&E	-\$291	+\$153	-\$138	-\$4,149	+\$2,337	0.6	-\$4,420	+\$5,899	1.3
12	PG&E	-\$277	+\$155	-\$122	-\$3,665	+\$2,337	0.6	-\$3,557	+\$5,899	1.7
13	PG&E	-\$270	+\$146	-\$124	-\$3,707	+\$2,337	0.6	-\$3,821	+\$5,899	1.5
14	SCE/SoCalGas	-\$255	+\$187	-\$69	-\$2,062	+\$2,337	1.1	-\$3,976	+\$5,899	1.5
14	SDG&E	-\$328	+\$175	-\$154	-\$4,607	+\$2,337	0.5	-\$3,976	+\$5,899	1.5
15	SCE/SoCalGas	-\$154	+\$142	-\$12	-\$367	+\$2,337	6.4	-\$2,509	+\$5,899	2.4
16	PG&E	-\$404	+\$224	-\$180	-\$5,411	+\$2,337	0.4	-\$5,719	+\$5,899	1.0
Efficiency & PV Package										
01	PG&E	-\$19	+\$193	+\$174	+\$5,230	-\$3,202	1.6	+\$2,467	+\$361	>1
02	PG&E	-\$10	+\$162	+\$152	+\$4,549	-\$1,375	3.3	+\$2,605	+\$2,187	>1
03	PG&E	-\$12	+\$142	+\$130	+\$3,910	-\$936	4.2	+\$1,632	+\$2,626	>1
04	PG&E	-\$8	+\$144	+\$136	+\$4,080	-\$822	5.0	+\$2,381	+\$2,740	>1
05	PG&E	-\$19	+\$140	+\$121	+\$3,635	-\$956	3.8	+\$1,403	+\$2,606	>1
05	PG&E/SoCalGas	-\$19	+\$178	+\$159	+\$4,765	-\$956	5.0	+\$1,403	+\$2,606	>1
06	SCE/SoCalGas	-\$84	+\$161	+\$77	+\$2,309	-\$243	9.5	+\$1,940	+\$3,319	>1
07	SDG&E	-\$49	+\$136	+\$87	+\$2,611	+\$75	>1	+\$1,583	+\$3,638	>1
08	SCE/SoCalGas	-\$74	+\$157	+\$83	+\$2,480	+\$96	>1	+\$1,772	+\$3,658	>1
09	SCE/SoCalGas	-\$76	+\$159	+\$82	+\$2,469	+\$104	>1	+\$1,939	+\$3,667	>1
10	SCE/SoCalGas	-\$79	+\$159	+\$80	+\$2,411	-\$34	70.9	+\$1,737	+\$3,528	>1
10	SDG&E	-\$77	+\$139	+\$61	+\$1,842	-\$34	54.2	+\$1,737	+\$3,528	>1
11	PG&E	-\$25	+\$153	+\$128	+\$3,834	-\$1,264	3.0	+\$2,080	+\$2,298	>1
12	PG&E	-\$11	+\$155	+\$144	+\$4,316	-\$1,498	2.9	+\$2,759	+\$2,064	>1
13	PG&E	-\$26	+\$146	+\$121	+\$3,625	-\$1,125	3.2	+\$2,083	+\$2,437	>1
14	SCE/SoCalGas	-\$99	+\$187	+\$87	+\$2,616	-\$1,019	2.6	+\$2,422	+\$2,543	>1
14	SDG&E	-\$86	+\$175	+\$88	+\$2,647	-\$1,019	2.6	+\$2,422	+\$2,543	>1
15	SCE/SoCalGas	-\$67	+\$142	+\$75	+\$2,247	+\$511	>1	+\$1,276	+\$4,073	>1
16	PG&E	-\$24	+\$224	+\$200	+\$5,992	-\$2,087	2.9	+\$2,629	+\$1,476	>1



CZ	Utility	On-Bill Cost-effectiveness ¹						TDV Cost-effectiveness		
		Average Annual Utility Bill Savings			Lifetime NPV			Lifetime NPV		
		Electricity	Natural Gas	Net Utility Savings	Utility Bill Savings	Equipment Cost Savings	On-Bill B/C Ratio ²	TDV Cost Savings	Equipment Cost Savings	TDV B/C Ratio
Neutral Cost Package										
01	PG&E	-\$228	+\$193	-\$35	-\$1,057	+\$0	0	-\$2,267	+\$3,564	1.6
02	PG&E	-\$115	+\$162	+\$47	+\$1,399	+\$0	>1	+\$59	+\$3,563	>1
03	PG&E	-\$81	+\$142	+\$61	+\$1,843	+\$0	>1	+\$138	+\$3,562	>1
04	PG&E	-\$64	+\$144	+\$80	+\$2,402	+\$0	>1	+\$983	+\$3,563	>1
05	PG&E	-\$90	+\$140	+\$50	+\$1,490	+\$0	>1	-\$152	+\$3,564	23.4
05	PG&E/SoCalGas	-\$90	+\$178	+\$87	+\$2,620	+\$0	>1	-\$152	+\$3,564	23.4
06	SCE/SoCalGas	-\$90	+\$161	+\$71	+\$2,144	+\$0	>1	+\$1,612	+\$3,562	>1
07	SDG&E	-\$32	+\$136	+\$105	+\$3,135	+\$0	>1	+\$1,886	+\$3,560	>1
08	SCE/SoCalGas	-\$67	+\$157	+\$90	+\$2,705	+\$0	>1	+\$1,955	+\$3,564	>1
09	SCE/SoCalGas	-\$71	+\$159	+\$87	+\$2,623	+\$0	>1	+\$1,924	+\$3,561	>1
10	SCE/SoCalGas	-\$78	+\$159	+\$81	+\$2,431	+\$0	>1	+\$1,588	+\$3,561	>1
10	SDG&E	-\$71	+\$139	+\$68	+\$2,033	+\$0	>1	+\$1,588	+\$3,561	>1
11	PG&E	-\$93	+\$153	+\$59	+\$1,783	+\$0	>1	-\$48	+\$3,562	74.0
12	PG&E	-\$82	+\$155	+\$73	+\$2,184	+\$0	>1	+\$739	+\$3,564	>1
13	PG&E	-\$79	+\$146	+\$68	+\$2,034	+\$0	>1	+\$310	+\$3,560	>1
14	SCE/SoCalGas	-\$141	+\$187	+\$45	+\$1,359	+\$0	>1	+\$747	+\$3,562	>1
14	SDG&E	-\$137	+\$175	+\$38	+\$1,131	+\$0	>1	+\$747	+\$3,562	>1
15	SCE/SoCalGas	-\$50	+\$142	+\$92	+\$2,771	+\$0	>1	+\$1,738	+\$3,560	>1
16	PG&E	-\$194	+\$224	+\$30	+\$900	+\$0	>1	-\$1,382	+\$3,564	2.6

¹Red values in parentheses indicate an increase in utility bill costs or an incremental first cost for the all-electric home.

²>1" indicates cases where there are both first cost savings and annual utility bill savings.

Table 17: Comparison of Multifamily On-Bill Cost Effectiveness Results with Additional PV (Per Dwelling Unit)

CZ	Utility	Neutral Cost				Min. Cost Effectiveness			
		PV Capacity (kW)	Utility Bill Savings	Equipment Cost Savings	On-Bill B/C Ratio	PV Capacity (kW)	Utility Bill Savings	Equipment Cost Savings	On-Bill B/C Ratio
01	PG&E	2.7	-\$1,057	+\$0	0	3.0	+\$1,198	-\$1,052	1.1



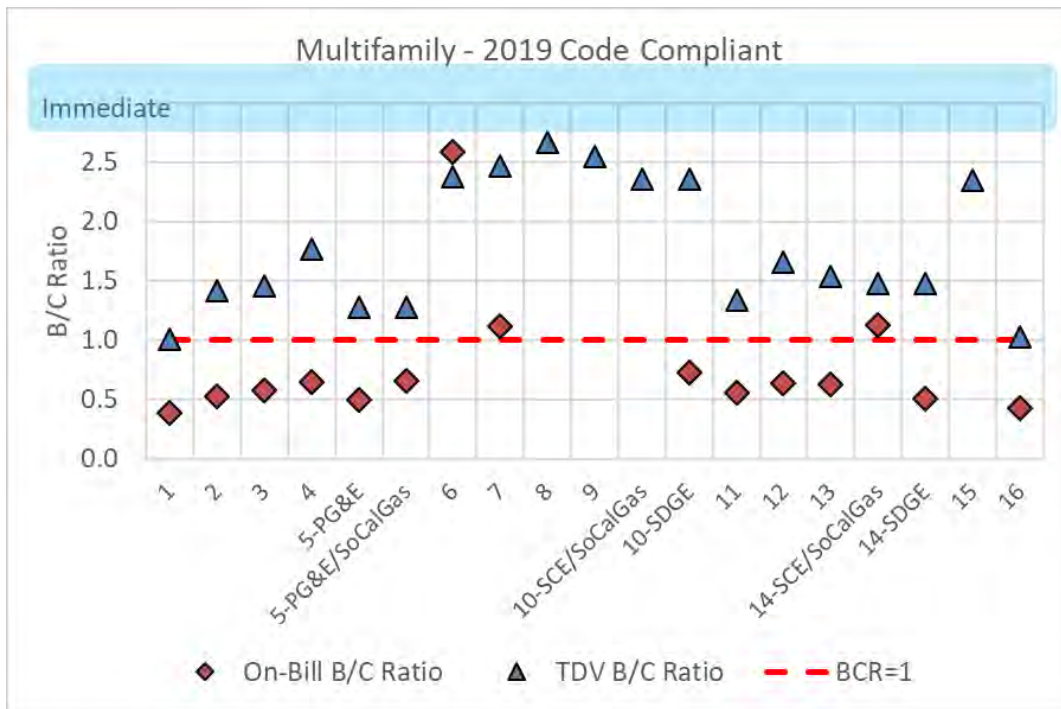


Figure 12: B/C ratio results for a multifamily all-electric code compliant home versus a mixed fuel code compliant home

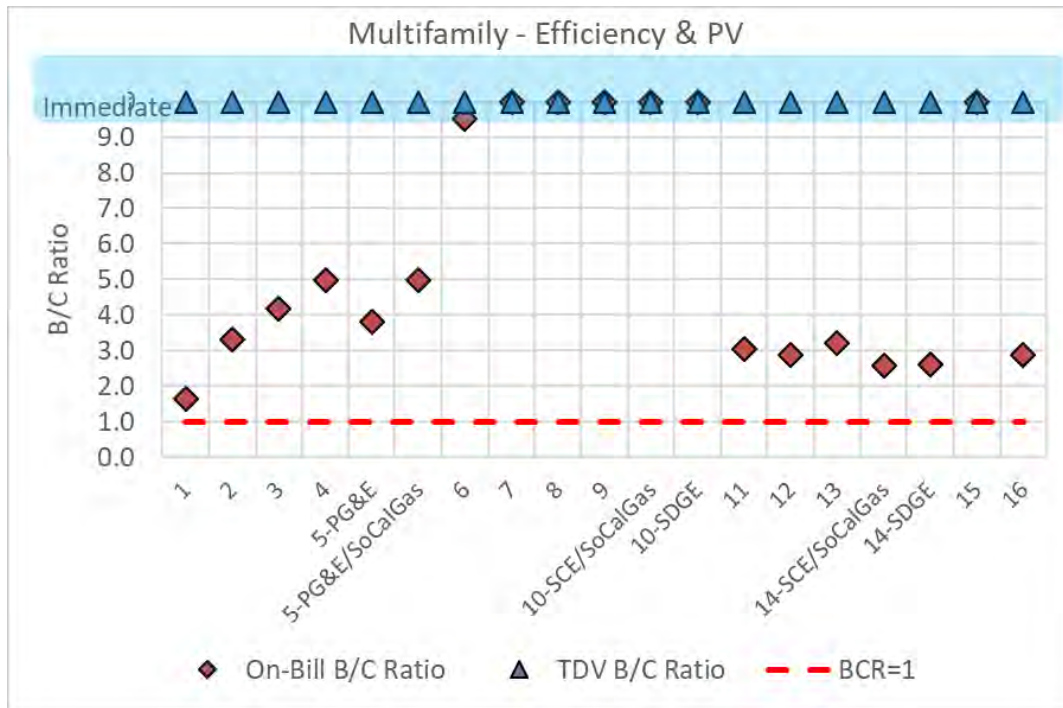


Figure 13: B/C ratio results for the multifamily Efficiency & PV all-electric home versus a mixed fuel code compliant home



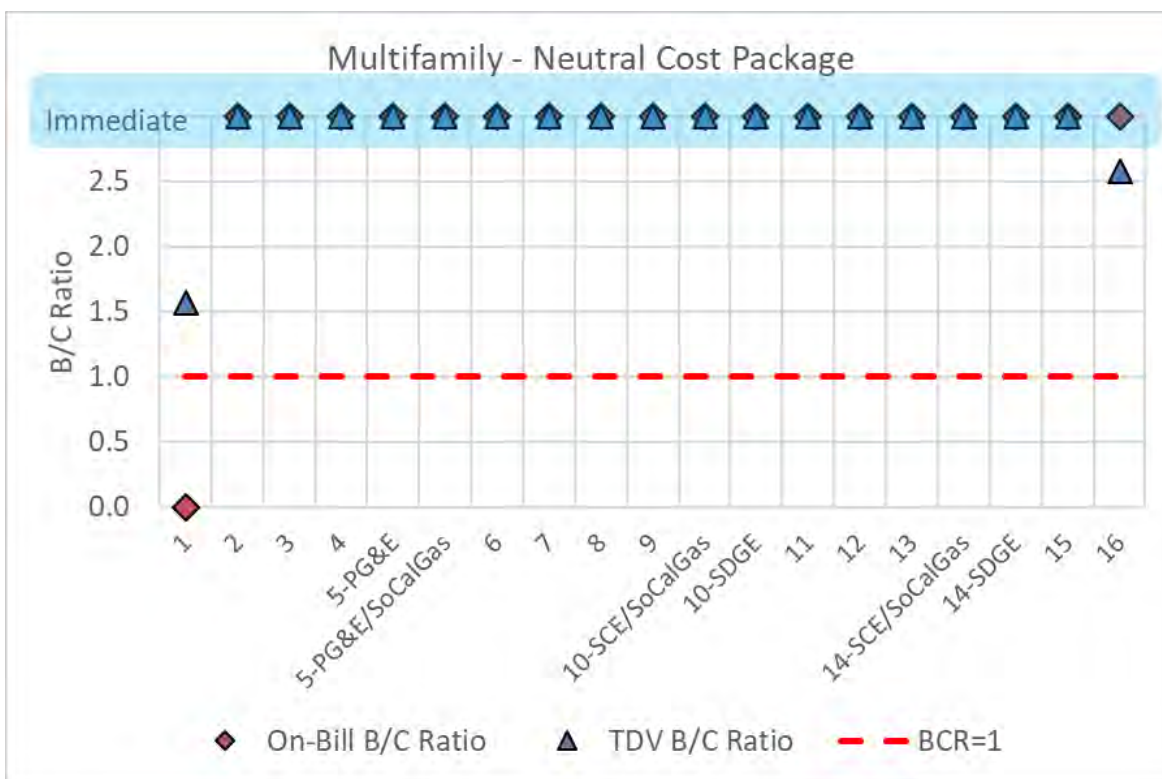


Figure 14: B/C ratio results for the multifamily neutral cost package all-electric home versus a mixed fuel code compliant home

4 Conclusions & Summary

This report evaluated the feasibility and cost-effectiveness of “above code” performance specifications through the application of efficiency measures, PV, and electric battery storage in all 16 California climate zones. The analysis found cost-effective packages across the state for both single family and low-rise multifamily buildings. For the building types and climate zones where cost-effective packages were identified, the results of this analysis can be used by local jurisdictions to support the adoption of reach codes. Cost-effectiveness was evaluated according to two metrics: On-Bill customer lifecycle benefit-to-cost and TDV lifecycle benefit-to-cost. While all the above code targets presented are based on packages that are cost-effective under at least one of these metrics, they are not all cost-effective under both metrics. Generally, the test for being cost-effective under the TDV methodology is less challenging than under the On-Bill methodology. Therefore, all packages presented are cost-effective based on TDV, and may or may not be cost-effective based on the On-Bill method. It is up to each jurisdiction to determine what metric is most appropriate for their application. A summary of results by climate zone are presented in Appendix G – Results by Climate Zone.

Above code targets are presented as Target EDR Margin, which have been defined for each scenario where a cost-effective package was identified. Target EDR Margins represent the maximum “reach” values that meet the requirements. Jurisdictions may adopt less stringent requirements. For the Efficiency Package the Target EDR Margin was defined based on the lower EDR Margin of the Efficiency – Non-Preempted Package and the Efficiency – Equipment, Preempted Package. For example, if the cost-effective Non-Preempted package has an EDR Margin of 3 and the Preempted package an EDR Margin of 4, the Target EDR Margin is set at 3.

The average incremental cost for the single family Efficiency packages is ~\$1,750. The Efficiency & PV Package average incremental cost is \$9,180 and for the Efficiency & PV/Battery Package it is approximately \$5,600 for the



mixed fuel cases and \$15,100 for the all-electric cases. The incremental costs for each multifamily apartment are approximately 30-40% lower. See Table 8 and Table 11 for a summary of package costs by case.

Table 18 and Table 19 summarize the maximum Target EDR Margins determined to be cost effective for each package for single family and multifamily, respectively. Cases labeled as “n/a” in the tables indicate where no cost-effective package was identified under either On-Bill or TDV methodology.

This analysis also looked at the GHG emissions impacts of the various packages. An all-electric design reduces GHG emissions 40-50% in most cases relative to a comparable mixed fuel design.

There is significant interest throughout California on electrification of new buildings. The Reach Code Team assembled data on the cost differences between a code compliant mixed fuel building and a code compliant all-electric building. Based on lifetime equipment cost savings (the difference in first cost for equipment and infrastructure combined with incremental replacement costs) of \$5,349 for an all-electric single family home this analysis found that from a customer on-bill perspective, the all-electric code compliant option is cost-effective in Climates Zones 6 through 9, 10 (SCE/SoCalGas territory only), and 15, and cost-effective in all climate zones except 1 and 16 based on TDV. For multifamily buildings, based on a cost savings of \$2,337 per apartment, the code compliant option is cost-effective in Climates Zones 6 through 9, 10 & 14 (SCE/SoCalGas territory only), and 15, and cost-effective based on TDV.

Adding efficiency and PV to the code compliant all-electric buildings increases the cost-effectiveness in all climate zones. The Efficiency & PV Package is cost-effective when compared to a mixed fuel code compliant building in all climate zones for both single family and multifamily buildings based on both the On-Bill and TDV methodologies. The Efficiency & PV package adds PV to offset 90% of the electricity use of the home. While this results in higher installed costs, the reduced lifetime utility costs are larger (\$0 to \$6,000 lifetime incremental equipment costs in many climates for single family homes and an associated \$4,500 to \$13,500 lifetime utility cost savings across the same cases), resulting in positive B/C ratios for all cases.

The Reach Code Team also evaluated a neutral cost electrification scenario where the cost savings for the all-electric code compliant home is invested in a larger PV system, resulting in a lifetime incremental cost of zero based on the On-Bill approach. This package results in utility cost savings and positive on-bill B/C ratio in all cases except Climate Zones 1 and 16 for single family, and Climate Zone 1 for low-rise multifamily. Increasing the PV sizes in those climates by approximately 30% resulted in positive on-bill B/C ratios, while still not resulting in oversizing of PV systems.

Other studies have shown that cost-effectiveness of electrification increases with high efficiency space conditioning and water heating equipment in the all-electric home. This was not directly evaluated in this analysis but based on the favorable cost-effectiveness results of the Equipment, Preempted package for the individual mixed fuel and all-electric upgrades it's expected that applying similar packages to the electrification analysis would result in increased cost-effectiveness.

The Reach Code Team found there can be substantial variability in first costs, particularly related to natural gas infrastructure. Costs are project-dependent and will be impacted by such factors as site characteristics, distance to the nearest gas main, joint trenching, whether work is conducted by the utility or a private contractor, and number of homes per development among other things. While the best cost data available to the Reach Code Team was applied in this analysis, individual projects may experience different costs, either higher or lower than the estimates presented here.

Table 18: Summary of Single Family Target EDR Margins

Climate Zone	Mixed Fuel		All-Electric		
	Efficiency	Efficiency & PV/Battery	Efficiency	Efficiency & PV	Efficiency & PV/Battery
01	5.0	10.5	6.5	31.0	41.0
02	3.0	10.0	4.5	19.0	30.0
03	2.5	10.0	4.0	18.0	29.0
04	2.5	10.0	3.0	17.0	28.5
05	2.5	9.0	4.0	18.0	28.5
06	1.5	9.5	2.0	14.0	26.0
07	n/a	9.0	n/a	11.0	24.0
08	1.0	8.0	1.5	10.5	21.5
09	2.5	8.5	2.5	11.5	21.0
10	3.0	9.5	3.0	11.0	21.0
11	4.0	9.0	4.5	14.0	23.0
12	3.0	9.5	3.5	15.5	25.0
13	4.5	9.5	5.0	13.0	22.0
14	4.5	9.0	5.5	15.5	23.5
15	4.5	7.0	5.5	6.0	13.0
16	5.0	10.5	4.5	26.5	35.0

Table 19: Summary of Multifamily Target EDR Margins

Climate Zone	Mixed Fuel		All-Electric		
	Efficiency	Efficiency & PV/Battery	Efficiency	Efficiency & PV	Efficiency & PV/Battery
01	2.0	11.5	3.0	22.5	34.5
02	1.5	10.5	1.5	17.5	30.5
03	0.5	10.0	n/a	16.0	29.5
04	1.0	11.0	1.0	15.0	28.5
05	0.5	9.5	0.5	17.0	30.0
06	1.0	10.5	1.0	13.5	27.5
07	0.5	11.0	0.5	12.5	27.0
08	1.0	9.5	1.0	11.5	24.0
09	1.5	9.5	1.5	11.0	23.0
10	1.5	10.0	1.5	10.5	23.0
11	2.5	10.5	3.5	13.0	25.0
12	1.5	10.0	2.5	14.0	26.5
13	3.0	10.5	3.0	12.0	23.5
14	3.0	9.5	3.5	14.0	24.5
15	4.0	8.5	4.0	7.0	16.5
16	2.0	9.5	3.0	19.5	29.5



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Appendix A – California Climate Zone Map

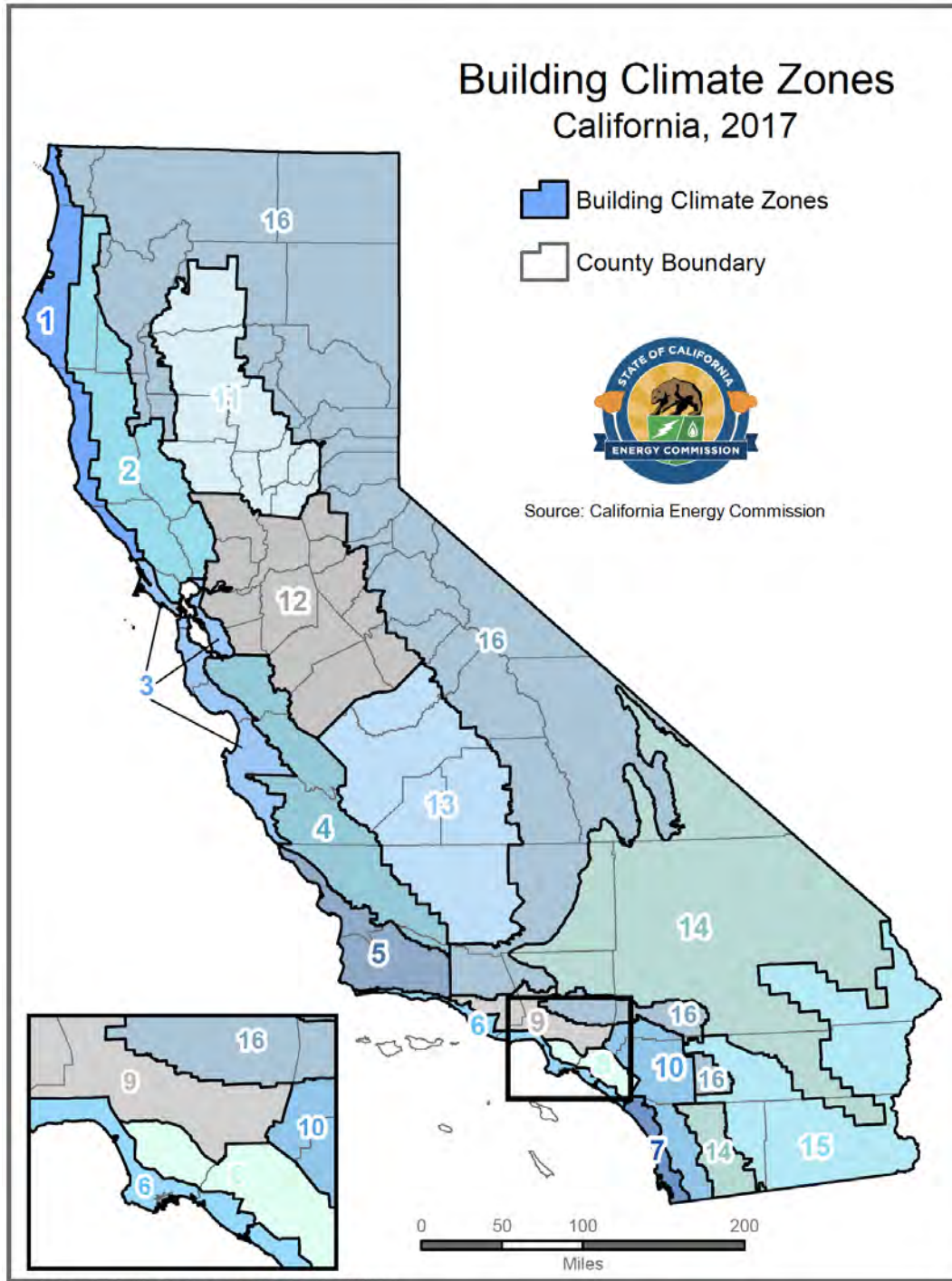


Figure 15: Map of California Climate Zones (courtesy of the California Energy Commission¹⁷)

¹⁷ https://ww2.energy.ca.gov/maps/renewable/building_climate_zones.html



Appendix B – Utility Tariff Details

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PG&E

The following pages provide details on the PG&E electricity and natural gas tariffs applied in this study. Table 20 describes the baseline territories that were assumed for each climate zone.

Table 20: PG&E Baseline Territory by Climate Zone

	Baseline Territory
CZ01	V
CZ02	X
CZ03	T
CZ04	X
CZ05	T
CZ11	R
CZ12	S
CZ13	R
CZ16	Y

The PG&E monthly gas rate in \$/therm was applied on a monthly basis for the 12-month period ending January 2019 according to the rates shown below.

Pacific Gas and Electric Company
Residential Non-CARE and CARE Gas Tariff Rates
January 1, 2018, to Present
(\$/therm)^{1/}

Effective Date	Advice Letter Number	Minimum Transportation Charge ^{2/} (per day)	Procurement Charge	Transportation Charge ^{2/}		TOTAL Residential Non-CARE Schedules Charge ^{3/}	
				Baseline	Excess	Baseline	Excess
01/01/18	3918-G	\$0.09863	\$0.37310	\$0.91828	\$1.46925	\$1.29138	\$1.84235
02/01/18	3931-G	\$0.09863	\$0.40635	\$0.91828	\$1.46925	\$1.32463	\$1.87560
03/01/18	3941-G	\$0.09863	\$0.32103	\$0.91828	\$1.46925	\$1.23931	\$1.79028
04/01/18	3959-G	\$0.09863	\$0.34783	\$0.91828	\$1.46925	\$1.26611	\$1.81708
05/01/18	3969-G	\$0.09863	\$0.26995	\$0.91828	\$1.46925	\$1.18823	\$1.73920
06/01/18	3980-G	\$0.09863	\$0.21571	\$0.91828	\$1.46925	\$1.13399	\$1.68496
07/01/18	3984-G	\$0.09863	\$0.22488	\$0.93438	\$1.49502	\$1.15926	\$1.71990
08/01/18	3995-G	\$0.09863	\$0.28814	\$0.93438	\$1.49502	\$1.22252	\$1.78316
09/01/18	4008-G	\$0.09863	\$0.25597	\$0.93438	\$1.49502	\$1.19035	\$1.75099
10/01/18	4018-G	\$0.09863	\$0.27383	\$0.93438	\$1.49502	\$1.20821	\$1.76885
11/01/18	4034-G	\$0.09863	\$0.35368	\$0.93438	\$1.49502	\$1.28806	\$1.84870
12/01/18	4046-G	\$0.09863	\$0.42932	\$0.93438	\$1.49502	\$1.36370	\$1.92434
01/01/19	4052-G	\$0.09863	\$0.43394 ^{7/}	\$0.99414	\$1.59063	\$1.42808	\$2.02457

^{1/} Unless otherwise noted
^{2/} Effective July 1, 2005, the Transportation Charge will be no less than the Minimum Transportation Charge of \$0.09863 (per day). Applicable to Rate Schedule G-1 only and does not apply to submetered tenants of master-metered customers served under gas Rate Schedule GS and GT.
^{3/} Schedule G-PPPS (Public Purpose Program Surcharge) needs to be added to the TOTAL Non-CARE Charge and TOTAL CARE Charge for bill calculation. See Schedule G-PPPS for details and exempt customers.
^{4/} CARE Schedules include California Solar Initiative (CSI) Exemption in accordance with Advice Letter 3257-G-A.
^{5/} Per dwelling unit per day (Multifamily Service)
^{6/} Per installed space per day (Mobilehome Park Service)
^{7/} This procurement rate includes a charge of \$0.03686 per therm to reflect account balance amortizations in accordance with Advice Letter 3157-G.
^{8/} Residential bill credit of (\$29.85) per household, annual bill credit occurring in the October 2018 bill cycle, thereafter in the April bill cycle.
 Seasons: Winter = Nov-Mar Summer = April-Oct





Cancelling Revised Cal. P.U.C. Sheet No. 43533-E
 Revised Revised Cal. P.U.C. Sheet No. 42728-E

ELECTRIC SCHEDULE E-TOU
 RESIDENTIAL TIME-OF-USE SERVICE

Sheet 4

RATES:
 (Cont'd.)

OPTION B TOTAL RATES

Total Energy Rates (\$ per kWh)	PEAK	OFF-PEAK
Summer (all usage)	\$0.37188 (R)	\$0.26882 (R)
Winter (all usage)	\$0.23441 (R)	\$0.21561 (R)

Delivery Minimum Bill Amount (\$ per meter per day) \$0.32854

California Climate Credit (per household, per semi-annual payment occurring in the April and October bill cycles) (\$39.42)

Total bundled service charges shown on customer's bills are unbundled according to the component rates shown below. Where the delivery minimum bill amount applies, the customer's bill will equal the sum of (1) the delivery minimum bill amount plus (2) for bundled service, the generation rate times the number of kWh used. For revenue accounting purposes, the revenues from the delivery minimum bill amount will be assigned to the Transmission, Transmission Rate Adjustments, Reliability Services, Public Purpose Programs, Nuclear Decommissioning, Competition Transition Charges, Energy Cost Recovery Amount, DWR Bond, and New System Generation Charges based on kWh usage times the corresponding unbundled rate component per kWh, with any residual revenue assigned to Distribution.***

UNBUNDLING OF OPTION B TOTAL RATES

Generation	PEAK	OFF-PEAK
Summer (all usage)	\$0.21238	\$0.10932
Winter (all usage)	\$0.10554	\$0.08674
Distribution**		
Summer (all usage)	\$0.10716 (R)	\$0.10716 (R)
Winter (all usage)	\$0.07653 (R)	\$0.07653 (R)
Transmission* (all usage)	\$0.02469 (R)	
Transmission Rate Adjustments* (all usage)	\$0.00214	
Reliability Services* (all usage)	\$0.00260	
Public Purpose Programs (all usage)	\$0.01413	
Nuclear Decommissioning (all usage)	\$0.00020	
Competition Transition Charges (all usage)	\$0.00132	
Energy Cost Recovery Amount (all usage)	(\$0.00005)	
DWR Bond (all usage)	\$0.00503 (R)	
New System Generation Charge (all usage)**	\$0.00228	

* Transmission, Transmission Rate Adjustments and Reliability Service charges are combined for presentation on customer bills.
 ** Distribution and New System Generation Charges are combined for presentation on customer bills.
 *** This same assignment of revenues applies to direct access and community choice aggregation customers.

(Continued)

Advice	5444-E	Issued by	Submitted	December 18, 2018
Decision	18-08-013	Robert S. Kenney	Effective	January 1, 2019
		Vice President, Regulatory Affairs	Resolution	





Revised Cal. P.U.C. Sheet No. 34735-G
 Cancelling Revised Cal. P.U.C. Sheet No. 34691-G

**GAS SCHEDULE G-1
 RESIDENTIAL SERVICE**

Sheet 1

APPLICABILITY: This rate schedule¹ applies to natural gas service to Core End-Use Customers on PG&E's Transmission and/or Distribution Systems. To qualify, service must be to individually-metered single family premises for residential use, including those in a multifamily complex, and to separately-metered common areas in a multifamily complex where Schedules GM, GS, or GT are not applicable. Common area accounts that are separately metered by PG&E have an option of switching to a core commercial rate schedule. Common area accounts are those accounts that provide gas service to common use areas as defined in Rule 1.

Per D.15-10-032 and D.18-03-017, transportation rates include GHG Compliance Cost for non-covered entities. Customers who are directly billed by the Air Resources Board (ARB), i.e., covered entities, are exempt from paying AB 32 GHG Compliance Costs through PG&E's rates.² A "Cap-and-Trade Cost Exemption" credit for these costs will be shown as a line item on exempt customers' bills.^{3,4}

TERRITORY: Schedule G-1 applies everywhere within PG&E's natural gas Service Territory.

RATES: Customers on this schedule pay a Procurement Charge and a Transportation Charge, per meter, as shown below. The Transportation Charge will be no less than the Minimum Transportation Charge, as follows:

<u>Minimum Transportation Charge:</u> ⁵		<u>Per Day</u>	
		\$0.08863	
		<u>Per Therm</u>	
	<u>Baseline</u>		<u>Excess</u>
Procurement:	\$0.43394 (l)		\$0.43394 (l)
Transportation Charge:	\$0.99414 (l)		\$1.59063 (l)
Total:	\$1.42808 (l)		\$2.02457 (l)
California Natural Gas Climate Credit (per Household, annual payment occurring in October 2018 bill cycle, and thereafter in the April bill cycle)	(\$25.45) (l)		

Public Purpose Program Surcharge:
 Customers served under this schedule are subject to a gas Public Purpose Program (PPP) Surcharge under Schedule G-PPPS.

See Preliminary Statement, Part B for the Default Tariff Rate Components.

The Procurement Charge on this schedule is equivalent to the rate shown on informational Schedule G-CP—Gas Procurement Service to Core End-Use Customers.

¹ PG&E's gas tariffs are available online at www.pge.com.
² Covered entities are not exempt from paying costs associated with LUAF Gas and Gas used by Company Facilities.
³ The exemption credit will be equal to the effective non-exempt AB 32 GHG Compliance Cost Rate (\$ per therm) included in Preliminary Statement – Part B, multiplied by the customer's billed volumes (therms) for each billing period.
⁴ PG&E will update its billing system annually to reflect newly exempt or newly excluded customers to conform with lists of Directly Billed Customers provided annually by the ARB.
⁵ The Minimum Transportation charge does not apply to submetered tenants of master-metered customers served under gas rate Schedules GS and GT.

(Continued)

<i>Advice Decision</i>	4052-G 97-10-065 & 98-07-025	<i>Issued by</i> Robert S. Kenney Vice President, Regulatory Affairs	<i>Submitted Effective Resolution</i>	December 21, 2018 January 1, 2019
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SCE

The following pages provide details on are the SCE electricity tariffs applied in this study. Table 21 describes the baseline territories that were assumed for each climate zone.

Table 21: SCE Baseline Territory by Climate Zone

	Baseline Territory
CZ06	6
CZ08	8
CZ09	9
CZ10	10
CZ14	14
CZ15	15

	Delivery	Generation	Total Rate
TOU-Default-Rate-1 (On-Peak 4:00 pm - 9:00 pm)			
Energy Charge - \$/kWh			
Summer Season - On-Peak	0.19880	0.20072	0.39952
Mid-Peak	0.19880	0.05948	0.25828
Off-Peak	0.15574	0.06023	0.21597
Winter Season - Mid-Peak	0.19880	0.08308	0.28188
Off-Peak	0.15574	0.11309	0.26883
Super-Off-Peak	0.15062	0.01344	0.16406
Basic Charge - \$/day			
Single-Family Residence	0.031	0.000	0.031
Multi-Family Residence	0.024	0.000	0.024
Minimum Charge - \$/day			
Single Family Residence	0.338	0.000	0.338
Multi-Family Residence	0.338	0.000	0.338
Baseline Credit - \$/kWh	(0.06512)	0.00000	(0.06512)



	Delivery	Generation	Total Rate
TOU-D-Rate PRIME			
Energy Charge - \$/kWh			
Summer Season - On-Peak	0.15926	0.19811	0.35737
Mid-Peak	0.15926	0.10092	0.26018
Off-Peak	0.08308	0.04687	0.12995
Winter Season - Mid-Peak	0.16268	0.16761	0.33029
Off-Peak	0.08081	0.04331	0.12412
Super-Off-Peak	0.08081	0.04331	0.12412
Customer Charge - \$/day	0.395	0.000	0.395

TOU Period	Weekdays		Weekends and Holidays	
	Summer	Winter	Summer	Winter
On-Peak	4 p.m. - 9 p.m.			
Mid-Peak		4 p.m. - 9 p.m.	4 p.m. - 9 p.m.	4 p.m. - 9 p.m.
Off-Peak	All other hours	9 p.m. - 8 a.m.	All other hours	9 p.m. - 8 a.m.
Super-Off-Peak		8 a.m. - 4 p.m.		8 a.m. - 4 p.m.

PROPOSED
(7 Year Average 2010-2016)

Summer kWh per Day			Winter kWh per Day		
Baseline Region	Basic	All Electric	Baseline Region	Basic	All Electric
05	17.2	17.9	05	18.7	29.1
06	11.4	8.8	06	11.3	13.0
08	12.6	9.8	08	10.6	12.7
09	16.5	12.4	09	12.3	14.3
10	18.9	15.8	10	12.5	17.0
13	22.0	24.6	13	12.6	24.3
14	18.7	18.3	14	12.0	21.3
15	46.4	24.1	15	9.9	18.2
16	14.4	13.5	16	12.6	23.1



SoCalGas

Following are the SoCalGas natural gas tariffs applied in this study. Table 22 describes the baseline territories that were assumed for each climate zone.

Table 22: SoCalGas Baseline Territory by Climate Zone

	Baseline Territory
CZ05	2
CZ06	1
CZ08	1
CZ09	1
CZ10	1
CZ14	2
CZ15	1

SOUTHERN CALIFORNIA GAS COMPANY Revised CAL P.U.C. SHEET NO. 55854-G
 LOS ANGELES, CALIFORNIA CANCELING Revised CAL P.U.C. SHEET NO. 55828-G

Schedule No. GR RESIDENTIAL SERVICE (Includes GR, GR-C and GT-R Rates)				Sheet 1
APPLICABILITY				
The GR rate is applicable to natural gas procurement service to individually metered residential customers.				
The GR-C, cross-over rate, is a core procurement option for individually metered residential core transportation customers with annual consumption over 50,000 therms, as set forth in Special Condition 10.				
The GT-R rate is applicable to Core Aggregation Transportation (CAT) service to individually metered residential customers, as set forth in Special Condition 11.				
The California Alternate Rates for Energy (CARE) discount of 20%, reflected as a separate line item on the bill, is applicable to income-qualified households that meet the requirements for the CARE program as set forth in Schedule No. G-CARE.				
TERRITORY				
Applicable throughout the service territory.				
RATES				
	<u>GR</u>	<u>GR-C</u>	<u>GT-R</u>	
Customer Charge, per meter per day:	16.438¢	16.438¢	16.438¢	
For "Space Heating Only" customers, a daily Customer Charge applies during the winter period from November 1 through April 30 ^{1/} :				
	33.149¢	33.149¢	33.149¢	
Baseline Rate, per therm (baseline usage defined in Special Conditions 3 and 4):				
Procurement Charge: ^{2/}	41.589¢	42.676¢	N/A	R
Transmission Charge:	63.566¢	63.566¢	63.566¢	R
Total Baseline Charge:	105.155¢	106.242¢	63.566¢	R
Non-Baseline Rate, per therm (usage in excess of baseline usage):				
Procurement Charge: ^{2/}	41.589¢	42.676¢	N/A	R
Transmission Charge:	96.806¢	96.806¢	96.806¢	R
Total Non-Baseline Charge:	138.395¢	139.482¢	96.806¢	R
^{1/} For the summer period beginning May 1 through October 31, with some exceptions, usage will be accumulated to at least 20 Ccf (100 cubic feet) before billing.				
(Footnotes continue next page.)				

(Continued)

(TO BE INSERTED BY UTILITY)
 ADVICE LETTER NO. 5410
 DECISION NO.
 106

ISSUED BY
Dan Skopec
 Vice President
 Regulatory Affairs

(TO BE INSERTED BY CAL. PUC)
 SUBMITTED Jan 7, 2019
 EFFECTIVE Jan 10, 2019
 RESOLUTION NO. G-3351




SDG&E

Following are the SDG&E electricity and natural gas tariffs applied in this study. Table 23 describes the baseline territories that were assumed for each climate zone.

Table 23: SDG&E Baseline Territory by Climate Zone

	Baseline Territory
CZ07	Coastal
CZ10	Inland
CZ14	Mountain



Revised Cal. P.U.C. Sheet No. 31320-E
 Canceling Revised Cal. P.U.C. Sheet No. 31103-E

SCHEDULE TOU-DR1
RESIDENTIAL TIME-OF-USE Sheet 2

RATES

Total Rates:

Description – TOU DR1	UDC Total Rate	DWR-BC Rate	EECC Rate + DWR Credit	Total Rate
Summer:				
On-Peak	0.29562	R 0.00503	R 0.35013	R 0.65078
Off-Peak	0.29562	R 0.00503	R 0.11235	R 0.41300
Super Off-Peak	0.29562	R 0.00503	R 0.05739	R 0.35804
Winter:				
On-Peak	0.32037	R 0.00503	R 0.07618	R 0.40158
Off-Peak	0.32037	R 0.00503	R 0.06762	R 0.39302
Super Off-Peak	0.32037	R 0.00503	R 0.05812	R 0.38352
Summer Baseline Adjustment Credit up to 130% of Baseline	(0.19921)	I		(0.19921)
Winter Baseline Adjustment Credit up to 130% of Baseline	(0.16853)	I		(0.16853)
Minimum Bill (\$/day)	0.329			0.329

Description – TOU DR1	UDC Total Rate	DWR-BC Rate	EECC Rate + DWR Credit	Total Rate	Total Effective Care Rate
Summer – CARE					
Rates:					
On-Peak	0.29494	R 0.00000	0.35013	R 0.64507	R 0.41628
Off-Peak	0.29494	R 0.00000	0.11235	R 0.40729	R 0.26077
Super Off-Peak	0.29494	R 0.00000	0.05739	R 0.35233	R 0.22483
Winter – CARE					
Rates:					
On-Peak	0.31989	R 0.00000	0.07618	R 0.39587	R 0.25330
Off-Peak	0.31989	R 0.00000	0.06762	R 0.38731	R 0.24770
Super Off-Peak	0.31989	R 0.00000	0.05812	R 0.37781	R 0.24149
Summer Baseline Adjustment Credit up to 130% of Baseline	(0.19921)	I		(0.19921)	I (0.13028)
Winter Baseline Adjustment Credit up to 130% of Baseline	(0.16853)	I		(0.16853)	I (0.11022)
Minimum Bill (\$/day)	0.164			0.164	0.164

Note:

- Total Rates consist of UDC, Schedule DWR-BC (Department of Water Resources Bond Charge), and Schedule EECC (Electric Energy Commodity Cost) rates, with the EECC rates reflecting a DWR Credit.
- Total Rates presented are for customers that receive commodity supply and delivery service from Utility.
- DWR-BC charges do not apply to CARE customers.
- As identified in the rates tables, customer bills will also include line-item summer and winter credits for usage up to 130% of baseline to provide the rate capping benefits adopted by Assembly Bill 1X and Senate Bill 695.

(Continued)

2011	Issued by	Submitted	Dec 28, 2018
Advice Ltr. No. 3326-E	Dan Skopec	Effective	Jan 1, 2019
Decision No.	Vice President Regulatory Affairs	Resolution No.	





San Diego Gas & Electric Company
San Diego, California

Revised Cal. P.U.C. Sheet No. 23614-G

Canceling Revised Cal. P.U.C. Sheet No. 23601-G

SCHEDULE GR

Sheet 1

RESIDENTIAL NATURAL GAS SERVICE
(Includes Rates for GR, GR-C, GTC/GTCA)

APPLICABILITY

The GR rate is applicable to natural gas procurement service for individually metered residential customers.

The GR-C, cross-over rate, is a core procurement option for individually metered residential core transportation customers with annual consumption over 50,000 therms, as set forth in Special Condition 10.

The GTC/GTCA rate is applicable to intrastate gas transportation-only services to individually metered residential customers, as set forth in Special Condition 11.

Customers taking service under this schedule may be eligible for a 20% California Alternate Rate for Energy (CARE) program discount, reflected as a separate line item on the bill, if they qualify to receive service under the terms and conditions of Schedule G-CARE.

TERRITORY

Within the entire territory served natural gas by the utility.

RATES

	<u>GR</u>	<u>GR-C</u>	<u>GTC/GTCA^{1/}</u>
<u>Baseline Rate</u> , per therm (baseline usage defined in Special Conditions 3 and 4):			
Procurement Charge: ^{2/}	\$0.41614	\$0.41614 R	N/A
Transmission Charge:	<u>\$1.01230</u>	<u>\$1.01230</u>	<u>\$1.01230</u>
Total Baseline Charge:	\$1.42844	\$1.42844 R	\$1.01230
<u>Non-Baseline Rate</u> , per therm (usage in excess of baseline usage):			
Procurement Charge: ^{2/}	\$0.41614	\$0.41614 R	N/A
Transmission Charge:	<u>\$1.19980</u>	<u>\$1.19980</u>	<u>\$1.19980</u>
Total Non-Baseline Charge:	\$1.61594	\$1.61594 R	\$1.19980
<u>Minimum Bill</u> , per day: ^{3/}			
Non-CARE customers:	\$0.09863	\$0.09863	\$0.09863
CARE customers:	\$0.07890	\$0.07890	\$0.07890

^{1/} The rates for core transportation-only customers, with the exception of customers taking service under Schedule GT-NGV, include any FERC Settlement Proceeds Memorandum Account (FSPMA) credit adjustments.

^{2/} This charge is applicable to Utility Procurement Customers and includes the GPC and GPC-A Procurement Charges shown in Schedule GPC which are subject to change monthly as set forth in Special Condition 7.

^{3/} Effective starting May 1, 2017, the minimum bill is calculated as the minimum bill charge of \$0.09863 per day times the number of days in the billing cycle (approximately \$3 per month) with a 20% discount applied for CARE customer resulting in a minimum bill charge of \$0.07890 per day (approximately \$2.40 per month).

(Continued)

1C5
Advice Ltr. No. 2735-G
Decision No. _____

Issued by
Dan Skopec
Vice President
Regulatory Affairs

Submitted Jan 7, 2019
Effective Jan 10, 2019
Resolution No. _____



Escalation Assumptions

The average annual escalation rates in the following table were used in this study and are from E3’s 2019 study Residential Building Electrification in California (Energy & Environmental Economics, 2019). These rates are applied to the 2019 rate schedules over a thirty-year period beginning in 2020. SDG&E was not covered in the E3 study. The Reach Code Team reviewed SDG&E’s GRC filing and applied the same approach that E3 applied for PG&E and SoCalGas to arrive at average escalation rates between 2020 and 2022.

Table 24: Real Utility Rate Escalation Rate Assumptions

	Statewide Electric Residential Average Rate (%/year, real)	Natural Gas Residential Core Rate (%/yr escalation, real)		
		PG&E	SoCalGas	SDG&E
2020	2.0%	1.48%	6.37%	5.00%
2021	2.0%	5.69%	4.12%	3.14%
2022	2.0%	1.11%	4.12%	2.94%
2023	2.0%	4.0%	4.0%	4.0%
2024	2.0%	4.0%	4.0%	4.0%
2025	2.0%	4.0%	4.0%	4.0%
2026	1.0%	1.0%	1.0%	1.0%
2027	1.0%	1.0%	1.0%	1.0%
2028	1.0%	1.0%	1.0%	1.0%
2029	1.0%	1.0%	1.0%	1.0%
2030	1.0%	1.0%	1.0%	1.0%
2031	1.0%	1.0%	1.0%	1.0%
2032	1.0%	1.0%	1.0%	1.0%
2033	1.0%	1.0%	1.0%	1.0%
2034	1.0%	1.0%	1.0%	1.0%
2035	1.0%	1.0%	1.0%	1.0%
2036	1.0%	1.0%	1.0%	1.0%
2037	1.0%	1.0%	1.0%	1.0%
2038	1.0%	1.0%	1.0%	1.0%
2039	1.0%	1.0%	1.0%	1.0%
2040	1.0%	1.0%	1.0%	1.0%
2041	1.0%	1.0%	1.0%	1.0%
2042	1.0%	1.0%	1.0%	1.0%
2043	1.0%	1.0%	1.0%	1.0%
2044	1.0%	1.0%	1.0%	1.0%
2045	1.0%	1.0%	1.0%	1.0%
2046	1.0%	1.0%	1.0%	1.0%
2047	1.0%	1.0%	1.0%	1.0%
2048	1.0%	1.0%	1.0%	1.0%
2049	1.0%	1.0%	1.0%	1.0%



Appendix C – Single Family Detailed Results

Table 25: Single Family Mixed Fuel Efficiency Package Cost-Effectiveness Results

CZ	Utility	BASECASE						Non-Preempted							Equipment - Preempted							
		Total EDR	Efficiency EDR	CALGreen Tier 1 EDR Target	lbs CO2 per sqft	PV kW	Total EDR	Efficiency EDR	Efficiency EDR Margin	% Comp Margin	lbs CO2 per sqft	PV kW	On-Bill B/C Ratio	TDV B/C Ratio	Total EDR	Efficiency EDR	Efficiency EDR Margin	% Comp Margin	lbs CO2 per sqft	PV kW	On-Bill B/C Ratio	TDV B/C Ratio
1	PG&E	32.5	54.2	23	3.0	3.3	27.9	49.0	5.3	18.8%	2.5	3.2	3.4	2.8	26.0	47.3	6.9	25.1%	2.3	3.2	4.9	4.1
2	PG&E	25.0	46.0	12	2.2	2.8	22.0	42.7	3.3	16.3%	1.9	2.8	1.6	1.7	21.8	42.6	3.3	16.4%	1.9	2.8	3.8	3.6
3	PG&E	23.9	46.9	10	1.9	2.7	21.3	43.9	3.0	16.7%	1.6	2.7	1.3	1.3	20.1	42.8	4.1	22.8%	1.5	2.7	1.9	2.0
4	PG&E	23.1	44.9	8	1.9	2.7	20.8	42.4	2.5	13.9%	1.7	2.7	0.9	1.2	20.5	42.2	2.7	14.9%	1.6	2.7	2.4	2.7
5	PG&E	22.2	44.4	10	1.8	2.6	19.7	41.7	2.7	16.7%	1.6	2.5	1.1	1.2	19.7	41.7	2.6	16.2%	1.5	2.5	2.3	2.5
5	PG&E/SoCalGas	22.2	44.4	10	1.8	2.6	19.7	41.7	2.7	16.7%	1.6	2.5	0.9	1.2	19.7	41.7	2.6	16.2%	1.5	2.5	2.0	2.5
6	SCE/SoCalGas	23.3	49.9	10	1.6	2.7	21.5	47.8	2.0	12.1%	1.5	2.7	0.7	1.2	21.5	47.9	2.0	11.8%	1.4	2.7	1.6	2.0
7	SDG&E	20.3	49.1	5	1.3	2.6	20.3	49.1	0.0	0.0%	1.3	2.6	-	-	18.8	47.6	1.5	12.4%	1.2	2.6	1.5	1.4
8	SCE/SoCalGas	21.3	46.9	10	1.4	2.9	20.1	45.6	1.3	7.7%	1.3	2.9	0.6	1.4	19.7	45.3	1.6	9.4%	1.3	2.9	1.3	1.8
9	SCE/SoCalGas	24.5	47.7	13	1.5	2.9	22.3	45.1	2.6	11.7%	1.5	2.9	0.7	2.0	21.9	44.8	2.9	13.4%	1.4	2.9	1.8	3.7
10	SCE/SoCalGas	24.2	46.3	10	1.6	3.0	21.7	43.1	3.2	14.3%	1.5	3.0	0.6	1.3	21.5	43.1	3.2	14.6%	1.4	3.0	2.0	3.8
10	SDG&E	24.2	46.3	10	1.6	3.0	21.7	43.1	3.2	14.3%	1.5	3.0	0.8	1.3	21.5	43.1	3.2	14.6%	1.4	3.0	2.6	3.8
11	PG&E	24.6	44.9	11	2.1	3.6	21.3	40.6	4.3	16.4%	1.9	3.4	0.8	1.2	20.7	39.9	5.1	19.2%	1.8	3.4	2.5	3.7
12	PG&E	25.5	44.8	12	2.1	3.0	22.5	41.3	3.5	14.9%	1.9	2.9	1.2	1.8	22.5	41.4	3.4	14.4%	1.9	3.0	3.3	4.6
13	PG&E	25.7	46.5	11	2.0	3.8	22.2	41.9	4.6	16.9%	1.8	3.6	0.8	1.3	21.2	40.7	5.8	21.4%	1.7	3.6	5.3	8.4
14	SCE/SoCalGas	25.3	46.3	15	2.3	3.2	21.5	41.3	5.0	18.5%	2.1	3.0	1.6	2.5	20.8	40.4	5.8	21.7%	2.0	3.0	4.0	6.1
14	SDG&E	25.3	46.3	15	2.3	3.2	21.5	41.3	5.0	18.5%	2.1	3.0	1.9	2.5	20.8	40.4	5.8	21.7%	2.0	3.0	4.9	6.1
15	SCE/SoCalGas	22.4	49.1	11	1.7	5.4	19.7	44.3	4.8	14.8%	1.6	5.0	1.0	1.6	19.5	44.1	5.0	15.4%	1.5	5.0	>1	>1
16	PG&E	30.4	48.9	22	3.3	2.7	25.0	43.5	5.4	20.6%	2.6	2.7	1.6	1.5	24.8	42.7	6.2	23.5%	2.7	2.6	2.2	2.2

">1" = indicates cases where there is both first cost savings and annual utility bill savings.



Table 26: Single Family Mixed Fuel Efficiency & PV/Battery Package Cost-Effectiveness Results

CZ	Utility	BASECASE				Efficiency & PV/Battery						
		Total EDR	CALGreen Tier 1 EDR Target	lbs CO2 per sqft	PV kW	Total EDR	Total EDR Margin	% Comp Margin	lbs CO2 per sqft	PV kW	On-Bill B/C Ratio	TDV B/C Ratio
1	PG&E	32.5	23	3.0	3.3	21.9	10.6	31.8%	2.4	3.3	0.9	1.6
2	PG&E	25.0	12	2.2	2.8	14.9	10.1	27.3%	1.8	2.9	0.5	1.6
3	PG&E	23.9	10	1.9	2.7	13.9	10.0	27.7%	1.5	2.8	0.4	1.4
4	PG&E	23.1	8	1.9	2.7	13.0	10.1	24.9%	1.5	2.8	0.3	1.5
5	PG&E	22.2	10	1.8	2.6	12.8	9.4	29.7%	1.4	2.6	0.4	1.3
5	PG&E/SoCalGas	22.2	10	1.8	2.6	12.8	9.4	29.7%	1.4	2.6	0.3	1.3
6	SCE/SoCalGas	23.3	10	1.6	2.7	13.6	9.8	20.1%	1.2	2.8	0.8	1.3
7	SDG&E	20.3	5	1.3	2.6	11.1	9.2	9.0%	1.0	2.7	0.1	1.3
8	SCE/SoCalGas	21.3	10	1.4	2.9	12.9	8.4	23.7%	1.1	3.0	0.9	1.3
9	SCE/SoCalGas	24.5	13	1.5	2.9	15.7	8.8	24.7%	1.2	3.0	1.0	1.5
10	SCE/SoCalGas	24.2	10	1.6	3.0	14.6	9.6	27.3%	1.3	3.1	1.0	1.5
10	SDG&E	24.2	10	1.6	3.0	14.6	9.6	27.3%	1.3	3.1	0.6	1.5
11	PG&E	24.6	11	2.1	3.6	15.4	9.2	29.4%	1.8	3.5	0.4	1.5
12	PG&E	25.5	12	2.1	3.0	15.9	9.6	28.9%	1.8	3.0	0.4	1.7
13	PG&E	25.7	11	2.0	3.8	16.1	9.7	28.9%	1.7	3.7	0.4	1.6
14	SCE/SoCalGas	25.3	15	2.3	3.2	16.3	9.0	30.1%	1.8	3.1	1.3	1.7
14	SDG&E	25.3	15	2.3	3.2	16.3	9.0	30.1%	1.8	3.1	1.2	1.7
15	SCE/SoCalGas	22.4	11	1.7	5.4	15.3	7.1	25.1%	1.4	5.1	1.1	1.5
16	PG&E	30.4	22	3.3	2.7	19.9	10.5	32.6%	2.4	2.8	0.9	1.4

">1" = indicates cases where there is both first cost savings and annual utility bill savings.



Table 27: Single Family All-Electric Efficiency Package Cost-Effectiveness Results

CZ	Utility	BASECASE					Non-Preempted							Equipment - Preempted								
		Total EDR	Efficiency EDR	CALGreen Tier 1 EDR Target	lbs CO2 per sqft	PV kW	Total EDR	Efficiency EDR	Efficiency EDR Margin	% Comp Margin	lbs CO2 per sqft	PV kW	On-Bill B/C Ratio	TDV B/C Ratio	Total EDR	Efficiency EDR	Efficiency EDR Margin	% Comp Margin	lbs CO2 per sqft	PV kW	On-Bill B/C Ratio	TDV B/C Ratio
1	PG&E	46.8	68.2	36	1.5	3.3	31.8	53.0	15.2	40.2%	1.0	3.3	1.8	1.7	39.9	61.3	6.9	18.3%	1.3	3.3	2.9	2.7
2	PG&E	32.8	53.7	16	1.1	2.8	27.9	48.7	4.9	20.5%	0.9	2.8	1.2	1.1	27.7	48.5	5.1	21.2%	0.9	2.8	2.3	2.1
3	PG&E	33.1	55.6	14	1.0	2.7	28.5	50.9	4.7	20.6%	0.8	2.7	2.6	2.4	28.7	51.2	4.4	19.6%	0.9	2.7	1.8	1.6
4	PG&E	31.3	52.8	12	1.0	2.7	27.9	49.4	3.4	15.5%	0.9	2.7	1.9	1.8	27.4	48.9	3.9	17.6%	0.9	2.7	1.5	1.5
5	PG&E	32.5	54.2	16	1.0	2.6	28.1	49.9	4.4	19.7%	0.9	2.6	2.6	2.3	28.0	49.8	4.4	20.3%	0.9	2.6	1.9	1.7
5	PG&E/SoCalGas	32.5	54.2	16	1.0	2.6	28.1	49.9	4.4	19.7%	0.9	2.6	2.6	2.3	28.0	49.8	4.4	20.3%	0.9	2.6	1.9	1.7
6	SCE/SoCalGas	29.7	55.8	12	0.9	2.7	27.7	53.8	2.0	10.9%	0.8	2.7	1.3	1.4	26.8	53.0	2.9	16.0%	0.8	2.7	2.2	2.3
7	SDG&E	27.1	55.3	7	0.7	2.6	27.1	55.3	0.0	0.0%	0.7	2.6	-	-	24.8	53.0	2.2	16.9%	0.7	2.6	1.6	1.7
8	SCE/SoCalGas	26.1	51.5	10	0.8	2.9	24.5	49.9	1.6	8.9%	0.8	2.9	0.6	1.2	24.4	49.7	1.8	9.7%	0.8	2.9	2.8	3.0
9	SCE/SoCalGas	28.8	51.9	13	0.9	2.9	26.0	49.1	2.8	12.5%	0.8	2.9	0.8	2.0	25.5	48.6	3.3	14.7%	0.8	2.9	2.1	3.2
10	SCE/SoCalGas	28.8	50.7	11	0.9	3.0	25.7	47.6	3.1	14.0%	0.9	3.0	0.9	1.5	25.3	47.2	3.4	15.5%	0.8	3.0	2.3	3.2
10	SDG&E	28.8	50.7	11	0.9	3.0	25.7	47.6	3.1	14.0%	0.9	3.0	1.1	1.5	25.3	47.2	3.4	15.5%	0.8	3.0	2.6	3.2
11	PG&E	30.0	50.2	12	1.1	3.6	25.4	45.6	4.6	16.2%	1.0	3.6	1.2	1.5	24.1	44.3	5.9	20.8%	0.9	3.6	3.0	3.3
12	PG&E	30.9	50.1	13	1.0	3.0	27.1	46.3	3.8	15.3%	0.9	3.0	0.8	1.1	25.8	45.0	5.1	20.4%	0.9	3.0	2.0	2.5
13	PG&E	30.7	51.5	13	1.1	3.8	25.7	46.4	5.1	17.4%	0.9	3.8	1.1	1.4	24.7	45.4	6.0	20.9%	0.9	3.8	2.9	3.3
14	SCE/SoCalGas	31.3	52.2	16	1.4	3.2	25.7	46.6	5.6	18.9%	1.2	3.2	1.0	1.5	25.3	46.2	6.0	20.5%	1.2	3.2	2.3	3.1
14	SDG&E	31.3	52.2	16	1.4	3.2	25.7	46.6	5.6	18.9%	1.2	3.2	1.3	1.5	25.3	46.2	6.0	20.5%	1.2	3.2	2.9	3.1
15	SCE/SoCalGas	26.2	52.8	8	1.3	5.4	20.6	47.2	5.6	16.8%	1.1	5.4	1.1	1.6	18.9	45.5	7.3	21.8%	1.0	5.4	3.3	4.5
16	PG&E	46.5	64.6	39	1.7	2.7	36.8	54.9	9.7	25.2%	1.4	2.7	1.7	1.7	41.6	59.7	4.9	12.7%	1.6	2.7	2.4	2.3



Table 28: Single Family All-Electric Efficiency & PV-PV/Battery Package Cost-Effectiveness Results

CZ	Utility	BASECASE				Efficiency & PV							Efficiency & PV/Battery						
		Total EDR	CALGreen Tier 1 EDR Target	lbs CO2 per sqft	PV kW	Total EDR	Total EDR Margin	% Comp Margin	lbs CO2 per sqft	PV kW	On-Bill B/C Ratio	TDV B/C Ratio	Total EDR	Total EDR Margin	% Comp Margin	lbs CO2 per sqft	PV kW	On-Bill B/C Ratio	TDV B/C Ratio
1	PG&E	46.8	36	1.5	3.3	15.4	31.4	40.2%	0.5	6.0	1.8	1.5	5.6	41.2	51.9%	0.3	6.76	1.4	1.4
2	PG&E	32.8	16	1.1	2.8	13.4	19.4	20.5%	0.5	4.9	1.8	1.4	2.7	30.1	31.5%	0.3	5.51	1.4	1.4
3	PG&E	33.1	14	1.0	2.7	14.6	18.5	20.6%	0.5	4.5	2.2	1.7	3.7	29.3	31.6%	0.2	5.10	1.5	1.6
4	PG&E	31.3	12	1.0	2.7	14.1	17.2	15.5%	0.5	4.5	2.1	1.6	2.8	28.6	26.5%	0.2	5.15	1.5	1.6
5	PG&E	32.5	16	1.0	2.6	14.3	18.2	19.7%	0.5	4.3	2.3	1.8	3.8	28.7	32.7%	0.2	4.84	1.6	1.6
5	PG&E/SoCalGas	32.5	16	1.0	2.6	14.3	18.2	19.7%	0.5	4.3	2.3	1.8	3.8	28.7	32.7%	0.2	4.84	1.6	1.6
6	SCE/SoCalGas	29.7	12	0.9	2.7	15.5	14.3	10.9%	0.6	4.1	1.2	1.5	3.6	26.1	18.9%	0.3	4.68	1.2	1.4
7	SDG&E	27.1	7	0.7	2.6	15.8	11.3	0.7%	0.6	3.7	1.9	1.5	2.9	24.2	6.7%	0.3	4.21	1.3	1.5
8	SCE/SoCalGas	26.1	10	0.8	2.9	15.1	10.9	8.9%	0.6	4.0	1.0	1.5	4.5	21.6	24.9%	0.3	4.54	1.1	1.4
9	SCE/SoCalGas	28.8	13	0.9	2.9	17.3	11.5	12.5%	0.7	4.1	1.1	1.6	7.6	21.3	25.5%	0.4	4.66	1.1	1.5
10	SCE/SoCalGas	28.8	11	0.9	3.0	17.7	11.1	14.0%	0.7	4.2	1.1	1.5	7.6	21.2	27.0%	0.4	4.78	1.1	1.5
10	SDG&E	28.8	11	0.9	3.0	17.7	11.1	14.0%	0.7	4.2	1.7	1.5	7.6	21.2	27.0%	0.4	4.78	1.4	1.5
11	PG&E	30.0	12	1.1	3.6	15.8	14.2	16.2%	0.6	5.4	1.8	1.6	6.8	23.2	29.2%	0.4	6.11	1.5	1.6
12	PG&E	30.9	13	1.0	3.0	15.2	15.7	15.3%	0.5	5.0	1.7	1.4	5.6	25.4	29.3%	0.3	5.62	1.3	1.5
13	PG&E	30.7	13	1.1	3.8	17.3	13.4	17.4%	0.6	5.4	1.7	1.5	8.2	22.5	29.4%	0.4	6.14	1.4	1.5
14	SCE/SoCalGas	31.3	16	1.4	3.2	15.8	15.5	18.9%	0.9	4.8	1.2	1.6	7.4	23.9	30.9%	0.6	5.39	1.4	1.6
14	SDG&E	31.3	16	1.4	3.2	15.8	15.5	18.9%	0.9	4.8	1.8	1.6	7.4	23.9	30.9%	0.6	5.39	1.7	1.6
15	SCE/SoCalGas	26.2	8	1.3	5.4	20.0	6.2	16.8%	1.1	5.5	1.1	1.6	12.7	13.5	27.0%	0.8	6.25	1.2	1.5
16	PG&E	46.5	39	1.7	2.7	19.6	27.0	25.2%	0.9	5.5	2.1	1.6	11.1	35.4	34.3%	0.6	6.17	1.7	1.5

">1" = indicates cases where there is both first cost savings and annual utility bill savings.



Appendix D – Single Family Measure Summary

Table 29: Single Family Mixed Fuel Efficiency – Non-Preempted Package Measure Summary

<u>CZ</u>	<u>Duct</u>	<u>Infiltratio</u>	<u>Wall</u>	<u>Attic</u>	<u>Roof</u>	<u>Glazing</u>	<u>Slab</u>	<u>DHW</u>	<u>HVAC</u>	<u>PV</u>
1	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
2	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
3	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
4	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
5	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
6	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
7	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	1.0 PV scaling
8	< 12 ft ducts in attic	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
9	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
10	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
11	VLLDCS	Code Min	Code Min	R-38 + R-30 attic	0.25 solar reflectance	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
12	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
13	VLLDCS	Code Min	Code Min	R-38 + R-30 attic	0.25 solar reflectance	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
14	VLLDCS	3 ACH50	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
15	VLLDCS	Code Min	Code Min	R-38 + R-30 attic	0.25 solar reflectance	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
16	VLLDCS	Code Min	Code Min	Code Min	Code Min	0.24/0.50 windows	Code Min	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling

VLLDCS – Verified Low Leakage Ducts in Conditioned Space



Table 30: Single Family Mixed Fuel Efficiency – Equipment, Preempted Package Measure Summary

<u>CZ</u>	<u>Duct</u>	<u>Infiltratio</u>	<u>Wall</u>	<u>Attic</u>	<u>Roof</u>	<u>Glazing</u>	<u>Slab</u>	<u>DHW</u>	<u>HVAC</u>	<u>PV</u>
1	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	96 AFUE, 0.35W/cfm	1.0 PV scaling
2	LLAHU + 2% leakage	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	96 AFUE, 0.35W/cfm	1.0 PV scaling
3	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	96 AFUE, 0.35W/cfm	1.0 PV scaling
4	LLAHU + 2% leakage	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	96 AFUE, 0.35W/cfm	1.0 PV scaling
5	LLAHU + 2% leakage	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	96 AFUE, 0.35W/cfm	1.0 PV scaling
6	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	92 AFUE, 0.35W/cfm	1.0 PV scaling
7	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	92 AFUE, 0.35W/cfm	1.0 PV scaling
8	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	92 AFUE, 0.35W/cfm	1.0 PV scaling
9	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	16 SEER, 92 AFUE, 0.35W/cfm	1.0 PV scaling
10	LLAHU + 2% leakage	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	16 SEER, 92 AFUE, 0.35W/cfm	1.0 PV scaling
11	LLAHU + 2% leakage	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	18 SEER, 96 AFUE, 0.35W/cfm	1.0 PV scaling
12	LLAHU + 2% leakage	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	16 SEER, 92 AFUE, 0.35W/cfm	1.0 PV scaling
13	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	16 SEER, 92 AFUE, 0.35W/cfm	1.0 PV scaling
14	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	16 SEER, 92 AFUE, 0.35W/cfm	1.0 PV scaling
15	LLAHU + 2% leakage	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	16 SEER, 92 AFUE, 0.35W/cfm	1.0 PV scaling
16	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	18 SEER, 96 AFUE, 0.35W/cfm	1.0 PV scaling

LLAHU - Low Leakage Air Handling Unit

VLLDCS – Verified Low Leakage Ducts in Conditioned Space



Table 31: Single Family Mixed Fuel Efficiency & PV/Battery Package Measure Summary

CZ	Duct	Infiltration	Wall	Attic	Roof	Glazing	Slab	DHW	HVAC	PV
1	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 5kWh batt
2	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 5kWh batt
3	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 5kWh batt
4	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 5kWh batt
5	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 5kWh batt
6	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 5kWh batt
7	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Basic CHW credit (0.7)	Code Min	1.0 PV scaling + 5kWh batt
8	< 12 ft ducts in attic	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 5kWh batt
9	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 5kWh batt
10	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 5kWh batt
11	VLLDCS	Code Min	Code Min	R-38 + R-30 attic	0.25 solar reflectance	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 5kWh batt
12	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 5kWh batt
13	VLLDCS	Code Min	Code Min	R-38 + R-30 attic	0.25 solar reflectance	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 5kWh batt
14	VLLDCS	3 ACH50	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 5kWh batt
15	VLLDCS	Code Min	Code Min	R-38 + R-30 attic	0.25 solar reflectance	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 5kWh batt
16	VLLDCS	Code Min	Code Min	Code Min	Code Min	0.24/0.50 windows	Code Min	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 5kWh batt

VLLDCS – Verified Low Leakage Ducts in Conditioned Space



Table 32: Single Family All-Electric Efficiency – Non-Preempted Package Measure Summary

CZ	Duct	Infiltratio	Wall	Attic	Roof	Glazing	Slab	DHW	HVAC	PV
1	VLLDCS	Code Min	Code Min	R-38 + R-30 attic	Code Min	0.24/0.50 windows	R-10 slab insulation	Code Min	0.45 W/cfm	Std Design PV
2	VLLDCS	Code Min	Code Min	Code Min	Code Min	0.24/0.23 windows	R-10 slab insulation	Code Min	0.45 W/cfm	Std Design PV
3	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	Std Design PV
4	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	Std Design PV
5	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	Std Design PV
6	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	0.45 W/cfm	Std Design PV
7	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Std Design PV
8	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	0.45 W/cfm	Std Design PV
9	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	Code Min	Code Min	0.45 W/cfm	Std Design PV
10	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	Std Design PV
11	VLLDCS	Code Min	Code Min	R-38 + R-30 attic	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	Std Design PV
12	VLLDCS	Code Min	Code Min	R-38 + R-30 attic	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	Std Design PV
13	VLLDCS	3 ACH50	Code Min	R-38 + R-30 attic	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	Std Design PV
14	VLLDCS	3 ACH50	Code Min	R-38 + R-30 attic	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	Std Design PV
15	VLLDCS	Code Min	0.043 wall	R-38 + R-30 attic	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	Std Design PV
16	VLLDCS	3 ACH50	Code Min	R-38 + R-30 attic	Code Min	0.24/0.50 windows	Code Min	Code Min	0.45 W/cfm	Std Design PV

VLLDCS – Verified Low Leakage Ducts in Conditioned Space



Table 33: Single Family All-Electric Efficiency – Equipment, Preempted Package Measure Summary

CZ	Duct	Infiltratio	Wall	Attic	Roof	Glazing	Slab	DHW	HVAC	PV
1	LLAHU + 2% leakage	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	18 SEER, 10 HSPF, 0.45W/cfm	Std Design PV
2	LLAHU + 2% leakage	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	18 SEER, 10 HSPF, 0.45W/cfm	Std Design PV
3	LLAHU + 2% leakage	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	18 SEER, 10 HSPF, 0.45W/cfm	Std Design PV
4	LLAHU + 2% leakage	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	18 SEER, 10 HSPF, 0.45W/cfm	Std Design PV
5	LLAHU + 2% leakage	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	18 SEER, 10 HSPF, 0.45W/cfm	Std Design PV
6	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	16 SEER, 9 HSPF, 0.45W/cfm	Std Design PV
7	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	16 SEER, 9 HSPF, 0.45W/cfm	Std Design PV
8	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	0.45 W/cfm	Std Design PV
9	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	16 SEER, 9 HSPF, 0.45W/cfm	Std Design PV
10	LLAHU + 2% leakage	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	16 SEER, 9 HSPF, 0.45W/cfm	Std Design PV
11	LLAHU + 2% leakage	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	18 SEER, 10 HSPF, 0.45W/cfm	Std Design PV
12	LLAHU + 2% leakage	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	18 SEER, 10 HSPF, 0.45W/cfm	Std Design PV
13	LLAHU + 2% leakage	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	18 SEER, 10 HSPF, 0.45W/cfm	Std Design PV
14	LLAHU + 2% leakage	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	18 SEER, 10 HSPF, 0.45W/cfm	Std Design PV
15	LLAHU + 2% leakage	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	18 SEER, 10 HSPF, 0.45W/cfm	Std Design PV
16	LLAHU + 2% leakage	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	18 SEER, 10 HSPF, 0.45W/cfm	Std Design PV

LLAHU - Low Leakage Air Handling Unit

VVLDCS – Verified Low Leakage Ducts in Conditioned Space



Table 34: Single Family All-Electric Efficiency & PV Package Measure Summary

CZ	Duct	Infiltratio	Wall	Attic	Roof	Glazing	Slab	DHW	HVAC	PV
1	VLLDCS	Code Min	Code Min	R-38 + R-30 attic	Code Min	0.24/0.50 windows	R-10 slab insulation	Code Min	0.45 W/cfm	0.9 PV scaling
2	VLLDCS	Code Min	Code Min	Code Min	Code Min	0.24/0.23 windows	R-10 slab insulation	Code Min	0.45 W/cfm	0.9 PV scaling
3	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	0.9 PV scaling
4	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	0.9 PV scaling
5	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	0.9 PV scaling
6	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	0.45 W/cfm	0.9 PV scaling
7	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	0.45 W/cfm	0.9 PV scaling
8	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	0.45 W/cfm	0.9 PV scaling
9	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	Code Min	Code Min	0.45 W/cfm	0.9 PV scaling
10	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	0.9 PV scaling
11	VLLDCS	Code Min	Code Min	R-38 + R-30 attic	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	0.9 PV scaling
12	VLLDCS	Code Min	Code Min	R-38 + R-30 attic	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	0.9 PV scaling
13	VLLDCS	3 ACH50	Code Min	R-38 + R-30 attic	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	0.9 PV scaling
14	VLLDCS	3 ACH50	Code Min	R-38 + R-30 attic	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	0.9 PV scaling
15	VLLDCS	Code Min	0.043 wall	R-38 + R-30 attic	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	0.9 PV scaling
16	VLLDCS	3 ACH50	Code Min	R-38 + R-30 attic	Code Min	0.24/0.50 windows	Code Min	Code Min	0.45 W/cfm	0.9 PV scaling

VLLDCS – Verified Low Leakage Ducts in Conditioned Space



Table 35: Single Family All-Electric Efficiency & PV/Battery Package Measure Summary

CZ	Duct	Infiltration	Wall	Attic	Roof	Glazing	Slab	DHW	HVAC	PV
1	VLLDCS	Code Min	Code Min	R-38 + R-30 attic	Code Min	0.24/0.50 windows	R-10 slab insulation	Code Min	0.45 W/cfm	1.0 PV scaling + 5kWh batt
2	VLLDCS	Code Min	Code Min	Code Min	Code Min	0.24/0.23 windows	R-10 slab insulation	Code Min	0.45 W/cfm	1.0 PV scaling + 5kWh batt
3	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	1.0 PV scaling + 5kWh batt
4	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	1.0 PV scaling + 5kWh batt
5	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	1.0 PV scaling + 5kWh batt
6	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	0.45 W/cfm	1.0 PV scaling + 5kWh batt
7	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	0.45 W/cfm	1.0 PV scaling + 5kWh batt
8	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	0.45 W/cfm	1.0 PV scaling + 5kWh batt
9	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	Code Min	Code Min	0.45 W/cfm	1.0 PV scaling + 5kWh batt
10	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	1.0 PV scaling + 5kWh batt
11	VLLDCS	Code Min	Code Min	R-38 + R-30 attic	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	1.0 PV scaling + 5kWh batt
12	VLLDCS	Code Min	Code Min	R-38 + R-30 attic	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	1.0 PV scaling + 5kWh batt
13	VLLDCS	3 ACH50	Code Min	R-38 + R-30 attic	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	1.0 PV scaling + 5kWh batt
14	VLLDCS	3 ACH50	Code Min	R-38 + R-30 attic	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	1.0 PV scaling + 5kWh batt
15	VLLDCS	Code Min	0.043 wall (SF); 0.048 wall (MF)	R-38 + R-30 attic	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	1.0 PV scaling + 5kWh batt
16	VLLDCS	3 ACH50	Code Min	R-38 + R-30 attic	Code Min	0.24/0.50 windows	Code Min	Code Min	0.45 W/cfm	1.0 PV scaling + 5kWh batt

VLLDCS – Verified Low Leakage Ducts in Conditioned Space



Appendix E - Multifamily Detailed Results

Table 36: Multifamily Mixed Fuel Efficiency Package Cost-Effectiveness Results

Climate Zone	Utility	BASECASE					Non-Preempted							Equipment - Preempted								
		Total EDR	Efficiency EDR	CALGreen Tier 1 EDR Target	lbs CO2 per sqft	PV kW per Building	Total EDR	Efficiency EDR	Efficiency EDR Margin	% Comp Margin	lbs CO2 per sqft	PV kW per Building	On-Bill B/C Ratio	TDV B/C Ratio	Total EDR	Efficiency EDR	Efficiency EDR Margin	% Comp Margin	lbs CO2 per sqft	PV kW per Building	On-Bill B/C Ratio	TDV B/C Ratio
01	PG&E	28.6	60.7	23	2.7	15.9	25.1	57.3	3.4	19.3%	2.3	16.0	1.1	1.2	26.4	58.4	2.3	12.2%	2.5	15.9	1.3	1.4
02	PG&E	25.7	56.5	12	2.4	13.9	24.2	54.7	1.8	9.9%	2.3	13.8	1.0	1.7	23.6	54.2	2.3	12.5%	2.2	13.9	1.1	1.5
03	PG&E	24.7	57.8	10	2.1	13.5	24.0	57.2	0.6	4.7%	2.1	13.5	1.0	1.1	23.1	56.2	1.6	11.2%	1.9	13.4	1.1	1.2
04	PG&E	25.5	56.8	8	2.2	13.6	24.3	55.5	1.3	7.7%	2.1	13.5	0.8	1.2	23.8	54.9	1.9	10.9%	2.0	13.5	1.1	1.7
05	PG&E	24.2	57.4	10	2.1	12.6	23.7	56.9	0.5	4.4%	2.0	12.6	1.0	1.0	22.7	55.9	1.5	10.9%	1.9	12.6	1.2	1.3
05	PG&E/SoCalGas	24.2	57.4	10	2.1	12.6	23.7	56.9	0.5	4.4%	2.0	12.6	0.8	1.0	22.7	55.9	1.5	10.9%	1.9	12.6	1.1	1.3
06	SCE/SoCalGas	26.8	63.2	10	2.2	13.9	25.8	61.9	1.3	7.0%	2.1	13.8	0.6	1.5	25.5	61.9	1.3	7.4%	2.0	13.9	1.4	1.7
07	SDG&E	26.8	64.5	5	2.1	13.2	26.1	63.6	0.9	5.3%	2.1	13.1	0.7	2.2	25.0	62.5	2.0	12.2%	2.0	13.2	1.1	1.4
08	SCE/SoCalGas	25.7	61.8	10	2.2	14.6	24.6	60.3	1.5	7.4%	2.1	14.5	0.7	1.4	24.6	60.7	1.1	5.7%	2.0	14.6	1.4	1.7
09	SCE/SoCalGas	26.4	59.7	13	2.2	14.7	25.0	57.9	1.8	8.2%	2.2	14.4	1.5	3.3	24.1	56.9	2.8	12.9%	2.1	14.4	1.7	2.9
10	SCE/SoCalGas	27.0	58.7	10	2.3	15.1	25.7	57.0	1.7	7.7%	2.2	14.9	0.8	1.7	24.7	55.8	2.9	13.0%	2.1	14.8	2.0	3.3
10	SDG&E	27.0	58.7	10	2.3	15.1	25.7	57.0	1.7	7.7%	2.2	14.9	1.1	1.7	24.7	55.8	2.9	13.0%	2.1	14.8	2.6	3.3
11	PG&E	24.5	54.5	11	2.4	16.6	22.3	51.6	2.9	11.9%	2.2	16.3	0.7	1.2	22.2	51.3	3.2	13.2%	2.2	16.1	1.8	3.3
12	PG&E	25.9	55.3	12	2.3	14.9	24.3	53.4	1.9	8.8%	2.2	14.8	1.1	2.2	23.5	52.5	2.8	12.8%	2.1	14.7	1.2	2.2
13	PG&E	26.1	55.9	11	2.3	17.5	23.7	52.8	3.1	12.1%	2.1	17.1	0.6	1.3	23.7	52.5	3.4	13.2%	2.1	16.9	2.0	3.8
14	SCE/SoCalGas	25.6	55.9	15	2.8	14.6	23.1	52.8	3.1	12.8%	2.5	14.3	0.7	1.2	23.2	52.6	3.3	13.3%	2.5	14.2	2.0	3.0
14	SDG&E	25.6	55.9	15	2.8	14.6	23.1	52.8	3.1	12.8%	2.5	14.3	0.9	1.2	23.2	52.6	3.3	13.3%	2.5	14.2	2.5	3.0
15	SCE/SoCalGas	25.0	59.2	11	2.5	21.6	22.7	55.0	4.2	12.9%	2.4	20.4	1.4	2.3	22.6	54.8	4.4	13.5%	2.3	20.4	>1	>1
16	PG&E	29.4	57.3	22	3.5	13.4	26.6	54.9	2.4	11.3%	3.0	13.7	1.1	1.2	26.9	54.4	2.9	13.1%	3.1	13.2	1.8	2.1

">1" = indicates cases where there is both first cost savings and annual utility bill savings.



Table 37: Multifamily Mixed Fuel Efficiency & PV/Battery Package Cost-Effectiveness Results

CZ	Utility	BASECASE				Efficiency & PV/Battery						
		Total EDR	CALGreen Tier 1 EDR Target	lbs CO2 per sqft	PV kW per Building	Total EDR	Total EDR Margin	% Comp Margin	lbs CO2 per sqft	PV kW per Building	On-Bill B/C Ratio	TDV B/C Ratio
01	PG&E	28.6	23	2.7	15.9	17.1	11.5	29.3%	2.1	16.5	0.4	1.2
02	PG&E	25.7	12	2.4	13.9	14.8	10.9	16.9%	2.1	14.2	0.2	1.6
03	PG&E	24.7	10	2.1	13.5	14.4	10.3	10.7%	1.9	13.9	0.1	1.4
04	PG&E	25.5	8	2.2	13.6	14.3	11.2	15.7%	1.9	13.9	0.2	1.6
05	PG&E	24.2	10	2.1	12.6	14.3	9.9	9.4%	1.8	13.1	0.2	1.4
05	PG&E/SoCalGas	24.2	10	2.1	12.6	14.3	9.9	9.4%	1.8	13.1	0.1	1.4
06	SCE/SoCalGas	26.8	10	2.2	13.9	16.1	10.7	10.0%	1.8	14.2	0.6	1.4
07	SDG&E	26.8	5	2.1	13.2	15.8	11.0	7.3%	1.7	13.6	0.0	1.4
08	SCE/SoCalGas	25.7	10	2.2	14.6	15.8	9.9	13.4%	1.8	14.9	0.7	1.3
09	SCE/SoCalGas	26.4	13	2.2	14.7	16.7	9.7	15.2%	1.8	14.9	0.9	1.5
10	SCE/SoCalGas	27.0	10	2.3	15.1	16.6	10.4	13.7%	1.9	15.3	1.0	1.6
10	SDG&E	27.0	10	2.3	15.1	16.6	10.4	13.7%	1.9	15.3	0.2	1.6
11	PG&E	24.5	11	2.4	16.6	14.0	10.5	19.9%	2.0	16.7	0.4	1.6
12	PG&E	25.9	12	2.3	14.9	15.6	10.3	17.8%	2.0	15.2	0.3	1.7
13	PG&E	26.1	11	2.3	17.5	15.4	10.7	20.1%	2.0	17.5	0.4	1.6
14	SCE/SoCalGas	25.6	15	2.8	14.6	16.0	9.6	20.8%	2.2	14.7	1.1	1.4
14	SDG&E	25.6	15	2.8	14.6	16.0	9.6	20.8%	2.2	14.7	0.5	1.4
15	SCE/SoCalGas	25.0	11	2.5	21.6	16.2	8.8	18.9%	2.1	20.9	1.3	1.7
16	PG&E	29.4	22	3.5	13.4	19.5	9.9	19.3%	2.7	14.1	0.5	1.3

"inf" = indicates cases where there is both first cost savings and annual utility bill savings.



Table 38: Multifamily All-Electric Efficiency Package Cost-Effectiveness Results

CZ	Utility	BASECASE					Non-Preempted							Equipment - Preempted								
		Total EDR	Efficiency EDR	CALGreen Tier 1 EDR Target	lbs CO2 per sqft	PV kW per Building	Total EDR	Efficiency EDR	Efficiency EDR Margin	% Comp Margin	lbs CO2 per sqft	PV kW per Building	On-Bill B/C Ratio	TDV B/C Ratio	Total EDR	Efficiency EDR	Efficiency EDR Margin	% Comp Margin	lbs CO2 per sqft	PV kW per Building	On-Bill B/C Ratio	TDV B/C Ratio
01	PG&E	41.1	70.6	36	1.6	15.9	37.5	67.0	3.6	14.6%	1.5	15.9	1.6	1.4	37.1	67.3	3.3	18.4%	1.4	15.9	2.4	2.3
02	PG&E	34.3	63.4	16	1.4	13.9	32.4	61.5	1.9	9.1%	1.3	13.9	1.7	2.1	31.1	60.2	3.2	15.1%	1.3	13.9	1.6	1.6
03	PG&E	33.5	64.2	14	1.3	13.5	33.5	64.2	0.0	0.0%	1.3	13.5	-	-	30.4	61.5	2.7	19.5%	1.1	13.5	1.7	1.6
04	PG&E	32.0	61.4	12	1.3	13.6	30.5	60.0	1.4	8.0%	1.2	13.6	1.4	1.5	29.7	59.2	2.2	12.2%	1.2	13.6	1.2	1.1
05	PG&E	34.7	65.4	16	1.3	12.6	34.1	64.8	0.6	3.4%	1.3	12.6	1.1	0.9	30.6	61.8	3.6	23.5%	1.2	12.6	2.1	2.0
05	PG&E/SoCalGas	34.7	65.4	16	1.3	12.6	34.1	64.8	0.6	3.4%	1.3	12.6	1.1	0.9	30.6	61.8	3.6	23.5%	1.2	12.6	2.1	2.0
06	SCE/SoCalGas	31.9	65.9	12	1.3	13.9	30.9	64.9	1.0	5.9%	1.3	13.9	0.7	1.3	29.8	63.7	2.2	13.0%	1.2	13.9	1.6	1.9
07	SDG&E	31.7	66.6	7	1.2	13.2	31.1	66.0	0.6	4.6%	1.2	13.2	0.6	1.0	29.7	64.7	1.9	13.6%	1.1	13.2	1.6	1.7
08	SCE/SoCalGas	29.8	63.6	10	1.3	14.6	28.6	62.4	1.2	6.5%	1.2	14.6	0.9	1.7	27.9	61.7	1.9	10.3%	1.2	14.6	1.6	1.8
09	SCE/SoCalGas	30.4	61.9	13	1.3	14.7	28.7	60.3	1.6	8.1%	1.3	14.7	1.3	2.7	28.8	60.4	1.5	7.4%	1.2	14.7	1.6	1.6
10	SCE/SoCalGas	31.2	61.3	11	1.4	15.1	29.3	59.5	1.8	8.7%	1.3	15.1	1.2	2.0	29.3	59.5	1.8	8.6%	1.3	15.1	1.7	2.0
10	SDG&E	31.2	61.3	11	1.4	15.1	29.3	59.5	1.8	8.7%	1.3	15.1	1.5	2.0	29.3	59.5	1.8	8.6%	1.3	15.1	2.0	2.0
11	PG&E	31.9	60.6	12	1.4	16.6	28.5	57.1	3.5	13.1%	1.3	16.6	1.4	1.6	28.1	56.7	3.9	14.4%	1.3	16.6	2.0	2.3
12	PG&E	32.0	59.9	13	1.3	14.9	29.4	57.3	2.6	11.4%	1.2	14.9	0.9	1.1	29.0	57.0	2.9	13.0%	1.2	14.9	1.6	1.6
13	PG&E	32.1	60.5	13	1.4	17.5	28.8	57.2	3.3	12.6%	1.2	17.5	1.3	1.6	28.3	56.7	3.8	14.3%	1.2	17.5	2.0	2.3
14	SCE/SoCalGas	32.5	61.6	16	1.7	14.6	28.9	57.9	3.7	13.8%	1.6	14.6	1.2	1.6	28.7	57.8	3.8	14.3%	1.6	14.6	1.6	2.2
14	SDG&E	32.5	61.6	16	1.7	14.6	28.9	57.9	3.7	13.8%	1.6	14.6	1.5	1.6	28.7	57.8	3.8	14.3%	1.6	14.6	2.0	2.2
15	SCE/SoCalGas	28.2	61.0	8	1.8	21.6	23.9	56.6	4.4	14.2%	1.6	21.6	1.5	2.3	21.9	54.6	6.4	20.6%	1.5	21.6	1.2	1.7
16	PG&E	40.2	66.6	39	1.9	13.4	36.2	62.5	4.1	15.0%	1.7	13.4	2.1	2.1	37.1	63.4	3.2	11.4%	1.7	13.4	1.6	1.7

">1" = indicates cases where there is both first cost savings and annual utility bill savings.



Table 39: Multifamily All-Electric Efficiency & PV-PV/Battery Package Cost-Effectiveness Results

Climate Zone	Utility	BASECASE				Efficiency & PV							Efficiency & PV/Battery						
		Total EDR	CALGreen Tier 1 EDR Target	lbs CO2 per sqft	PV kW per Building	Total EDR	Total EDR Margin	% Comp Margin	lbs CO2 per sqft	PV kW per Building	On-Bill B/C Ratio	TDV B/C Ratio	Total EDR	Total EDR Margin	% Comp Margin	lbs CO2 per sqft	PV kW per Building	On-Bill B/C Ratio	TDV B/C Ratio
01	PG&E	41.1	36	1.6	15.9	18.6	22.5	14.6%	0.8	26.9	2.0	1.5	6.6	34.5	24.6%	0.4	30.3	1.3	1.4
02	PG&E	34.3	16	1.4	13.9	16.8	17.5	9.1%	0.7	21.9	2.4	1.8	3.4	30.9	16.1%	0.3	24.8	1.4	1.7
03	PG&E	33.5	14	1.3	13.5	17.4	16.1	2.6%	0.7	20.8	2.4	1.7	4.0	29.5	8.6%	0.3	23.6	1.3	1.6
04	PG&E	32.0	12	1.3	13.6	17.0	15.0	8.0%	0.7	20.2	2.4	1.8	3.1	28.9	16.0%	0.3	22.9	1.30	1.77
05	PG&E	34.7	16	1.3	12.6	17.6	17.1	3.4%	0.7	19.9	2.5	1.8	4.4	30.3	8.4%	0.3	22.5	1.4	1.7
05	PG&E/SoCalGas	34.7	16	1.3	12.6	17.6	17.1	3.4%	0.7	19.9	2.5	1.8	4.4	30.3	8.4%	0.3	22.5	1.4	1.7
06	SCE/SoCalGas	31.9	12	1.3	13.9	18.1	13.8	5.9%	1.0	19.5	1.2	1.7	4.4	27.5	8.9%	0.5	22.1	1.2	1.6
07	SDG&E	31.7	7	1.2	13.2	18.9	12.8	4.6%	0.9	18.1	2.1	1.8	4.6	27.1	6.6%	0.5	20.5	1.2	1.6
08	SCE/SoCalGas	29.8	10	1.3	14.6	18.2	11.6	6.5%	1.0	19.4	1.3	1.8	5.6	24.2	12.5%	0.5	22.0	1.2	1.6
09	SCE/SoCalGas	30.4	13	1.3	14.7	19.1	11.3	8.1%	1.0	19.4	1.3	1.9	7.1	23.3	15.1%	0.6	22.0	1.3	1.7
10	SCE/SoCalGas	31.2	11	1.4	15.1	20.4	10.8	8.7%	1.1	19.9	1.3	1.8	7.9	23.3	14.7%	0.6	22.5	1.3	1.7
10	SDG&E	31.2	11	1.4	15.1	20.4	10.8	8.7%	1.1	19.9	2.1	1.8	7.9	23.3	14.7%	0.6	22.5	1.4	1.7
11	PG&E	31.9	12	1.4	16.6	18.5	13.4	13.1%	0.8	22.8	2.2	1.8	6.6	25.3	21.1%	0.4	25.8	1.4	1.8
12	PG&E	32.0	13	1.3	14.9	17.6	14.4	11.4%	0.7	21.7	2.1	1.6	5.4	26.6	20.4%	0.4	24.5	1.3	1.7
13	PG&E	32.1	13	1.4	17.5	19.9	12.2	12.6%	0.8	23.3	2.1	1.7	8.2	23.9	20.6%	0.4	26.4	1.4	1.7
14	SCE/SoCalGas	32.5	16	1.7	14.6	18.5	14.0	13.8%	1.3	20.2	1.4	1.9	7.7	24.8	21.8%	0.8	22.8	1.4	1.8
14	SDG&E	32.5	16	1.7	14.6	18.5	14.0	13.8%	1.3	20.2	2.2	1.9	7.7	24.8	21.8%	0.8	22.8	1.7	1.8
15	SCE/SoCalGas	28.2	8	1.8	21.6	21.1	7.1	14.2%	1.5	23.6	1.4	2.1	11.3	16.9	20.2%	1.1	26.6	1.3	1.8
16	PG&E	40.2	39	1.9	13.4	20.6	19.6	15.0%	1.2	22.0	2.6	1.9	10.3	29.9	23.0%	0.8	24.8	1.6	1.7

">1" = indicates cases where there is both first cost savings and annual utility bill savings.



Appendix F – Multifamily Measure Summary

Table 40: Multifamily Mixed Fuel Efficiency – Non-Preempted Package Measure Summary

CZ	Duct	Infiltration	Wall	Attic	Roof	Glazing	Slab	DHW	HVAC	PV
1	VLLDCS	Code Min	Code Min	Code Min	Code Min	0.24/0.50 windows	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
2	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
3	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
4	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
5	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
6	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	Code Min	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
7	Code Min	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	Code Min	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
8	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	Code Min	Enh CHW credit (0.6)	0.35 W/cfm	1.0 PV scaling
9	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	Code Min	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
10	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
11	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	0.24/0.23 windows	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
12	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
13	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	0.24/0.23 windows	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
14	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	0.24/0.23 windows	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
15	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	0.24/0.23 windows	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling
16	VLLDCS	Code Min	Code Min	Code Min	Code Min	0.24/0.50 windows	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling

VLLDCS – Verified Low-Leakage Ducts in Conditioned Space



Table 41: Multifamily Mixed Fuel Efficiency – Equipment, Preempted Package Measure Summary

CZ	Duct	Infiltratio	Wall	Attic	Roof	Glazing	Slab	DHW	HVAC	PV
1	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	16 SEER, 92 AFUE, 0.35W/cfm	1.0 PV scaling
2	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	16 SEER, 92 AFUE, 0.35W/cfm	1.0 PV scaling
3	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	92 AFUE, 0.35W/cfm	1.0 PV scaling
4	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	16 SEER, 0.35 W/cfm	1.0 PV scaling
5	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	92 AFUE, 0.45W/cfm	1.0 PV scaling
6	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	Code Min	1.0 PV scaling
7	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	16 SEER, 0.35 W/cfm	1.0 PV scaling
8	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	Code Min	1.0 PV scaling
9	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	16 SEER, 0.35 W/cfm	1.0 PV scaling
10	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	16 SEER, 0.35 W/cfm	1.0 PV scaling
11	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	16 SEER, 92 AFUE, 0.35W/cfm	1.0 PV scaling
12	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	16 SEER, 92 AFUE, 0.35W/cfm	1.0 PV scaling
13	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	16 SEER, 92 AFUE, 0.35W/cfm	1.0 PV scaling
14	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	16 SEER, 92 AFUE, 0.35W/cfm	1.0 PV scaling
15	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	16 SEER, 0.35 W/cfm	1.0 PV scaling
16	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	95 EF, basic compact dist.	16 SEER, 92 AFUE, 0.35W/cfm	1.0 PV scaling

VLLDCS – Verified Low-Leakage Ducts in Conditioned Space



Table 42: Multifamily Mixed Fuel Efficiency & PV/Battery Package Measure Summary

CZ	Duct	Infiltration	Wall	Attic	Roof	Glazing	Slab	DHW	HVAC	PV
1	VLLDCS	Code Min	Code Min	Code Min	Code Min	0.24/0.50 windows	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 22kWh batt
2	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 22kWh batt
3	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 22kWh batt
4	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 22kWh batt
5	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 22kWh batt
6	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	Code Min	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 22kWh batt
7	Code Min	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	Code Min	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 22kWh batt
8	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	Code Min	Enh CHW credit (0.6)	0.35 W/cfm	1.0 PV scaling + 22kWh batt
9	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	Code Min	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 22kWh batt
10	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 22kWh batt
11	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	0.24/0.23 windows	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 22kWh batt
12	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 22kWh batt
13	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	0.24/0.23 windows	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 22kWh batt
14	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	0.24/0.23 windows	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 22kWh batt
15	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	0.24/0.23 windows	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 22kWh batt
16	VLLDCS	Code Min	Code Min	Code Min	Code Min	0.24/0.50 windows	R-10 slab insulation	Basic CHW credit (0.7)	0.35 W/cfm	1.0 PV scaling + 22kWh batt

VLLDCS – Verified Low-Leakage Ducts in Conditioned Space



Table 43: Multifamily All-Electric Efficiency – Non-Preempted Package Measure Summary

<u>CZ</u>	<u>Duct</u>	<u>Infiltration</u>	<u>Wall</u>	<u>Attic</u>	<u>Roof</u>	<u>Glazing</u>	<u>Slab</u>	<u>DHW</u>	<u>HVAC</u>	<u>PV</u>
1	VLLDCS	Code Min	Code Min	Code Min	Code Min	0.24/0.50 windows	R-10 slab insulation	Code Min	0.45 W/cfm	Std Design PV
2	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	Std Design PV
3	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Std Design PV
4	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	Std Design PV
5	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Code Min	Code Min	Std Design PV
6	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	Code Min	Code Min	0.45 W/cfm	Std Design PV
7	Code Min	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	Code Min	Code Min	0.45 W/cfm	Std Design PV
8	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	Code Min	Code Min	0.45 W/cfm	Std Design PV
9	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	Code Min	Code Min	0.45 W/cfm	Std Design PV
10	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	Std Design PV
11	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	0.24/0.23 windows	R-10 slab insulation	Code Min	0.45 W/cfm	Std Design PV
12	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	0.24/0.23 windows	R-10 slab insulation	Code Min	0.45 W/cfm	Std Design PV
13	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	0.24/0.23 windows	R-10 slab insulation	Code Min	0.45 W/cfm	Std Design PV
14	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	0.24/0.23 windows	R-10 slab insulation	Code Min	0.45 W/cfm	Std Design PV
15	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	0.24/0.23 windows	R-10 slab insulation	Code Min	0.45 W/cfm	Std Design PV
16	VLLDCS	Code Min	Code Min	Code Min	Code Min	0.24/0.50 windows	R-10 slab insulation	Code Min	0.45 W/cfm	Std Design PV

VLLDCS – Verified Low-Leakage Ducts in Conditioned Space



Table 44: Multifamily All-Electric Efficiency – Equipment, Preempted Package Measure Summary

CZ	Duct	Infiltratio	Wall	Attic	Roof	Glazing	Slab	DHW	HVAC	PV
1	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	16 SEER, 9 HSPF, 0.45W/cfm	Std Design PV
2	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	16 SEER, 9 HSPF, 0.45W/cfm	Std Design PV
3	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	16 SEER, 9 HSPF, 0.45W/cfm	Std Design PV
4	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	16 SEER, 9 HSPF, 0.45W/cfm	Std Design PV
5	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	16 SEER, 9 HSPF, 0.45W/cfm	Std Design PV
6	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	0.45 W/cfm	Std Design PV
7	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	0.45 W/cfm	Std Design PV
8	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	0.45 W/cfm	Std Design PV
9	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	0.45 W/cfm	Std Design PV
10	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	0.45 W/cfm	Std Design PV
11	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	16 SEER, 9 HSPF, 0.45W/cfm	Std Design PV
12	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	16 SEER, 9 HSPF, 0.45W/cfm	Std Design PV
13	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	16 SEER, 9 HSPF, 0.45W/cfm	Std Design PV
14	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	16 SEER, 9 HSPF, 0.45W/cfm	Std Design PV
15	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	18 SEER, 10 HSPF, 0.45W/cfm	Std Design PV
16	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	NEEA Tier 3 HPWH	16 SEER, 9 HSPF, 0.45W/cfm	Std Design PV

VLLDCS – Verified Low-Leakage Ducts in Conditioned Space



Table 45: Multifamily All-Electric Efficiency & PV Package Measure Summary

CZ	Duct	Infiltration	Wall	Attic	Roof	Glazing	Slab	DHW	HVAC	PV
1	VLLDCS	Code Min	Code Min	Code Min	Code Min	0.24/0.50 windows	R-10 slab insulation	Code Min	0.45 W/cfm	0.9 PV scaling
2	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	0.9 PV scaling
3	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	0.9 PV scaling
4	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	0.9 PV scaling
5	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Code Min	Code Min	0.9 PV scaling
6	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	Code Min	Code Min	0.45 W/cfm	0.9 PV scaling
7	Code Min	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	Code Min	Code Min	0.45 W/cfm	0.9 PV scaling
8	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	Code Min	Code Min	0.45 W/cfm	0.9 PV scaling
9	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	Code Min	Code Min	0.45 W/cfm	0.9 PV scaling
10	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	0.9 PV scaling
11	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	0.24/0.23 windows	R-10 slab insulation	Code Min	0.45 W/cfm	0.9 PV scaling
12	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	0.24/0.23 windows	R-10 slab insulation	Code Min	0.45 W/cfm	0.9 PV scaling
13	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	0.24/0.23 windows	R-10 slab insulation	Code Min	0.45 W/cfm	0.9 PV scaling
14	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	0.24/0.23 windows	R-10 slab insulation	Code Min	0.45 W/cfm	0.9 PV scaling
15	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	0.24/0.23 windows	R-10 slab insulation	Code Min	0.45 W/cfm	0.9 PV scaling
16	VLLDCS	Code Min	Code Min	Code Min	Code Min	0.24/0.50 windows	R-10 slab insulation	Code Min	0.45 W/cfm	0.9 PV scaling

VLLDCS – Verified Low-Leakage Ducts in Conditioned Space



Table 46: Multifamily All-Electric Efficiency & PV/Battery Package Measure Summary

CZ	Duct	Infiltration	Wall	Attic	Roof	Glazing	Slab	DHW	HVAC	PV
1	VLLDCS	Code Min	Code Min	Code Min	Code Min	0.24/0.50 windows	R-10 slab insulation	Code Min	0.45 W/cfm	1.0 PV scaling + 22kWh batt
2	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	1.0 PV scaling + 22kWh batt
3	Code Min	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	1.0 PV scaling + 22kWh batt
4	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	1.0 PV scaling + 22kWh batt
5	VLLDCS	Code Min	Code Min	Code Min	Code Min	Code Min	R-10 slab insulation	Code Min	Code Min	1.0 PV scaling + 22kWh batt
6	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	Code Min	Code Min	0.45 W/cfm	1.0 PV scaling + 22kWh batt
7	Code Min	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	Code Min	Code Min	0.45 W/cfm	1.0 PV scaling + 22kWh batt
8	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	Code Min	Code Min	0.45 W/cfm	1.0 PV scaling + 22kWh batt
9	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	Code Min	Code Min	0.45 W/cfm	1.0 PV scaling + 22kWh batt
10	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	Code Min	R-10 slab insulation	Code Min	0.45 W/cfm	1.0 PV scaling + 22kWh batt
11	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	0.24/0.23 windows	R-10 slab insulation	Code Min	0.45 W/cfm	1.0 PV scaling + 22kWh batt
12	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	0.24/0.23 windows	R-10 slab insulation	Code Min	0.45 W/cfm	1.0 PV scaling + 22kWh batt
13	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	0.24/0.23 windows	R-10 slab insulation	Code Min	0.45 W/cfm	1.0 PV scaling + 22kWh batt
14	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	0.24/0.23 windows	R-10 slab insulation	Code Min	0.45 W/cfm	1.0 PV scaling + 22kWh batt
15	VLLDCS	Code Min	Code Min	Code Min	0.25 solar reflectance	0.24/0.23 windows	R-10 slab insulation	Code Min	0.45 W/cfm	1.0 PV scaling + 22kWh batt
16	VLLDCS	Code Min	Code Min	Code Min	Code Min	0.24/0.50 windows	R-10 slab insulation	Code Min	0.45 W/cfm	1.0 PV scaling + 22kWh batt

VLLDCS – Verified Low-Leakage Ducts in Conditioned Space



Appendix G – Results by Climate Zone

Climate Zone 1	80
Climate Zone 2	82
Climate Zone 3	84
Climate Zone 4	86
Climate Zone 5 PG&E	88
Climate Zone 5 PG&E/SoCalGas	90
Climate Zone 6	92
Climate Zone 7	94
Climate Zone 8	96
Climate Zone 9	98
Climate Zone 10 SCE/SoCalGas	100
Climate Zone 10 SDGE	102
Climate Zone 11	104
Climate Zone 12	106
Climate Zone 13	108
Climate Zone 14 SCE/SoCalGas	110
Climate Zone 14 SDGE	112
Climate Zone 15	114
Climate Zone 16	116



Climate Zone 1**Table 47: Single Family Climate Zone 1 Results Summary**

Climate Zone 1 PG&E Single Family		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	581	n/a	n/a	3.00	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	480	5.0	(0.08)	2.51	0.49	\$1,355	3.38	2.82
	Efficiency-Equipment	0	440	6.5	(0.07)	2.32	0.68	\$1,280	4.92	4.10
	Efficiency & PV/Battery	(28)	480	10.5	0.04	2.40	0.60	\$5,311	0.87	1.61
All-Electric ²	Code Compliant	7,079	0	n/a	n/a	1.51	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	4,461	0	15.0	0.00	1.01	0.50	\$7,642	1.79	1.66
	Efficiency-Equipment	5,933	0	6.5	0.00	1.29	0.22	\$2,108	2.94	2.74
	Efficiency & PV	889	0	31.0	2.67	0.52	1.00	\$18,192	1.81	1.45
	Efficiency & PV/Battery	(14)	0	41.0	3.45	0.28	1.23	\$24,770	1.45	1.40
Mixed Fuel to All-Electric ³	Code Compliant	7,079	0	0.0	0.00	1.51	1.49	(\$5,349)	0.37	0.91
	Efficiency & PV	889	0	31.0	2.67	0.52	2.48	\$12,844	1.43	2.11
	Neutral Cost	5,270	0	8.0	1.35	1.26	1.74	\$0	0.00	1.09
	Min Cost Effectiveness	3,106	0	18.0	2.97	0.95	2.04	(\$6,372)	1.08	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, Neutral Cost, and Min Cost Effectiveness packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Table 48: Multifamily Climate Zone 1 Results Summary (Per Dwelling Unit)

Climate Zone 1 PG&E Multifamily		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	180	n/a	n/a	2.75	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	147	3.0	0.00	2.31	0.44	\$960	1.10	1.18
	Efficiency-Equipment	(0)	159	2.0	(0.01)	2.48	0.27	\$507	1.29	1.41
	Efficiency & PV/Battery	(14)	147	11.5	0.07	2.13	0.61	\$3,094	0.35	1.21
All-Electric ²	Code Compliant	2,624	0	n/a	n/a	1.62	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	2,328	0	3.5	0.00	1.46	0.15	\$949	1.55	1.40
	Efficiency-Equipment	2,278	0	3.0	0.00	1.41	0.20	\$795	2.39	2.26
	Efficiency & PV	499	0	22.5	1.37	0.75	0.86	\$5,538	2.04	1.50
	Efficiency & PV/Battery	(7)	0	34.5	1.80	0.38	1.24	\$8,919	1.33	1.43
Mixed Fuel to All-Electric ³	Code Compliant	2,624	0	0.0	0.00	1.62	1.13	(\$2,337)	0.38	1.01
	Efficiency & PV	62	0	22.5	1.37	0.75	2.00	\$3,202	1.63	>1
	Neutral Cost	1,693	0	9.5	0.70	1.25	1.50	\$0	0.00	1.57
	Min Cost Effectiveness	1,273	0	14.0	1.01	1.09	1.66	(\$1,052)	1.14	3.76

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, Neutral Cost, and Min Cost Effectiveness packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Climate Zone 2

Table 49: Single Family Climate Zone 2 Results Summary

Climate Zone 2 PG&E Single Family		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
						Mixed Fuel ¹	Code Compliant		(0)	421
Efficiency-Non-Preempted	0	360	3.0	(0.04)	1.94		0.30	\$1,504	1.63	1.66
Efficiency-Equipment	(0)	352	3.0	(0.03)	1.90		0.33	\$724	3.77	3.63
Efficiency & PV/Battery	(22)	360	10.0	0.06	1.82		0.41	\$5,393	0.47	1.56
All-Electric ²	Code Compliant	5,014	0	n/a	n/a	1.11	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	4,079	0	4.5	0.00	0.94	0.18	\$3,943	1.21	1.07
	Efficiency-Equipment	4,122	0	5.0	0.00	0.94	0.17	\$2,108	2.25	2.10
	Efficiency & PV	847	0	19.0	2.07	0.49	0.63	\$12,106	1.83	1.38
	Efficiency & PV/Battery	(15)	0	30.0	2.71	0.26	0.86	\$18,132	1.37	1.43
Mixed Fuel to All-Electric ³	Code Compliant	5,014	0	0.0	0.00	1.11	1.12	(\$5,349)	0.52	1.59
	Efficiency & PV	847	0	19.0	2.07	0.49	1.75	\$6,758	1.76	39.70
	Neutral Cost	2,891	0	9.5	1.36	0.82	1.41	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Table 50: Multifamily Climate Zone 2 Results Summary (Per Dwelling Unit)

Climate Zone 2 PG&E Multifamily		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	150	n/a	n/a	2.37	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	0	142	1.5	(0.02)	2.25	0.12	\$309	0.97	1.75
	Efficiency-Equipment	(0)	134	2.0	(0.01)	2.15	0.22	\$497	1.08	1.49
	Efficiency & PV/Battery	(11)	142	10.5	0.04	2.07	0.30	\$2,413	0.17	1.60
All-Electric ²	Code Compliant	2,151	0	n/a	n/a	1.38	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	2,038	0	1.5	0.00	1.32	0.06	\$361	1.73	2.05
	Efficiency-Equipment	1,928	0	3.0	0.00	1.25	0.13	\$795	1.56	1.56
	Efficiency & PV	476	0	17.5	1.00	0.72	0.67	\$3,711	2.42	1.82
	Efficiency & PV/Battery	(7)	0	30.5	1.36	0.35	1.04	\$6,833	1.38	1.74
Mixed Fuel to All-Electric ³	Code Compliant	2,151	0	0.0	0.00	1.38	0.99	(\$2,337)	0.53	1.42
	Efficiency & PV	60	0	17.5	1.00	0.72	1.65	\$1,375	3.31	>1
	Neutral Cost	1,063	0	10.5	0.70	0.96	1.41	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Climate Zone 3

Table 51: Single Family Climate Zone 3 Results Summary

Climate Zone 3 PG&E Single Family		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	348	n/a	n/a	1.88	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	296	2.5	(0.03)	1.63	0.26	\$1,552	1.28	1.31
	Efficiency-Equipment	(0)	273	4.0	(0.03)	1.52	0.37	\$1,448	1.91	1.97
	Efficiency & PV/Battery	(20)	296	10.0	0.07	1.50	0.38	\$5,438	0.38	1.38
All-Electric ²	Code Compliant	4,355	0	n/a	n/a	1.00	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	3,584	0	4.5	0.00	0.85	0.15	\$1,519	2.60	2.36
	Efficiency-Equipment	3,670	0	4.0	0.00	0.86	0.14	\$2,108	1.76	1.62
	Efficiency & PV	790	0	18.0	1.77	0.46	0.54	\$8,517	2.22	1.68
	Efficiency & PV/Battery	(12)	0	29.0	2.37	0.23	0.76	\$14,380	1.50	1.58
Mixed Fuel to All-Electric ³	Code Compliant	4,355	0	0.0	0.00	1.00	0.89	(\$5,349)	0.55	1.53
	Efficiency & PV	790	0	18.0	1.77	0.46	1.43	\$3,169	2.88	>1
	Neutral Cost	2,217	0	10.5	1.35	0.70	1.18	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Table 52: Multifamily Climate Zone 3 Results Summary (Per Dwelling Unit)

Climate Zone 3 PG&E Multifamily		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	133	n/a	n/a	2.13	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	127	0.5	(0.00)	2.06	0.07	\$175	1.00	1.11
	Efficiency-Equipment	(0)	119	1.5	(0.00)	1.94	0.19	\$403	1.11	1.23
	Efficiency & PV/Battery	(10)	127	10.0	0.05	1.86	0.27	\$2,279	0.11	1.41
All-Electric ²	Code Compliant	1,944	0	n/a	n/a	1.27	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	1,944	0	0.0	0.00	1.27	0.00	\$0	-	-
	Efficiency-Equipment	1,698	0	2.5	0.00	1.13	0.14	\$795	1.73	1.58
	Efficiency & PV	457	0	16.0	0.92	0.69	0.58	\$3,272	2.43	1.73
	Efficiency & PV/Battery	(7)	0	29.5	1.26	0.33	0.94	\$6,344	1.32	1.64
Mixed Fuel to All-Electric ³	Code Compliant	1,944	0	0.0	0.00	1.27	0.86	(\$2,337)	0.58	1.46
	Efficiency & PV	57	0	16.0	0.92	0.69	1.43	\$936	4.18	>1
	Neutral Cost	845	0	11.5	0.70	0.85	1.28	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Climate Zone 4**Table 53: Single Family Climate Zone 4 Results Summary**

Climate Zone 4 PG&E Single Family		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	0	347	n/a	n/a	1.88	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	0	306	2.5	(0.03)	1.68	0.20	\$1,556	0.93	1.15
	Efficiency-Equipment	(0)	294	2.5	(0.02)	1.62	0.26	\$758	2.39	2.67
	Efficiency & PV/Battery	(18)	306	10.0	0.07	1.55	0.33	\$5,434	0.30	1.48
All-Electric ²	Code Compliant	4,342	0	n/a	n/a	1.00	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	3,775	0	3.0	0.00	0.89	0.11	\$1,519	1.92	1.84
	Efficiency-Equipment	3,747	0	3.5	0.00	0.88	0.12	\$2,108	1.52	1.52
	Efficiency & PV	814	0	17.0	1.84	0.48	0.52	\$8,786	2.13	1.62
	Efficiency & PV/Battery	(11)	0	28.5	2.44	0.25	0.75	\$14,664	1.46	1.61
Mixed Fuel to All-Electric ³	Code Compliant	4,342	0	0.0	0.00	1.00	0.88	(\$5,349)	0.55	1.59
	Efficiency & PV	814	0	17.0	1.84	0.48	1.40	\$3,438	2.64	>1
	Neutral Cost	2,166	0	10.0	1.35	0.70	1.18	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Table 54: Multifamily Climate Zone 4 Results Summary (Per Dwelling Unit)

Climate Zone 4 PG&E Multifamily		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
						Mixed Fuel ¹	Code Compliant		(0)	134
Efficiency-Non-Preempted	(0)	127	1.0	(0.01)	2.06		0.10	\$329	0.75	1.24
Efficiency-Equipment	(0)	123	1.5	(0.01)	2.01		0.15	\$351	1.06	1.74
Efficiency & PV/Battery	(9)	127	11.0	0.04	1.87		0.29	\$2,429	0.17	1.60
All-Electric ²	Code Compliant	1,887	0	n/a	n/a	1.25	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	1,794	0	1.0	0.00	1.21	0.05	\$361	1.38	1.54
	Efficiency-Equipment	1,712	0	2.0	0.00	1.15	0.10	\$795	1.23	1.09
	Efficiency & PV	453	0	15.0	0.83	0.69	0.57	\$3,158	2.43	1.81
	Efficiency & PV/Battery	(7)	0	28.5	1.17	0.32	0.93	\$6,201	1.30	1.77
Mixed Fuel to All-Electric ³	Code Compliant	1,887	0	0.0	0.00	1.25	0.90	(\$2,337)	0.65	1.77
	Efficiency & PV	57	0	15.0	0.83	0.69	1.47	\$822	4.96	>1
	Neutral Cost	767	0	11.0	0.70	0.82	1.33	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design..



Climate Zone 5 PG&E**Table 55: Single Family Climate Zone 5 PG&E Results Summary**

Climate Zone 5 PG&E Single Family		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	0	331	n/a	n/a	1.79	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	281	2.5	(0.03)	1.55	0.24	\$1,571	1.10	1.22
	Efficiency-Equipment	(0)	279	2.5	(0.02)	1.54	0.25	\$772	2.29	2.48
	Efficiency & PV/Battery	(14)	281	9.0	0.07	1.43	0.36	\$5,433	0.37	1.32
All-Electric ²	Code Compliant	4,452	0	n/a	n/a	1.01	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	3,687	0	4.0	0.00	0.86	0.15	\$1,519	2.58	2.31
	Efficiency-Equipment	3,737	0	4.0	0.00	0.87	0.14	\$2,108	1.85	1.70
	Efficiency & PV	798	0	18.0	1.72	0.46	0.55	\$8,307	2.31	1.76
	Efficiency & PV/Battery	(8)	0	28.5	2.29	0.24	0.78	\$14,047	1.59	1.63
Mixed Fuel to All-Electric ³	Code Compliant	4,452	0	0.0	0.00	1.01	0.78	(\$5,349)	0.48	1.32
	Efficiency & PV	798	0	18.0	1.72	0.46	1.33	\$2,959	2.72	>1
	Neutral Cost	2,172	0	11.0	1.35	0.70	1.10	\$0	>1	40.07

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Table 56: Multifamily Climate Zone 5 PG&E Results Summary (Per Dwelling Unit)

Climate Zone 5 PG&E Multifamily		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO ₂ -Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	0	131	n/a	n/a	2.10	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	126	0.5	(0.00)	2.03	0.07	\$180	0.99	1.03
	Efficiency-Equipment	(0)	117	1.5	(0.00)	1.92	0.19	\$358	1.24	1.34
	Efficiency & PV/Battery	(7)	126	9.5	0.05	1.84	0.26	\$2,273	0.15	1.38
All-Electric ²	Code Compliant	2,044	0	n/a	n/a	1.32	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	1,990	0	0.5	0.00	1.30	0.03	\$247	1.09	0.86
	Efficiency-Equipment	1,738	0	3.5	0.00	1.15	0.17	\$795	2.15	2.03
	Efficiency & PV	465	0	17.0	0.91	0.70	0.62	\$3,293	2.53	1.82
	Efficiency & PV/Battery	(6)	0	30.0	1.24	0.34	0.98	\$6,314	1.44	1.69
Mixed Fuel to All-Electric ³	Code Compliant	2,044	0	0.0	0.00	1.32	0.78	(\$2,337)	0.50	1.28
	Efficiency & PV	58	0	17.0	0.91	0.70	1.40	\$956	3.80	>1
	Neutral Cost	874	0	12.5	0.70	0.87	1.23	\$0	>1	23.44

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Climate Zone 5 PG&E/SoCalGas

Table 57: Single Family Climate Zone 5 PG&E/SoCalGas Results Summary

Climate Zone 5 PG&E/SoCalGas Single Family		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On- Bill	TDV
Mixed Fuel ¹	Code Compliant	0	331	n/a	n/a	1.79	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	281	2.5	(0.03)	1.55	0.24	\$1,571	0.92	1.22
	Efficiency-Equipment	(0)	279	2.5	(0.02)	1.54	0.25	\$772	1.98	2.48
	Efficiency & PV/Battery	(14)	281	9.0	0.07	1.43	0.36	\$5,433	0.31	1.32
All-Electric ²	Code Compliant	4,452	0	n/a	n/a	1.01	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	3,687	0	4.0	0.00	0.86	0.15	\$1,519	2.58	2.31
	Efficiency-Equipment	3,737	0	4.0	0.00	0.87	0.14	\$2,108	1.85	1.70
	Efficiency & PV	798	0	18.0	1.72	0.46	0.55	\$8,307	2.31	1.76
	Efficiency & PV/Battery	(8)	0	28.5	2.29	0.24	0.78	\$14,047	1.59	1.63
Mixed Fuel to All-Electric ³	Code Compliant	4,452	0	0.0	0.00	1.01	0.78	(\$5,349)	0.48	1.32
	Efficiency & PV	798	0	18.0	1.72	0.46	1.33	\$2,959	2.75	>1
	Neutral Cost	2,172	0	11.0	1.35	0.70	1.10	\$0	>1	40.07

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Table 58: Multifamily Climate Zone 5 PG&E/SoCalGas Results Summary (Per Dwelling Unit)

Climate Zone 5 PG&E/SoCalGas Multifamily		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	0	131	n/a	n/a	2.10	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	126	0.5	(0.00)	2.03	0.07	\$180	0.85	1.03
	Efficiency-Equipment	(0)	117	1.5	(0.00)	1.92	0.19	\$358	1.09	1.34
	Efficiency & PV/Battery	(7)	126	9.5	0.05	1.84	0.26	\$2,273	0.14	1.38
All-Electric ²	Code Compliant	2,044	0	n/a	n/a	1.32	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	1,990	0	0.5	0.00	1.30	0.03	\$247	1.09	0.86
	Efficiency-Equipment	1,738	0	3.5	0.00	1.15	0.17	\$795	2.15	2.03
	Efficiency & PV	465	0	17.0	0.91	0.70	0.62	\$3,293	2.53	1.82
	Efficiency & PV/Battery	(6)	0	30.0	1.24	0.34	0.98	\$6,314	1.44	1.69
Mixed Fuel to All-Electric ³	Code Compliant	2,044	0	0.0	0.00	1.32	0.78	(\$2,337)	0.65	1.28
	Efficiency & PV	58	0	17.0	0.91	0.70	1.40	\$956	4.98	>1
	Neutral Cost	874	0	12.5	0.70	0.87	1.23	\$0	>1	23.44

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Climate Zone 6

Table 59: Single Family Climate Zone 6 Results Summary

Climate Zone 6 SCE/SoCalGas Single Family		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	249	n/a	n/a	1.57	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	0	229	2.0	(0.02)	1.47	0.10	\$1,003	0.66	1.15
	Efficiency-Equipment	(0)	218	1.5	(0.01)	1.41	0.15	\$581	1.58	2.04
	Efficiency & PV/Battery	(13)	229	9.5	0.08	1.22	0.34	\$4,889	0.84	1.27
All-Electric ²	Code Compliant	3,099	0	n/a	n/a	0.87	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	2,885	0	2.0	0.00	0.83	0.05	\$926	1.31	1.41
	Efficiency-Equipment	2,746	0	2.5	0.00	0.80	0.08	\$846	2.20	2.29
	Efficiency & PV	722	0	14.0	1.37	0.63	0.24	\$6,341	1.19	1.48
	Efficiency & PV/Battery	(6)	0	26.0	1.93	0.33	0.55	\$12,036	1.15	1.43
Mixed Fuel to All-Electric ³	Code Compliant	3,099	0	0.0	0.00	0.87	0.69	(\$5,349)	1.19	2.46
	Efficiency & PV	722	0	14.0	1.37	0.63	0.93	\$992	3.07	>1
	Neutral Cost	959	0	12.0	1.36	0.67	0.89	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Table 60: Multifamily Climate Zone 6 Results Summary (Per Dwelling Unit)

Climate Zone 6 SCE/SoCalGas Multifamily		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	114	n/a	n/a	2.17	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	112	1.0	(0.01)	2.14	0.03	\$190	0.65	1.49
	Efficiency-Equipment	(0)	103	1.0	(0.00)	2.03	0.15	\$213	1.43	1.74
	Efficiency & PV/Battery	(6)	112	10.5	0.04	1.76	0.41	\$2,294	0.56	1.35
All-Electric ²	Code Compliant	1,558	0	n/a	n/a	1.28	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	1,531	0	1.0	0.00	1.26	0.02	\$231	0.65	1.34
	Efficiency-Equipment	1,430	0	2.0	0.00	1.20	0.08	\$361	1.62	1.91
	Efficiency & PV	427	0	13.5	0.70	0.97	0.31	\$2,580	1.24	1.71
	Efficiency & PV/Battery	(5)	0	27.5	1.02	0.49	0.79	\$5,590	1.22	1.58
Mixed Fuel to All-Electric ³	Code Compliant	1,558	0	0.0	0.00	1.28	0.90	(\$2,337)	2.59	2.38
	Efficiency & PV	53	0	13.5	0.70	0.97	1.20	\$243	9.50	>1
	Neutral Cost	459	0	12.5	0.70	0.99	1.18	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Climate Zone 7

Table 61: Single Family Climate Zone 7 Results Summary

Climate Zone 7 SDG&E Single Family		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	196	n/a	n/a	1.30	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	196	0.0	0.00	1.30	0.00	\$0	-	-
	Efficiency-Equipment	0	171	1.5	(0.00)	1.18	0.12	\$606	1.50	1.40
	Efficiency & PV/Battery	(12)	189	9.0	0.10	1.04	0.26	\$4,028	0.06	1.32
All-Electric ²	Code Compliant	2,479	0	n/a	n/a	0.75	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	2,479	0	0.0	0.00	0.75	0.00	\$0	-	-
	Efficiency-Equipment	2,222	0	2.0	0.00	0.69	0.06	\$846	1.60	1.65
	Efficiency & PV	674	0	11.0	1.10	0.58	0.17	\$4,436	1.87	1.55
	Efficiency & PV/Battery	(6)	0	24.0	1.61	0.29	0.46	\$9,936	1.25	1.47
Mixed Fuel to All-Electric ³	Code Compliant	2,479	0	0.0	0.00	0.75	0.55	(\$5,349)	1.04	2.54
	Efficiency & PV	674	0	11.0	1.10	0.58	0.72	(\$912)	>1	>1
	Neutral Cost	267	0	13.5	1.35	0.55	0.75	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Table 62: Multifamily Climate Zone 7 Results Summary (Per Dwelling Unit)

Climate Zone 7 SDG&E Multifamily		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO ₂ -Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	110	n/a	n/a	2.11	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	108	0.5	(0.01)	2.08	0.03	\$90	0.73	2.24
	Efficiency-Equipment	(0)	99	2.0	(0.00)	1.96	0.15	\$366	1.07	1.41
	Efficiency & PV/Battery	(6)	108	11.0	0.05	1.71	0.40	\$2,188	0.03	1.40
All-Electric ²	Code Compliant	1,434	0	n/a	n/a	1.21	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	1,416	0	0.5	0.00	1.20	0.01	\$202	0.60	1.02
	Efficiency-Equipment	1,319	0	1.5	0.00	1.14	0.07	\$361	1.59	1.71
	Efficiency & PV	412	0	12.5	0.61	0.94	0.27	\$2,261	2.08	1.76
	Efficiency & PV/Battery	(5)	0	27.0	0.92	0.47	0.74	\$5,203	1.19	1.62
Mixed Fuel to All-Electric ³	Code Compliant	1,434	0	0.0	0.00	1.21	0.90	(\$2,337)	1.12	2.47
	Efficiency & PV	51	0	12.5	0.61	0.94	1.17	(\$75)	>1	>1
	Neutral Cost	294	0	13.5	0.70	0.91	1.20	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Climate Zone 8**Table 63: Single Family Climate Zone 8 Results Summary**

Climate Zone 8 SCE/SoCalGas Single Family		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	206	n/a	n/a	1.38	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	198	1.0	(0.02)	1.34	0.05	\$581	0.57	1.41
	Efficiency-Equipment	0	181	1.5	(0.01)	1.27	0.12	\$586	1.30	1.82
	Efficiency & PV/Battery	(13)	198	8.0	0.08	1.11	0.27	\$4,466	0.90	1.31
All-Electric ²	Code Compliant	2,576	0	n/a	n/a	0.80	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	2,483	0	1.5	0.00	0.78	0.02	\$926	0.57	1.22
	Efficiency-Equipment	2,352	0	1.5	0.00	0.75	0.05	\$412	2.82	3.03
	Efficiency & PV	703	0	10.5	1.13	0.62	0.18	\$5,373	1.00	1.48
	Efficiency & PV/Battery	(7)	0	21.5	1.67	0.32	0.48	\$11,016	1.09	1.42
Mixed Fuel to All-Electric ³	Code Compliant	2,576	0	0.0	0.00	0.80	0.58	(\$5,349)	1.83	2.99
	Efficiency & PV	703	0	10.5	1.13	0.62	0.77	\$25	107.93	>1
	Neutral Cost	439	0	11.0	1.36	0.60	0.78	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Table 64: Multifamily Climate Zone 8 Results Summary (Per Dwelling Unit)

Climate Zone 8 SCE/SoCalGas Multifamily		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	109	n/a	n/a	2.18	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	106	1.5	(0.02)	2.13	0.05	\$250	0.70	1.36
	Efficiency-Equipment	(0)	99	1.0	(0.00)	2.04	0.14	\$213	1.37	1.67
	Efficiency & PV/Battery	(6)	106	9.5	0.03	1.77	0.41	\$2,353	0.74	1.32
All-Electric ²	Code Compliant	1,409	0	n/a	n/a	1.26	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	1,373	0	1.0	0.00	1.24	0.02	\$231	0.87	1.72
	Efficiency-Equipment	1,276	0	1.5	0.00	1.18	0.08	\$361	1.63	1.75
	Efficiency & PV	426	0	11.5	0.60	0.99	0.27	\$2,240	1.26	1.78
	Efficiency & PV/Battery	(5)	0	24.0	0.92	0.53	0.73	\$5,249	1.24	1.59
Mixed Fuel to All-Electric ³	Code Compliant	1,409	0	0.0	0.00	1.26	0.91	(\$2,337)	6.69	2.67
	Efficiency & PV	53	0	11.5	0.60	0.99	1.18	(\$96)	>1	>1
	Neutral Cost	309	0	12.0	0.70	0.98	1.20	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Climate Zone 9**Table 65: Single Family Climate Zone 9 Results Summary**

Climate Zone 9 SCE/SoCalGas Single Family		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	0	229	n/a	n/a	1.53	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	216	2.5	(0.04)	1.46	0.07	\$912	0.69	1.97
	Efficiency-Equipment	0	201	2.5	(0.04)	1.38	0.15	\$574	1.80	3.66
	Efficiency & PV/Battery	(14)	216	8.5	0.05	1.23	0.30	\$4,785	0.99	1.48
All-Electric ²	Code Compliant	2,801	0	n/a	n/a	0.87	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	2,645	0	2.5	0.00	0.84	0.04	\$1,180	0.78	1.96
	Efficiency-Equipment	2,460	0	3.0	0.00	0.80	0.07	\$846	2.11	3.22
	Efficiency & PV	745	0	11.5	1.16	0.66	0.21	\$5,778	1.08	1.64
	Efficiency & PV/Battery	(9)	0	21.0	1.72	0.37	0.50	\$11,454	1.11	1.53
Mixed Fuel to All-Electric ³	Code Compliant	2,801	0	0.0	0.00	0.87	0.66	(\$5,349)	1.67	2.90
	Efficiency & PV	745	0	11.5	1.16	0.66	0.87	\$429	7.15	>1
	Neutral Cost	594	0	10.0	1.36	0.67	0.86	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Table 66: Multifamily Climate Zone 9 Results Summary (Per Dwelling Unit)

Climate Zone 9 SCE/SoCalGas Multifamily		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
						Mixed Fuel ¹	Code Compliant		0	111
Efficiency-Non-Preempted	(0)	109	1.5	(0.03)	2.19		0.05	\$136	1.46	3.35
Efficiency-Equipment	(0)	101	2.5	(0.03)	2.08		0.16	\$274	1.66	2.87
Efficiency & PV/Battery	(7)	109	9.5	0.03	1.84		0.40	\$2,234	0.90	1.49
All-Electric ²	Code Compliant	1,468	0	n/a	n/a	1.33	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	1,414	0	1.5	0.00	1.30	0.03	\$231	1.29	2.70
	Efficiency-Equipment	1,334	0	1.5	0.00	1.25	0.08	\$361	1.63	1.58
	Efficiency & PV	441	0	11.0	0.60	1.04	0.29	\$2,232	1.34	1.91
	Efficiency & PV/Battery	(7)	0	23.0	0.92	0.58	0.75	\$5,236	1.28	1.67
Mixed Fuel to All-Electric ³	Code Compliant	1,468	0	0.0	0.00	1.33	0.91	(\$2,337)	4.38	2.55
	Efficiency & PV	55	0	11.0	0.60	1.04	1.20	(\$104)	>1	>1
	Neutral Cost	331	0	11.0	0.70	1.03	1.21	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Climate Zone 10 SCE/SoCalGas**Table 67: Single Family Climate Zone 10 SCE/SoCalGas Results Summary**

Climate Zone 10 SCE/SoCalGas Single Family		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	239	n/a	n/a	1.61	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	217	3.0	(0.07)	1.48	0.13	\$1,648	0.63	1.33
	Efficiency-Equipment	(0)	209	3.0	(0.06)	1.45	0.16	\$593	2.05	3.84
	Efficiency & PV/Battery	(12)	217	9.5	0.03	1.25	0.36	\$5,522	1.00	1.48
All-Electric ²	Code Compliant	2,981	0	n/a	n/a	0.94	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	2,673	0	3.0	0.00	0.88	0.07	\$1,773	0.92	1.52
	Efficiency-Equipment	2,563	0	3.0	0.00	0.85	0.10	\$949	2.27	3.19
	Efficiency & PV	762	0	11.0	1.17	0.70	0.24	\$6,405	1.08	1.50
	Efficiency & PV/Battery	(6)	0	21.0	1.74	0.41	0.53	\$12,129	1.11	1.51
Mixed Fuel to All-Electric ³	Code Compliant	2,981	0	0.0	0.00	0.94	0.67	(\$5,349)	1.45	2.66
	Efficiency & PV	762	0	11.0	1.17	0.70	0.91	\$1,057	3.04	>1
	Neutral Cost	770	0	9.0	1.36	0.74	0.87	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Table 68: Multifamily Climate Zone 10 SCE/SoCalGas Results Summary (Per Dwelling Unit)

Climate Zone 10 SCE/SoCalGas Multifamily		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO ₂ -Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	112	n/a	n/a	2.29	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	108	1.5	(0.02)	2.23	0.06	\$278	0.81	1.69
	Efficiency-Equipment	(0)	102	2.5	(0.04)	2.13	0.16	\$250	1.96	3.27
	Efficiency & PV/Battery	(6)	108	10.0	0.03	1.88	0.41	\$2,376	0.98	1.57
All-Electric ²	Code Compliant	1,507	0	n/a	n/a	1.39	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	1,425	0	1.5	0.00	1.34	0.05	\$361	1.16	2.00
	Efficiency-Equipment	1,369	0	1.5	0.00	1.31	0.08	\$361	1.71	1.98
	Efficiency & PV	450	0	10.5	0.60	1.09	0.30	\$2,371	1.31	1.79
	Efficiency & PV/Battery	(4)	0	23.0	0.93	0.63	0.76	\$5,395	1.27	1.69
Mixed Fuel to All-Electric ³	Code Compliant	1,507	0	0.0	0.00	1.39	0.90	(\$2,337)	3.35	2.36
	Efficiency & PV	56	0	10.5	0.60	1.09	1.20	\$34	70.89	>1
	Neutral Cost	372	0	10.5	0.70	1.10	1.19	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Climate Zone 10 SDGE**Table 69: Single Family Climate Zone 10 SDGE Results Summary**

Climate Zone 10 SDG&E Single Family		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	239	n/a	n/a	1.61	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	217	3.0	(0.07)	1.48	0.13	\$1,648	0.80	1.33
	Efficiency-Equipment	(0)	209	3.0	(0.06)	1.45	0.16	\$593	2.64	3.84
	Efficiency & PV/Battery	(12)	217	9.5	0.03	1.25	0.36	\$5,522	0.58	1.48
All-Electric ²	Code Compliant	2,981	0	n/a	n/a	0.94	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	2,673	0	3.0	0.00	0.88	0.07	\$1,773	1.08	1.52
	Efficiency-Equipment	2,563	0	3.0	0.00	0.85	0.10	\$949	2.62	3.19
	Efficiency & PV	762	0	11.0	1.17	0.70	0.24	\$6,405	1.68	1.50
	Efficiency & PV/Battery	(6)	0	21.0	1.74	0.41	0.53	\$12,129	1.42	1.51
Mixed Fuel to All-Electric ³	Code Compliant	2,981	0	0.0	0.00	0.94	0.67	(\$5,349)	0.90	2.66
	Efficiency & PV	762	0	11.0	1.17	0.70	0.91	\$1,057	4.55	>1
	Neutral Cost	770	0	9.0	1.36	0.74	0.87	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Table 70: Multifamily Climate Zone 10 SDGE Results Summary (Per Dwelling Unit)

Climate Zone 10 SDG&E Multifamily		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO ₂ -Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	112	n/a	n/a	2.29	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	108	1.5	(0.02)	2.23	0.06	\$278	1.09	1.69
	Efficiency-Equipment	(0)	102	2.5	(0.04)	2.13	0.16	\$250	2.60	3.27
	Efficiency & PV/Battery	(6)	108	10.0	0.03	1.88	0.41	\$2,376	0.23	1.57
All-Electric ²	Code Compliant	1,507	0	n/a	n/a	1.39	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	1,425	0	1.5	0.00	1.34	0.05	\$361	1.53	2.00
	Efficiency-Equipment	1,369	0	1.5	0.00	1.31	0.08	\$361	2.05	1.98
	Efficiency & PV	450	0	10.5	0.60	1.09	0.30	\$2,371	2.12	1.79
	Efficiency & PV/Battery	(4)	0	23.0	0.93	0.63	0.76	\$5,395	1.44	1.69
Mixed Fuel to All-Electric ³	Code Compliant	1,507	0	0.0	0.00	1.39	0.90	(\$2,337)	0.73	2.36
	Efficiency & PV	56	0	10.5	0.60	1.09	1.20	\$34	54.15	>1
	Neutral Cost	372	0	10.5	0.70	1.10	1.19	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Climate Zone 11**Table 71: Single Family Climate Zone 11 Results Summary**

Climate Zone 11 PG&E Single Family		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	378	n/a	n/a	2.14	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	333	4.0	(0.19)	1.90	0.24	\$3,143	0.78	1.20
	Efficiency-Equipment	0	320	5.0	(0.21)	1.83	0.31	\$1,222	2.50	3.68
	Efficiency & PV/Battery	(18)	333	9.0	(0.09)	1.78	0.36	\$7,026	0.36	1.51
All-Electric ²	Code Compliant	4,585	0	n/a	n/a	1.15	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	3,815	0	4.5	0.00	0.99	0.16	\$3,735	1.24	1.47
	Efficiency-Equipment	3,533	0	5.5	0.00	0.93	0.22	\$2,108	2.97	3.33
	Efficiency & PV	957	0	14.0	1.79	0.60	0.55	\$10,827	1.84	1.55
	Efficiency & PV/Battery	(13)	0	23.0	2.49	0.36	0.79	\$17,077	1.49	1.61
Mixed Fuel to All-Electric ³	Code Compliant	4,585	0	0.0	0.00	1.15	0.99	(\$5,349)	0.49	1.69
	Efficiency & PV	957	0	14.0	1.79	0.60	1.54	\$5,478	1.64	>1
	Neutral Cost	2,429	0	7.0	1.36	0.85	1.29	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Table 72: Multifamily Climate Zone 11 Results Summary (Per Dwelling Unit)

Climate Zone 11 PG&E Multifamily		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	141	n/a	n/a	2.38	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	0	127	2.5	(0.05)	2.18	0.20	\$850	0.65	1.17
	Efficiency-Equipment	(0)	126	3.0	(0.06)	2.16	0.22	\$317	1.84	3.29
	Efficiency & PV/Battery	(9)	127	10.5	0.01	2.00	0.38	\$2,950	0.39	1.60
All-Electric ²	Code Compliant	1,974	0	n/a	n/a	1.42	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	1,732	0	3.5	0.00	1.29	0.13	\$1,011	1.40	1.64
	Efficiency-Equipment	1,707	0	3.5	0.00	1.26	0.16	\$795	2.02	2.33
	Efficiency & PV	504	0	13.0	0.77	0.81	0.61	\$3,601	2.22	1.81
	Efficiency & PV/Battery	(6)	0	25.0	1.14	0.45	0.98	\$6,759	1.42	1.81
Mixed Fuel to All-Electric ³	Code Compliant	1,974	0	0.0	0.00	1.42	0.96	(\$2,337)	0.56	1.33
	Efficiency & PV	63	0	13.0	0.77	0.81	1.56	\$1,264	3.03	>1
	Neutral Cost	866	0	9.0	0.70	0.99	1.38	\$0	>1	73.96

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Climate Zone 12**Table 73: Single Family Climate Zone 12 Results Summary**

Climate Zone 12 PG&E Single Family		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	390	n/a	n/a	2.11	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	344	3.5	(0.06)	1.88	0.23	\$1,679	1.18	1.83
	Efficiency-Equipment	0	338	3.0	(0.05)	1.85	0.26	\$654	3.31	4.65
	Efficiency & PV/Battery	(23)	344	9.5	0.04	1.76	0.35	\$5,568	0.43	1.72
All-Electric ²	Code Compliant	4,492	0	n/a	n/a	1.05	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	3,958	0	3.5	0.00	0.94	0.10	\$3,735	0.78	1.06
	Efficiency-Equipment	3,721	0	5.0	0.00	0.90	0.15	\$2,108	2.00	2.51
	Efficiency & PV	867	0	15.5	1.97	0.51	0.53	\$11,520	1.69	1.41
	Efficiency & PV/Battery	(15)	0	25.0	2.62	0.29	0.76	\$17,586	1.29	1.48
Mixed Fuel to All-Electric ³	Code Compliant	4,492	0	0.0	0.00	1.05	1.07	(\$5,349)	0.63	1.89
	Efficiency & PV	867	0	15.5	1.97	0.51	1.60	\$6,172	1.77	>1
	Neutral Cost	2,374	0	8.0	1.35	0.76	1.36	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Table 74: Multifamily Climate Zone 12 Results Summary (Per Dwelling Unit)

Climate Zone 12 PG&E Multifamily		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	143	n/a	n/a	2.33	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	135	1.5	(0.02)	2.21	0.12	\$291	1.10	2.22
	Efficiency-Equipment	0	128	2.5	(0.03)	2.12	0.21	\$434	1.25	2.22
	Efficiency & PV/Battery	(11)	135	10.0	0.03	2.03	0.30	\$2,394	0.30	1.75
All-Electric ²	Code Compliant	1,963	0	n/a	n/a	1.34	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	1,792	0	2.5	0.00	1.24	0.09	\$1,011	0.91	1.12
	Efficiency-Equipment	1,744	0	2.5	0.00	1.21	0.13	\$795	1.56	1.63
	Efficiency & PV	472	0	14.0	0.84	0.73	0.60	\$3,835	2.08	1.65
	Efficiency & PV/Battery	(8)	0	26.5	1.20	0.38	0.96	\$6,943	1.26	1.68
Mixed Fuel to All-Electric ³	Code Compliant	1,963	0	0.0	0.00	1.34	1.00	(\$2,337)	0.64	1.66
	Efficiency & PV	59	0	14.0	0.84	0.73	1.60	\$1,498	2.88	>1
	Neutral Cost	872	0	9.5	0.70	0.92	1.42	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Climate Zone 13**Table 75: Single Family Climate Zone 13 Results Summary**

Climate Zone 13 PG&E Single Family		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	352	n/a	n/a	2.02	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	311	4.5	(0.21)	1.80	0.22	\$3,060	0.76	1.28
	Efficiency-Equipment	(0)	292	5.5	(0.24)	1.70	0.32	\$611	5.26	8.40
	Efficiency & PV/Battery	(19)	311	9.5	(0.11)	1.69	0.33	\$6,954	0.36	1.56
All-Electric ²	Code Compliant	4,180	0	n/a	n/a	1.08	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	3,428	0	5.0	0.00	0.92	0.15	\$4,154	1.12	1.40
	Efficiency-Equipment	3,177	0	6.0	0.00	0.87	0.21	\$2,108	2.88	3.30
	Efficiency & PV	934	0	13.0	1.61	0.57	0.50	\$10,532	1.70	1.47
	Efficiency & PV/Battery	(11)	0	22.0	2.32	0.35	0.73	\$16,806	1.40	1.54
Mixed Fuel to All-Electric ³	Code Compliant	4,180	0	0.0	0.00	1.08	0.94	(\$5,349)	0.54	1.83
	Efficiency & PV	934	0	13.0	1.61	0.57	1.44	\$5,184	1.56	>1
	Neutral Cost	2,092	0	7.0	1.36	0.79	1.23	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Table 76: Multifamily Climate Zone 13 Results Summary (Per Dwelling Unit)

Climate Zone 13 PG&E Multifamily		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	135	n/a	n/a	2.30	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	123	3.0	(0.05)	2.12	0.18	\$831	0.63	1.27
	Efficiency-Equipment	(0)	121	3.0	(0.07)	2.10	0.21	\$290	1.95	3.75
	Efficiency & PV/Battery	(9)	123	10.5	0.00	1.95	0.35	\$2,936	0.38	1.64
All-Electric ²	Code Compliant	1,849	0	n/a	n/a	1.36	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	1,629	0	3.0	0.00	1.24	0.12	\$1,011	1.31	1.56
	Efficiency-Equipment	1,590	0	3.5	0.00	1.21	0.16	\$795	1.98	2.28
	Efficiency & PV	501	0	12.0	0.73	0.80	0.56	\$3,462	2.12	1.71
	Efficiency & PV/Battery	(5)	0	23.5	1.11	0.44	0.92	\$6,650	1.35	1.74
Mixed Fuel to All-Electric ³	Code Compliant	1,849	0	0.0	0.00	1.36	0.94	(\$2,337)	0.63	1.54
	Efficiency & PV	63	0	12.0	0.73	0.80	1.50	\$1,125	3.22	>1
	Neutral Cost	773	0	8.5	0.70	0.94	1.36	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Climate Zone 14 SCE/SoCalGas**Table 77: Single Family Climate Zone 14 SCE/SoCalGas Results Summary**

Climate Zone 14 SCE/SoCalGas Single Family		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO ₂ -Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	371	n/a	n/a	2.35	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	319	4.5	(0.17)	2.06	0.29	\$1,662	1.57	2.46
	Efficiency-Equipment	(0)	305	5.5	(0.19)	1.98	0.36	\$799	3.95	6.14
	Efficiency & PV/Battery	(5)	319	9.0	(0.08)	1.83	0.52	\$5,526	1.31	1.74
All-Electric ²	Code Compliant	4,725	0	n/a	n/a	1.38	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	3,819	0	5.5	0.00	1.19	0.19	\$4,154	0.95	1.46
	Efficiency-Equipment	3,676	0	6.0	0.00	1.16	0.22	\$2,108	2.29	3.13
	Efficiency & PV	953	0	15.5	1.60	0.93	0.45	\$10,459	1.21	1.62
	Efficiency & PV/Battery	(2)	0	23.5	2.21	0.63	0.75	\$16,394	1.35	1.59
Mixed Fuel to All-Electric ³	Code Compliant	4,725	0	0.0	0.00	1.38	0.97	(\$5,349)	0.72	1.67
	Efficiency & PV	953	0	15.5	1.60	0.93	1.42	\$5,111	1.01	>1
	Neutral Cost	2,299	0	8.5	1.35	1.15	1.19	\$0	0.00	>1
	Min Cost Effectiveness	1,853	0	10.0	1.61	1.12	1.23	(\$1,000)	1.24	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, Neutral Cost, and Min Cost Effectiveness packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Table 78: Multifamily Climate Zone 14 SCE/SoCalGas Results Summary (Per Dwelling Unit)

Climate Zone 14 SCE/SoCalGas Multifamily		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	141	n/a	n/a	2.76	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	126	3.0	(0.04)	2.53	0.23	\$874	0.73	1.21
	Efficiency-Equipment	(0)	126	3.0	(0.05)	2.52	0.23	\$347	1.96	2.99
	Efficiency & PV/Battery	(3)	126	9.5	0.01	2.18	0.58	\$2,957	1.09	1.39
All-Electric ²	Code Compliant	2,022	0	n/a	n/a	1.73	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	1,759	0	3.5	0.00	1.58	0.15	\$1,011	1.24	1.65
	Efficiency-Equipment	1,748	0	3.5	0.00	1.56	0.16	\$795	1.59	2.20
	Efficiency & PV	504	0	14.0	0.70	1.26	0.47	\$3,356	1.39	1.91
	Efficiency & PV/Battery	(2)	0	24.5	1.03	0.79	0.94	\$6,380	1.36	1.77
Mixed Fuel to All-Electric ³	Code Compliant	2,022	0	0.0	0.00	1.73	1.03	(\$2,337)	1.13	1.48
	Efficiency & PV	63	0	14.0	0.70	1.26	1.50	\$1,019	2.57	>1
	Neutral Cost	772	0	10.0	0.70	1.41	1.35	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Climate Zone 14 SDGE**Table 79: Single Family Climate Zone 14 SDGE Results Summary**

Climate Zone 14 SDG&E Single Family		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO ₂ -Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	371	n/a	n/a	2.35	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	319	4.5	(0.17)	2.06	0.29	\$1,662	1.92	2.46
	Efficiency-Equipment	(0)	305	5.5	(0.19)	1.98	0.36	\$799	4.88	6.14
	Efficiency & PV/Battery	(5)	319	9.0	(0.08)	1.83	0.52	\$5,526	1.23	1.74
All-Electric ²	Code Compliant	4,725	0	n/a	n/a	1.38	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	3,819	0	5.5	0.00	1.19	0.19	\$4,154	1.30	1.46
	Efficiency-Equipment	3,676	0	6.0	0.00	1.16	0.22	\$2,108	2.92	3.13
	Efficiency & PV	953	0	15.5	1.60	0.93	0.45	\$10,459	1.80	1.62
	Efficiency & PV/Battery	(2)	0	23.5	2.21	0.63	0.75	\$16,394	1.67	1.59
Mixed Fuel to All-Electric ³	Code Compliant	4,725	0	0.0	0.00	1.38	0.97	(\$5,349)	0.60	1.67
	Efficiency & PV	953	0	15.5	1.60	0.93	1.42	\$5,111	1.94	>1
	Neutral Cost	2,299	0	8.5	1.35	1.15	1.19	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Table 80: Multifamily Climate Zone 14 SDGE Results Summary (Per Dwelling Unit)

Climate Zone 14 SDG&E Multifamily		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO ₂ -Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	141	n/a	n/a	2.76	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	126	3.0	(0.04)	2.53	0.23	\$874	0.93	1.21
	Efficiency-Equipment	(0)	126	3.0	(0.05)	2.52	0.23	\$347	2.48	2.99
	Efficiency & PV/Battery	(3)	126	9.5	0.01	2.18	0.58	\$2,957	0.51	1.39
All-Electric ²	Code Compliant	2,022	0	n/a	n/a	1.73	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	1,759	0	3.5	0.00	1.58	0.15	\$1,011	1.47	1.65
	Efficiency-Equipment	1,748	0	3.5	0.00	1.56	0.16	\$795	2.00	2.20
	Efficiency & PV	504	0	14.0	0.70	1.26	0.47	\$3,356	2.16	1.91
	Efficiency & PV/Battery	(2)	0	24.5	1.03	0.79	0.94	\$6,380	1.69	1.77
Mixed Fuel to All-Electric ³	Code Compliant	2,022	0	0.0	0.00	1.73	1.03	(\$2,337)	0.51	1.48
	Efficiency & PV	63	0	14.0	0.70	1.26	1.50	\$1,019	2.60	>1
	Neutral Cost	772	0	10.0	0.70	1.41	1.35	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Climate Zone 15**Table 81: Single Family Climate Zone 15 Results Summary**

Climate Zone 15 SCE/SoCalGas Single Family		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO ₂ -Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
						Mixed Fuel ¹	Code Compliant		0	149
Efficiency-Non-Preempted	0	141	4.5	(0.43)	1.56		0.13	\$2,179	1.00	1.58
Efficiency-Equipment	(0)	132	4.5	(0.45)	1.51		0.18	(\$936)	>1	>1
Efficiency & PV/Battery	(3)	141	7.0	(0.34)	1.38		0.32	\$6,043	1.15	1.51
All-Electric ²	Code Compliant	2,149	0	n/a	n/a	1.32	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	1,230	0	5.5	0.00	1.12	0.20	\$4,612	1.12	1.58
	Efficiency-Equipment	866	0	7.0	0.00	1.04	0.28	\$2,108	3.30	4.47
	Efficiency & PV	1,030	0	6.0	0.12	1.10	0.22	\$5,085	1.12	1.57
	Efficiency & PV/Battery	(2)	0	13.0	0.83	0.84	0.48	\$11,382	1.16	1.54
Mixed Fuel to All-Electric ³	Code Compliant	2,149	0	0.0	0.00	1.32	0.37	(\$5,349)	1.73	2.21
	Efficiency & PV	1,030	0	6.0	0.12	1.10	0.59	(\$264)	>1	>1
	Neutral Cost	23	0	6.0	1.36	1.13	0.57	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Table 82: Multifamily Climate Zone 15 Results Summary (Per Dwelling Unit)

Climate Zone 15 SCE/SoCalGas Multifamily		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	0	93	n/a	n/a	2.53	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	0	92	4.0	(0.15)	2.42	0.11	\$510	1.35	2.28
	Efficiency-Equipment	0	86	4.0	(0.16)	2.33	0.20	(\$157)	>1	>1
	Efficiency & PV/Battery	(3)	92	8.5	(0.10)	2.13	0.40	\$2,604	1.29	1.70
All-Electric ²	Code Compliant	1,243	0	n/a	n/a	1.78	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	954	0	4.0	0.00	1.61	0.17	\$1,011	1.50	2.28
	Efficiency-Equipment	764	0	6.0	0.00	1.50	0.29	\$1,954	1.24	1.72
	Efficiency & PV	548	0	7.0	0.24	1.50	0.28	\$1,826	1.43	2.07
	Efficiency & PV/Battery	(3)	0	16.5	0.62	1.08	0.70	\$5,020	1.34	1.80
Mixed Fuel to All-Electric ³	Code Compliant	1,243	0	0.0	0.00	1.78	0.75	(\$2,337)	6.36	2.35
	Efficiency & PV	68	0	7.0	0.24	1.50	1.03	(\$511)	>1	>1
	Neutral Cost	78	0	7.5	0.70	1.48	1.05	\$0	>1	>1

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Climate Zone 16**Table 83: Single Family Climate Zone 16 Results Summary**

Climate Zone 16 PG&E Single Family		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO ₂ -Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	(0)	605	n/a	n/a	3.31	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	0	454	5.0	0.01	2.59	0.72	\$3,542	1.62	1.46
	Efficiency-Equipment	0	474	6.0	(0.08)	2.66	0.65	\$2,441	2.19	2.20
	Efficiency & PV/Battery	(18)	454	10.5	0.10	2.36	0.95	\$7,399	0.87	1.37
All-Electric ²	Code Compliant	7,694	0	n/a	n/a	1.73	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	5,696	0	9.5	0.00	1.38	0.35	\$5,731	1.72	1.69
	Efficiency-Equipment	6,760	0	4.5	0.00	1.55	0.18	\$2,108	2.36	2.32
	Efficiency & PV	1,032	0	26.5	2.75	0.94	0.79	\$16,582	2.09	1.62
	Efficiency & PV/Battery	(11)	0	35.0	3.45	0.64	1.09	\$22,838	1.71	1.55
Mixed Fuel to All-Electric ³	Code Compliant	7,694	0	0.0	0.00	1.73	1.58	(\$5,349)	0.31	0.68
	Efficiency & PV	1,032	0	26.5	2.75	0.94	2.37	\$11,234	1.55	2.02
	Neutral Cost	5,398	0	8.5	1.35	1.51	1.80	\$0	0.00	0.74
	Min Cost Effectiveness	3,358	0	16.0	2.56	1.32	1.99	(\$4,753)	1.24	1.40

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, Neutral Cost, and Min Cost Effectiveness packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.



Table 84: Multifamily Climate Zone 16 Results Summary (Per Dwelling Unit)

Climate Zone 16 PG&E Multifamily		Annual Net kWh	Annual therms	EDR Margin ⁴	PV Size Change (kW) ⁵	CO2-Equivalent Emissions (lbs/sf)		NPV of Lifetime Incremental Cost (\$)	Benefit to Cost Ratio (B/C)	
						Total	Reduction		On-Bill	TDV
Mixed Fuel ¹	Code Compliant	0	206	n/a	n/a	3.45	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	(0)	172	2.0	0.03	3.02	0.44	\$937	1.11	1.19
	Efficiency-Equipment	(0)	183	2.5	(0.02)	3.12	0.33	\$453	1.76	2.15
	Efficiency & PV/Battery	(9)	172	9.5	0.08	2.65	0.80	\$3,028	0.47	1.28
All-Electric ²	Code Compliant	2,699	0	n/a	n/a	1.86	n/a	n/a	n/a	n/a
	Efficiency-Non-Preempted	2,329	0	4.0	0.00	1.70	0.16	\$843	2.08	2.05
	Efficiency-Equipment	2,470	0	3.0	0.00	1.74	0.13	\$795	1.59	1.70
	Efficiency & PV	518	0	19.5	1.07	1.23	0.63	\$4,423	2.58	1.89
	Efficiency & PV/Battery	(6)	0	29.5	1.42	0.75	1.11	\$7,533	1.65	1.69
Mixed Fuel to All-Electric ³	Code Compliant	2,699	0	0.0	0.00	1.86	1.59	(\$2,337)	0.43	1.03
	Efficiency & PV	65	0	19.5	1.07	1.23	2.22	\$2,087	2.87	>1
	Neutral Cost	1,518	0	10.0	0.70	1.56	1.90	\$0	>1	2.58

¹All reductions and incremental costs relative to the **mixed fuel** code compliant home.

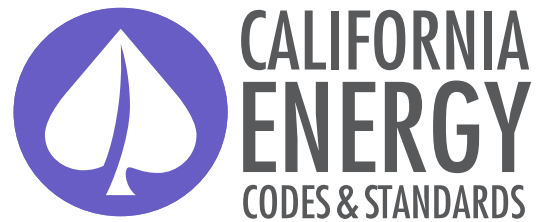
²All reductions and incremental costs relative to the **all-electric** code compliant home.

³All reductions and incremental costs relative to the **mixed fuel** code compliant home except the EDR Margins are relative to the Standard Design for each case which is the **all-electric** code compliant home. Incremental costs for these packages reflect the costs used in the On-Bill cost effectiveness methodology. Costs differ for the TDV methodology due to differences in the site gas infrastructure costs (see Section 2.6).

⁴This represents the Efficiency EDR Margin for the Efficiency-Non-Preempted and Efficiency-Equipment packages and Total EDR Margin for the Efficiency & PV, Efficiency & PV/Battery, and Neutral Cost packages.

⁵Positive values indicate an increase in PV capacity relative to the Standard Design.





A STATEWIDE UTILITY PROGRAM

Title 24, Parts 6 and 11
Local Energy Efficiency Ordinances

2019 Nonresidential New Construction Reach Code Cost Effectiveness Study

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1 Introduction

The California Building Energy Efficiency Standards Title 24, Part 6 (Title 24) (CEC, 2019) is maintained and updated every three years by two state agencies: the California Energy Commission (the Energy Commission) and the Building Standards Commission (BSC). In addition to enforcing the code, local jurisdictions have the authority to adopt local energy efficiency ordinances—or reach codes—that exceed the minimum standards defined by Title 24 (as established by Public Resources Code Section 25402.1(h)2 and Section 10-106 of the Building Energy Efficiency Standards). Local jurisdictions must demonstrate that the requirements of the proposed ordinance are cost-effective and do not result in buildings consuming more energy than is permitted by Title 24. In addition, the jurisdiction must obtain approval from the Energy Commission and file the ordinance with the BSC for the ordinance to be legally enforceable. This report was developed in coordination with the California Statewide Investor Owned Utilities (IOUs) Codes and Standards Program, key consultants, and engaged cities—collectively known as the Reach Code Team.

This report documents cost-effective combinations of measures that exceed the minimum state requirements for design in newly-constructed nonresidential buildings. Buildings specifically examined include medium office, medium retail, and small hotels. Measures include energy efficiency, solar photovoltaics (PV), and battery storage. In addition, the report includes a comparison between a baseline mixed-fuel design and all-electric design for each occupancy type.

The Reach Code team analyzed the following seven packages as compared to 2019 code compliant mixed-fuel design baseline:

- ◆ **Package 1A – Mixed-Fuel + Energy Efficiency (EE):** Mixed-fuel design with energy efficiency measures and federal minimum appliance efficiencies.
- ◆ **Package 1B – Mixed-Fuel + EE + PV + Battery (B):** Same as Package 1A, plus solar PV and batteries.
- ◆ **Package 1C – Mixed-fuel + High Efficiency (HE):** Baseline code-minimum building with high efficiency appliances, triggering federal preemption. The intent of this package is to assess the standalone contribution that high efficiency appliances would make toward achieving high performance thresholds.
- ◆ **Package 2 – All-Electric Federal Code-Minimum Reference:** All-electric design with federal code minimum appliance efficiency. No solar PV or battery.
- ◆ **Package 3A – All-Electric + EE:** Package 2 all-electric design with energy efficiency measures and federal minimum appliance efficiencies.
- ◆ **Package 3B – All-Electric + EE + PV + B:** Same as Package 3A, plus solar PV and batteries.
- ◆ **Package 3C – All-Electric + HE:** All-electric design with high efficiency appliances, triggering federal preemption.

Figure 1 summarizes the baseline and measure packages. Please refer to *Section 3* for more details on the measure descriptions.

Figure 1. Measure Category and Package Overview

Measure Category	Report Section	Mixed Fuel				All-Electric			
		Baseline	1A	1B	1C	2	3A	3B	3C
		Fed Code Minimum Efficiency	EE	EE+ PV + B	HE	Fed Code Minimum Efficiency	EE	EE+ PV + B	HE
Energy Efficiency Measures	3.1		X	X			X	X	
Solar PV + Battery	3.2			X				X	
All-Electric Measures	3.3					X	X	X	X
Preemptive Appliance Measures	3.4				X				X

The team separately developed cost effectiveness results for PV-only and PV+Battery packages, excluding any efficiency measures. For these packages, the PV is modeled as a “minimal” size of 3 kW and a larger size based on the available roof area and electric load of the building. PV sizes are combined with two sizes of battery storage for both mixed fuel and all electric buildings to form eight different package combinations as outlined below:

- ◆ **Mixed-Fuel + 3 kW PV Only**
- ◆ **Mixed-Fuel + 3 kW PV + 5 kWh Battery**
- ◆ **Mixed-Fuel + PV Only:** PV sized per the roof size of the building, or to offset the annual electricity consumption, whichever is smaller
- ◆ **Mixed-Fuel + PV + 50 kWh Battery:** PV sized per the roof size of the building, or to offset the annual electricity consumption, whichever is smaller, along with 50 kWh battery
- ◆ **All-Electric + 3 kW PV Only**
- ◆ **All-Electric + 3 kW PV + 5 kWh Battery**
- ◆ **All-Electric + PV Only:** PV sized per the roof size of the building, or to offset the annual electricity consumption, whichever is smaller
- ◆ **All-Electric + PV + 50 kWh Battery:** PV sized per the roof size of the building, or to offset the annual electricity consumption, whichever is smaller, along with 50 kWh battery.

Each of the eight packages are evaluated against a baseline model designed as per 2019 Title 24 Part 6 requirements. The Standards baseline for all occupancies in this report is a mixed-fuel design.

The Department of Energy (DOE) sets minimum efficiency standards for equipment and appliances that are federally regulated under the National Appliance Energy Conservation Act (NAECA), including heating, cooling, and water heating equipment.¹ Since state and local governments are prohibited from adopting

¹ https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=8de751f141aaa1c1c9833b36156faf67&mc=true&n=pt10.3.431&r=PART&ty=HTML#se10.3.431_197



higher minimum efficiencies than the federal standards require, the focus of this study is to identify and evaluate cost-effective packages that do not include high efficiency equipment. However, because high efficiency appliances are often the easiest and most affordable measures to increase energy performance, this study provides an analysis of high efficiency appliances for informational purposes. While federal preemption would limit a reach code, in practice, builders may install any package of compliant measures to achieve the performance requirements, including higher efficiency appliances that are federally regulated.

2 Methodology and Assumptions

With input from several stakeholders, the Reach Codes team selected three building types—medium office, medium retail, and small hotel—to represent a predominant segment of nonresidential new construction in the state.

This analysis used both on-bill and time dependent valuation of energy (TDV) based approaches to evaluate cost-effectiveness. Both methodologies require estimating and quantifying the energy savings associated with energy efficiency measures, as well as quantifying the costs associated with the measures. The main difference between the methodologies is the valuation of energy and thus the cost savings of reduced or avoided energy use. TDV was developed by the Energy Commission to reflect the time dependent value of energy including long-term projected costs of energy such as the cost of providing energy during peak periods of demand and other societal costs including projected costs for carbon emissions. With the TDV approach, electricity used (or saved) during peak periods has a much higher value than electricity used (or saved) during off-peak periods.²

The Reach Code Team performed energy simulations using EnergyPro 8.0 software for 2019 Title 24 code compliance analysis, which uses CBECC-Com 2019.1.0 for the calculation engine. The baseline prototype models in all climate zones have been designed to have compliance margins as close as possible to 0 to reflect a prescriptively-built building.³

2.1 Building Prototypes

The DOE provides building prototype models which, when modified to comply with 2019 Title 24 requirements, can be used to evaluate the cost effectiveness of efficiency measures. These prototypes have historically been used by the California Energy Commission to assess potential code enhancements. The Reach Code Team performed analysis on a medium office, a medium retail, and a small hotel prototype.

Water heating includes both service water heating (SWH) for office and retail buildings and domestic hot water for hotels. In this report, water heating or SWH is used to refer to both. The Standard Design HVAC and SWH systems are based on the system maps included in the 2019 Nonresidential Alternate

² Horii, B., E. Cutter, N. Kapur, J. Arent, and D. Conotyannis. 2014. "Time Dependent Valuation of Energy for Developing Building Energy Efficiency Standards." Available at: http://www.energy.ca.gov/title24/2016standards/prerulemaking/documents/2014-07-09_workshop/2017_TDV_Documents

³ EnergySoft and TRC were able to develop most baseline prototypes to achieve a compliance margin of less than +/-1 percent except for few models that were at +/- 6 percent. This indicates these prototypes are not exactly prescriptive according to compliance software calculations. To calculate incremental impacts, TRC conservatively compared the package results to that of the proposed design of baseline prototypes (not the standard design).

Calculation Method Reference Manual.⁴ The Standard Design is the baseline for all nonresidential projects and assumes a mixed-fuel design using natural gas as the space heating source in all cases. Baseline HVAC and SWH system characteristics are described below and in Figure 2:

- ◆ The baseline medium office HVAC design package includes two gas hot water boilers, three packaged rooftop units (one for each floor), and variable air volume (VAV) terminal boxes with hot water reheat coils. The SWH design includes one 8.75 kW electric resistance hot water heater with a 30-gallon storage tank.
- ◆ The baseline medium retail HVAC design includes five single zone packaged rooftop units (variable flow and constant flow depending on the zone) with gas furnaces for heating. The SWH design includes one 8.75 kW electric resistance hot water heater with a 30-gallon storage tank.
- ◆ The small hotel has two baseline equipment systems, one for the nonresidential spaces and one for the guest rooms.
 - ◆ The nonresidential HVAC design includes two gas hot water boilers, four packaged rooftop units and twelve VAV terminal boxes with hot water reheat coils. The SWH design include a small electric resistance water heater with 30-gallon storage tank.
 - ◆ The residential HVAC design includes one single zone air conditioner (AC) unit with gas furnace for each guest room and the water heating design includes one central gas water heater with a recirculation pump for all guest rooms.

Figure 2. Prototype Characteristics Summary

	Medium Office	Medium Retail	Small Hotel
Conditioned Floor Area	53,628	24,691	42,552
Number of Stories	3	1	4
Number of Guest Rooms	0	0	78
Window-to-Wall Area Ratio	0.33	0.07	0.11
Baseline HVAC System	Packaged DX VAV with gas furnaces + VAV terminal units with hot water reheat. Central gas hot water boilers	Single zone packaged DX units with gas furnaces	<u>Nonresidential:</u> Packaged DX VAV with hot water coil + VAV terminal units with hot water reheat. Central gas hot water boilers. <u>Residential:</u> Single zone DX AC unit with gas furnaces
Baseline Water Heating System	30-gallon electric resistance water heater	30-gallon electric resistance water heater	<u>Nonresidential:</u> 30-gallon electric resistance water heater <u>Residential:</u> Central gas water heater with recirculation loop

⁴ Nonresidential Alternative Calculation Method Reference Manual For the 2019 Building Energy Efficiency Standards. Available at: <https://www.energy.ca.gov/2019publications/CEC-400-2019-006/CEC-400-2019-006-CMF.pdf>



2.2 Cost Effectiveness

The Reach Code Team analyzed the cost effectiveness of the packages by applying them to building prototypes (as applicable) using the life cycle cost methodology, which is approved and used by the Energy Commission to establish cost effective building energy standards (Title 24, Part 6).⁵

Per Energy Commission's methodology, the Reach Code Team assessed the incremental costs of the energy efficiency measure packages and compared them to the energy cost savings over the measure life of 15 years. Incremental costs represent the equipment, installation, replacements, and maintenance costs of the proposed measure relative to the 2019 Title 24 Standards minimum requirements. The energy savings benefits are estimated using both TDV of energy and typical utility rates for each building type:

- ◆ **Time Dependent Valuation:** TDV is a normalized monetary format developed and used by the Energy Commission for comparing electricity and natural gas savings, and it considers the cost of electricity and natural gas consumed during different times of the day and year. Simulation outputs are translated to TDV savings benefits using 2019 TDV multipliers and 15-year discounted costs for the nonresidential measure packages.
- ◆ **Utility bill impacts (On-bill):** Utility energy costs are estimated by applying appropriate IOU rates to estimated annual electricity and natural gas consumption. The energy bill savings are calculated as the difference in utility costs between the baseline and proposed package over a 15-year duration accounting for discount rate and energy cost escalation.

In coordination with the IOU rate team, and rate experts at a few electric publicly owned utilities (POUs), the Reach Code Team used the current nonresidential utility rates publicly available at the time of analysis to analyze the cost effectiveness for each proposed package. The utility tariffs, summarized in Figure 3, were determined based on the annual load profile of each prototype, and the most prevalent rate in each territory. For some prototypes there are multiple options for rates because of the varying load profiles of mixed-fuel buildings versus all-electric buildings. Tariffs were integrated in EnergyPro software to be applied to the hourly electricity and gas outputs. The Reach Code Team did not attempt to compare or test a variety of tariffs to determine their impact on cost effectiveness.

The currently available and applicable time-of-use (TOU) nonresidential rates are applied to both the base and proposed cases with PV systems.⁶ Any annual electricity production in excess of annual electricity consumption is credited at the applicable wholesale rate based on the approved NEM tariffs for that utility. For a more detailed breakdown of the rates selected refer to *Appendix 6.4 Utility Rate Schedules*. Note that most utility time-of-use rates will be updated in the near future, which can affect cost effectiveness results. For example, Pacific Gas and Electric Company (PG&E) will introduce new rates for new service connections in late 2019, and existing accounts will be automatically rolled over to new rates in November 2020.

⁵ Architectural Energy Corporation (January 2011) Life-Cycle Cost Methodology. California Energy Commission. Available at: http://www.energy.ca.gov/title24/2013standards/prerulemaking/documents/general_cec_documents/2011-01-14_LCC_Methodology_2013.pdf

⁶ Under NEM rulings by the CPUC (D-16-01-144, 1/28/16), all new PV customers shall be in an approved TOU rate structure. As of March 2016, all new PG&E net energy metering (NEM) customers are enrolled in a time-of-use rate. (<http://www.pge.com/en/myhome/saveenergymoney/plans/tou/index.page?>).



Figure 3. Utility Tariffs used based on Climate Zone

Climate Zones	Electric / Gas Utility	Electricity (Time-of-use)	Natural Gas
IOUs			
1-5,11-13,16	PG&E	A-1/A-10	G-NR1
5	PG&E / Southern California Gas Company	A-1/A-10	G-10 (GN-10)
6,8-10,14,15	SCE / Southern California Gas Company	TOU-GS-1/TOU-GS-2/TOU-GS-3	G-10 (GN-10)
7,10,14	San Diego Gas and Electric Company (SDG&E)	A-1/A-10	GN-3
Electric POUs			
4	City of Palo Alto (CPAU)	E-2	n/a
12	Sacramento Municipal Utility District (SMUD)	GS	n/a
6,7,8,16	Los Angeles Department of Water and Power (LADWP)	A-2 (B)	n/a

The Reach Code Team obtained measure costs through interviews with contractors and California distributors and review of online sources, such as Home Depot and RS Means. Taxes and contractor markups were added as appropriate. Maintenance costs were not included because there is no assumed maintenance on the envelope measures. For HVAC and SWH measures the study assumes there are no additional maintenance cost for a more efficient version of the same system type as the baseline. Replacement costs for inverters were included for PV systems, but the useful life all other equipment exceeds the study period.

The Reach Code Team compared the energy benefits with incremental measure cost data to determine cost effectiveness for each measure package. The calculation is performed for a duration of 15 years for all nonresidential prototypes with a 3 percent discount rate and fuel escalation rates based on the most recent General Rate Case filings and historical escalation rates.⁷ Cost effectiveness is presented using net present value and benefit-to-cost ratio metrics.

- ◆ **Net Present Value (NPV):** The Reach Code Team uses net savings (NPV benefits *minus* NPV costs) as the cost effectiveness metric. If the net savings of a measure or package is positive, it is considered cost effective. Negative savings represent net costs. A measure that has negative energy cost benefits (energy cost increase) can still be cost effective if the costs to implement the measure are more negative (i.e., material and maintenance cost savings).
- ◆ **Benefit-to-Cost Ratio (B/C):** Ratio of the present value of all benefits to the present value of all costs over 15 years (NPV benefits *divided by* NPV costs). The criteria for cost effectiveness is a B/C greater than 1.0. A value of one indicates the savings over the life of the measure are equivalent to the incremental cost of that measure.

⁷ 2019 TDV Methodology Report, California Energy Commission, Docket number: 16-BSTD-06
<https://efiling.energy.ca.gov/GetDocument.aspx?tn=216062>



There are several special circumstances to consider when reviewing these results:

- ◆ Improving the efficiency of a project often requires an initial incremental investment. However, some packages result in initial construction cost savings (negative incremental cost), and either energy cost savings (positive benefits), or increased energy costs (negative benefits). Typically, utility bill savings are categorized as a ‘benefit’ while incremental construction costs are treated as ‘costs.’ In cases where both construction costs are negative and utility bill savings are negative, the construction cost savings are treated as the ‘benefit’ while the utility bill negative savings are the ‘cost.’
- ◆ In cases where a measure package is cost effective immediately (i.e., there are upfront cost savings and lifetime energy cost savings), cost effectiveness is represented by “>1”.
- ◆ The B/C ratios sometimes appear very high even though the cost numbers are not very high (for example, an upfront cost of \$1 but on-bill savings of \$200 over 30 years would equate to a B/C ratio of 200). NPV is also displayed to clarify these potentially confusing conclusions – in the example, the NPV would be equal to a modest \$199.

3 Measure Description and Cost

Using the 2019 Title 24 code baseline as the starting point, The Reach Code Team identified potential measure packages to determine the projected energy (therm and kWh) and compliance impacts. The Reach Code Team developed an initial measure list based on experience with designers and contractors along with general knowledge of the relative acceptance and preferences of many measures, as well as their incremental costs.

The measures are categorized into energy efficiency, solar PV and battery, all-electric, and preempted high efficiency measures in subsections below.

3.1 Energy Efficiency Measures

This section describes all the energy efficiency measures considered for this analysis to develop a non-preempted, cost-effective efficiency measure package. The Reach Code Team assessed the cost-effectiveness of measures for all climate zones individually and found that the packages did not need to vary by climate zone, with the exception of a solar heat gain coefficient measure in hotels, as described in more detail below. The measures were developed based on reviews of proposed 2022 Title 24 codes and standards enhancement measures, as well as ASHRAE 90.1 and ASHRAE 189.1 Standards. Please refer to *Appendix Section 6.86.7* for a list of efficiency measures that were considered but not implemented.

Figure 4 provides a summary of the cost of each measure and the applicability of each measure to the prototype buildings.

3.1.1 Envelope

- ◆ **Modify Solar Heat Gain Coefficient (SHGC) fenestration**
 - ◆ Office and Retail - All Climate Zones: reduce window SHGC from the prescriptive value of 0.25 to 0.22
 - ◆ Hotel
 - ◆ Climate zones 1, 2, 3, 5, and 16: Increase the SHGC for all nonresidential spaces from the prescriptive value of 0.25 to 0.45 in both common and guest room spaces.
 - ◆ Climate zones 4, and 6-15: Reduce window SHGC from the prescriptive value of 0.25 to 0.22, only for common spaces.

In all cases, the fenestration visible transmittance and U-factor remain at prescriptive values.

- ◆ **Fenestration as a function of orientation:** Limit the amount of fenestration area as a function of orientation. East-facing and west-facing windows are each limited to one-half of the average amount of north-facing and south-facing windows.

3.1.2 HVAC and SWH

- ◆ **Drain water heat recovery (DWHR):** Add shower drain heat recovery in hotel guest rooms. DWHR captures waste heat from a shower drain line and uses it to preheat hot water. Note that this measure cannot currently be modeled on hotel/motel spaces, and the Reach Code Team integrated estimated savings outside of modeling software based on SWH savings in residential scenarios. Please see *Appendix Section 6.3* for details on energy savings analysis.
- ◆ **VAV box minimum flow:** Reduce VAV box minimum airflows from the current T24 prescriptive requirement of 20 percent of maximum (design) airflow to the T24 zone ventilation minimums.
- ◆ **Economizers on small capacity systems:** Require economizers and staged fan control in units with cooling capacity $\geq 33,000$ Btu/hr and $\leq 54,000$ Btu/hr, which matches the requirement in the 2018 International Green Construction Code and adopts ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1. This measure reduces the T24 prescriptive threshold on air handling units that are required to have economizers, which is $> 54,000$ Btu/hr.
- ◆ **Solar thermal hot water:** For all-electric hotel only, add solar thermal water heating to supply the following portions of the water heating load, measured in solar savings fraction (SSF):
 - ◆ 20 percent SSF in CZs 2, 3, and 5-9
 - ◆ 25 percent in CZ4
 - ◆ 35 percent SSF in CZs 1 and 10-16.



3.1.3 Lighting

- ◆ **Interior lighting reduced lighting power density (LPD):** Reduce LPD by 15 percent for Medium Office, 10 percent for Medium Retail and by 10 percent for the nonresidential areas of the Small Hotel.
- ◆ **Institutional tuning:** Limit the maximum output or maximum power draw of lighting to 85 percent of full light output or full power draw.
- ◆ **Daylight dimming plus off:** Turn daylight-controlled lights completely off when the daylight available in the daylit zone is greater than 150 percent of the illuminance received from the general lighting system at full power. There is no associated cost with this measure, as the 2019 T24 Standards already require multilevel lighting and daylight sensors in primary and secondary daylit spaces. This measure is simply a revised control strategy and does not increase the number of sensors required or labor to install and program a sensor.
- ◆ **Occupant sensing in open plan offices:** In an open plan office area greater than 250 ft², control lighting based on occupant sensing controls. Two workstations per occupancy sensor.

Details on the applicability and impact of each measure by building type and by space function can be found in *Appendices 6.2*. The appendix also includes the resulting LPD that is modeled as the proposed by building type and by space function.



Figure 4. Energy Efficiency Measures - Specification and Cost

Measure	Baseline T24 Requirement	Measure Applicability				Incremental Cost	Sources & Notes
		<ul style="list-style-type: none"> ● Included in Packages 1A, 1B, 3A, 3C – Not applicable 					
		Med Office	Med Retail	Small Hotel			
Guest rooms	Comm Spaces						
Envelope							
Modify SHGC Fenestration	SHGC of 0.25	●	●	●	●	\$1.60 /ft ² window for SHGC decreases, \$0/ft ² for SHGC increases	Costs from one manufacturer.
Fenestration as a Function of Orientation	Limit on total window area and west-facing window area as a function of wall area.	●	–	–	–	\$0	No additional cost associated with the measure which is a design consideration not an equipment cost.
HVAC and SHW							
Drain Water Heat Recovery	No heat recovery required	–	–	●	–	\$841 /unit	Assume 1 heat recovery unit for every 3 guestrooms. Costs from three manufacturers.
VAV Box Minimum Flow	20 percent of maximum (design) airflow	●	–	–	●	\$0	No additional cost associated with the measure which is a design consideration not an equipment cost.
Economizers on Small Capacity Systems	Economizers required for units > 54,000 Btu/hr	–	●	–	–	\$2,857 /unit	Costs from one manufacturer's representative and one mechanical contractor.



Measure	Baseline T24 Requirement	Measure Applicability				Incremental Cost	Sources & Notes
		• Included in Packages 1A, 1B, 3A, 3C – Not applicable					
		Med Office	Med Retail	Small Hotel			
Guest rooms	Comm Spaces						
Solar Thermal Hot Water	For central heat pump water heaters, there is no prescriptive baseline requirement.	–	–	• (electric only)	–	\$33/therm-yr	Installed costs reported in the California Solar Initiative Thermal Program Database, 2015-present. ⁸ Costs include tank and were only available for gas backup systems. Costs are reduced by 19 percent per federal income tax credit average through 2022.
Lighting							
Interior Lighting Reduced LPD	Per Area Category Method, varies by Primary Function Area. Office area 0.60 – 0.70 W/ft ² depending on area of space. Hotel function area 0.85 W/ft ² . Retail Merchandise Sales 1.00 W/ft ²	•	•	–	•	\$0	Industry report on LED pricing analysis shows that costs are not correlated with efficacy. ⁹

⁸ <http://www.csithermalstats.org/download.html>

⁹ http://calmac.org/publications/LED_Pricing_Analysis_Report_-_Revised_1.19.2018_Final.pdf



Measure	Baseline T24 Requirement	Measure Applicability				Incremental Cost	Sources & Notes
		• Included in Packages 1A, 1B, 3A, 3C – Not applicable					
		Med Office	Med Retail	Small Hotel			
Guest rooms	Comm Spaces						
Institutional Tuning	No requirement, but Power Adjustment Factor (PAF) credit of 0.10 available for luminaires in non-daylit areas and 0.05 for luminaires in daylit areas ¹⁰	•	•	–	•	\$0.06/ft ²	Industry report on institutional tuning ¹¹
Daylight Dimming Plus Off	No requirement, but PAF credit of 0.10 available.	•	–	–	–	\$0	Given the amount of lighting controls already required, this measure is no additional cost.
Occupant Sensing in Open Plan Offices	No requirement, but PAF credit of 0.30 available.	•	–	–	–	\$189 /sensor; \$74 /powered relay; \$108 /secondary relay	2 workstations per sensor; 1 fixture per workstation; 4 workstations per master relay; 120 ft ² /workstation in open office area, which is 53% of total floor area of the medium office

¹⁰ Power Adjustment Factors allow designers to tradeoff increased lighting power densities for more efficient designs. In this study, PAF-related measures assume that the more efficient design is incorporated without a tradeoff for increased lighting power density.

¹¹ <https://slipstreaminc.org/sites/default/files/2018-12/task-tuning-report-mndoc-2015.pdf>



3.2 Solar Photovoltaics and Battery Measures

This section describes the PV and battery measures considered for this analysis. The Reach Code Team estimated the required PV sizes for each building prototype for the efficiency measure packages and the stand alone PV and battery options.

3.2.1 Solar Photovoltaics

2019 Title 24 requires nonresidential buildings to reserve at least 15 percent of the roof area as a “solar zone,” but does not include any requirements or compliance credits for the installation of photovoltaic systems. The Reach Code Team analyzed a range of PV system sizes to determine cost effectiveness. To determine upper end of potential PV system size, the Reach Code Team assumed a PV generation capacity of either

- ◆ 15 W/ft² covering 50 percent of the roof area, or
- ◆ Enough to nearly offset the annual energy consumption.

The medium office and small hotel prototypes had small roof areas compared to their annual electricity demand, thus the PV system capacity at 50 percent of the roof area was less than the estimated annual usage. The medium office and small hotel had a 135 kW and 80 kW array, respectively. The medium retail building has a substantially large roof area that would accommodate a PV array that generates more than the annual electricity load of the building. The PV array for the medium retail building was sized at 110 kW to not exceed the annual electricity consumption of the building when accounting for the minimum annual energy demand across climate zones with efficiency packages.

The modeling software for nonresidential buildings does not allow auto-sizing of PV based on a desired percent offset of electricity use. Moreover, the PV size is also constrained by the availability of roof area. Hence, a common size of PV is modeled for all the packages including all electric design. Figure 5 through Figure 7 below demonstrate the percent of electricity offset by PV for both mixed fuel and all electric buildings over their respective federal minimum design package.

Figure 5. Medium Office – Annual Percent kWh Offset with 135 kW Array

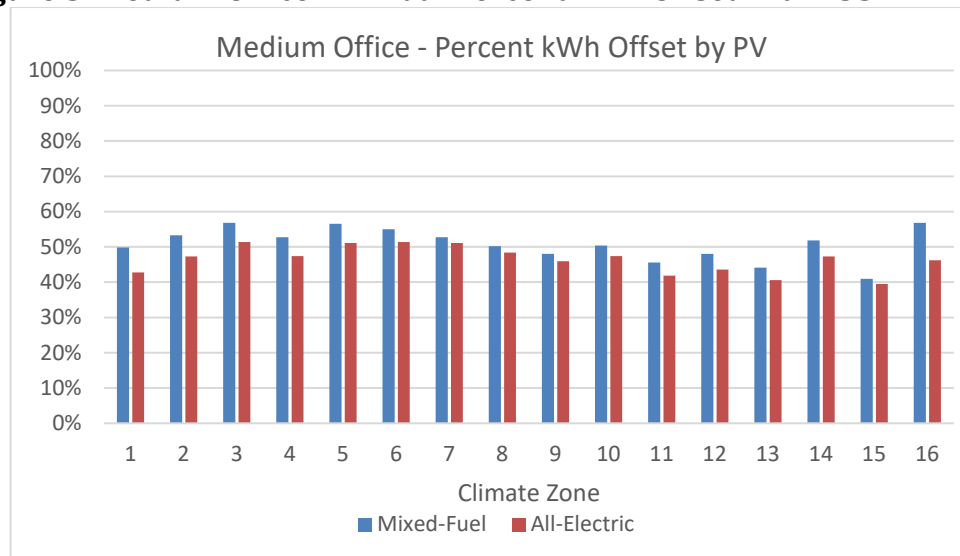


Figure 6. Medium Retail – Annual Percent kWh Offset with 110 kW Array

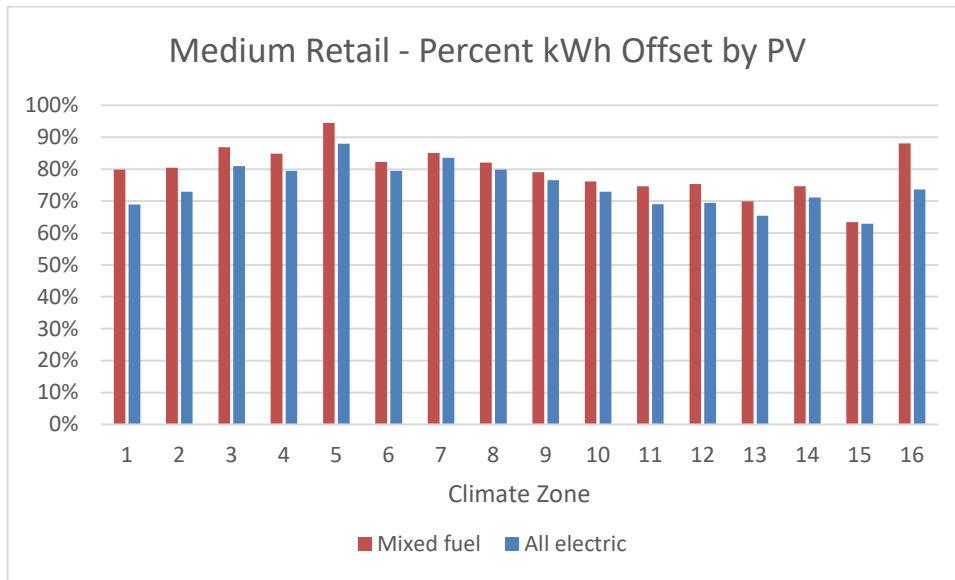
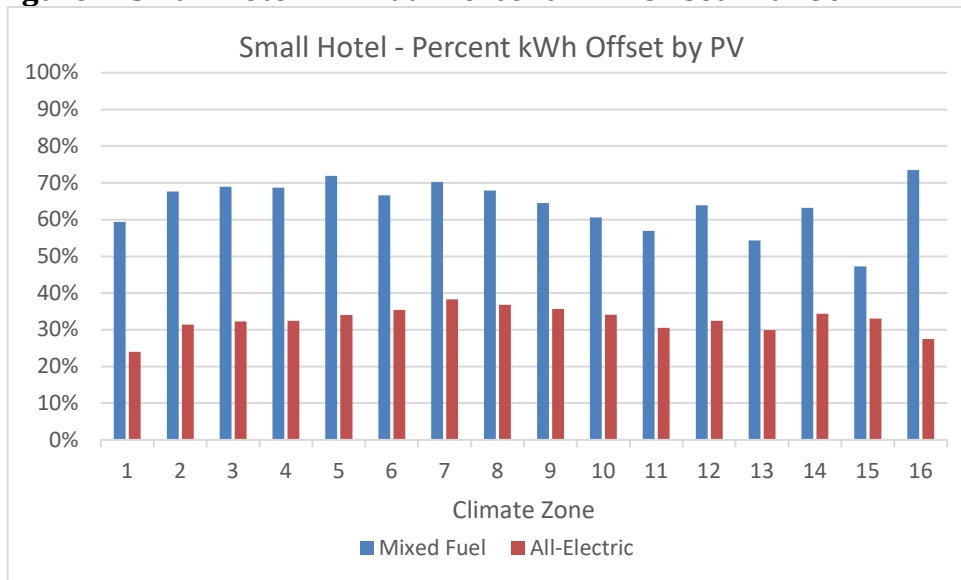


Figure 7. Small Hotel – Annual Percent kWh Offset with 80 kW Array



The costs for PV include first cost to purchase and install the system, inverter replacement costs, and annual maintenance costs. A summary of the medium office costs and sources is given in Figure 8. Upfront solar PV system costs are reduced by the federal income tax credit (ITC), approximately 19 percent due to a phased reduction in the credit through the year 2022.¹²

¹² The federal credit drops to 26% in 2020, and 22% in 2021 before dropping permanently to 10% for commercial projects and 0% for residential projects in 2022. More information on federal Investment Tax Credits available at: <https://www.seia.org/initiatives/solar-investment-tax-credit-itc>



Figure 8. Medium Office Upfront PV Costs

	Unit Cost	Cost	Useful Life (yrs.)	Source
Solar PV System	\$2.30 / Wdc	\$310,500	30	National Renewable Energy Laboratory (NREL) Q1 2016 ¹³
Inverter Replacement	\$0.15 / Wdc	\$20,250	10	E3 Rooftop Solar PV System Report ¹⁴
Maintenance Costs	\$0.02 / Wdc	\$2,700	1	

PV energy output is built into CBECC-Com and is based on NREL’s PVWatts calculator, which includes long term performance degradation estimates.¹⁵

3.2.2 Battery Storage

This measure includes installation of batteries to allow energy generated through PV to be stored and used later, providing additional energy cost benefits. This report does not focus on optimizing battery sizes or controls for each prototype and climate zone, though the Reach Code Team ran test simulations to assess the impact of battery sizes on TDV savings and found diminishing returns as the battery size increased.

The team set battery control to the Time of Use Control (TOU) method, which assumes batteries are charged anytime PV generation is greater than the building load but discharges to the electric grid beginning during the highest priced hours of the day (the “First Hour of the Summer Peak”). Because there is no default hour available in CBECC-Com, the team applied the default hour available in CBECC-Res to start discharging (hour 19 in CZs 2, 4, and 8-15, and hour 20 in other CZs). This control option is most reflective of the current products on the market. While this control strategy is being used in the analysis, there would be no mandate on the control strategy used in practice.

The current simulation software has approximations of how performance characteristics change with environmental conditions, charge/discharge rates, and degradation with age and use. More information is on the software battery control capabilities and associated qualification requirements are available in the Residential Alternative Calculation Method Reference Manual and the 2019 Reference Appendices for the 2019 Title 24 Standards.^{16,17}

The Reach Code Team used costs of \$558 kWh based on a 2018 IOU Codes and Standards Program report, assuming a replacement is necessary in year 15.¹⁸ Batteries are also eligible for the ITC if they are installed at the same time as the renewable generation source and at least 75 percent of the energy used to charge

¹³ Available at: <https://www.nrel.gov/docs/fy16osti/66532.pdf>

¹⁴ Available at: <https://efiling.energy.ca.gov/getdocument.aspx?tn=221366>

¹⁵ More information available at: <https://pvwatts.nrel.gov/downloads/pvwattsv5.pdf>

¹⁶ Battery controls are discussed in Sections 2.1.5.4 and Appendix D of the Residential Alternative Calculation Method Reference Manual, available here: <https://ww2.energy.ca.gov/2019publications/CEC-400-2019-005/CEC-400-2019-005-CMF.pdf>

¹⁷ Qualification Requirements for Battery Storage Systems are available in JA12 of the 2019 Reference Appendices: <https://ww2.energy.ca.gov/2018publications/CEC-400-2018-021/CEC-400-2018-021-CMF.pdf>

¹⁸ Available at: http://localenergycodes.com/download/430/file_path/fieldList/PV%20Plus%20Battery%20Storage%20Report



the battery comes from a renewable source. Thus, the Reach Code Team also applied a 19 percent cost reduction to battery costs.

3.2.3 PV-only and PV+Battery Packages

The Reach Code Team analyzed solar PV and battery storage only, without other efficiency measures in both mixed-fuel and all-electric building designs. Two different sizes of solar PV and battery storage were analyzed.

- ◆ **Small PV Size:** 3 kW, assumed to be the minimal PV system considered for installation in a nonresidential building.
- ◆ **Large PV Size:** PV capacity equal to 15 W/ft² over 50 percent of the roof area, or sized to nearly offset annual electricity consumption, as described in Section 3.2.1.
- ◆ **Small Battery Size:** 5 kWh, assumed to be the minimal battery system considered for installation in a nonresidential building, and representative of smaller products currently available on the market.
- ◆ **Large Battery Size:** 50 kWh, assumed to be a substantially large size for a nonresidential setting. Generally, the reach code team found diminishing on-bill and TDV benefits as the battery size increased.

As described in Section 1 and Section 4.4, each PV size was run as a standalone measure. When packaged with a battery measure, the small PV size was paired with the small battery size, and the large PV size was paired with the large battery size.

3.3 All Electric Measures

The Reach Code Team investigated the cost and performance impacts and associated infrastructure costs associated with changing the baseline HVAC and water heating systems to all-electric equipment. This includes heat pump space heating, electric resistance reheat coils, electric water heater with storage tank, heat pump water heating, increasing electrical capacity, and eliminating natural gas connections that would have been present in mixed-fuel new construction. The Reach Code Team selected electric systems that would be installed instead of gas-fueled systems in each prototype.

3.3.1 HVAC and Water Heating

The nonresidential standards use a mixed-fuel baseline for the Standard Design systems. In most nonresidential occupancies, the baseline is natural gas space heating. Hotel/motels and high-rise residential occupancies also assume natural gas baseline water heating systems for the guest rooms and dwelling units. In the all-electric scenario, gas equipment serving these end-uses is replaced with electric equipment, as described in Figure 9.



Figure 9. All-Electric HVAC and Water Heating Characteristics Summary.

		Medium Office	Medium Retail	Small Hotel
HVAC System	Baseline	Packaged DX + VAV with HW reheat. Central gas boilers.	Single zone packaged DX with gas furnaces	<u>NonRes</u> : Packaged DX + VAV with HW reheat. Central gas boilers. <u>Res</u> : Single zone DX AC unit with gas furnaces
	Proposed All-Electric	Packaged DX + VAV with electric resistance reheat.	Single zone packaged heat pumps	<u>NonRes</u> : Packaged DX + VAV with electric resistance reheat <u>Res</u> : Single zone heat pumps
Water Heating System	Baseline	Electric resistance with storage	Electric resistance with storage	<u>NonRes</u> : Electric resistance storage <u>Res</u> : Central gas storage with recirculation
	Proposed All-Electric	Electric resistance with storage	Electric resistance with storage	<u>NonRes</u> : Electric resistance storage <u>Res</u> : Individual heat pumps

The Reach Code Team received cost data for baseline mixed-fuel equipment as well as electric equipment from an experienced mechanical contractor in the San Francisco Bay Area. The total construction cost includes equipment and material, labor, subcontractors (for example, HVAC and SHW control systems), and contractor overhead.

3.3.1.1 Medium Office

The baseline HVAC system includes two gas hot water boilers, three packaged rooftop units, and VAV hot water reheat boxes. The SHW design includes one 8.75 kW electric resistance hot water heater with a 30-gallon storage tank.

For the medium office all-electric HVAC design, the Reach Code Team investigated several potential all-electric design options, including variable refrigerant flow, packaged heat pumps, and variable volume and temperature systems. After seeking feedback from the design community, the Reach Code Team determined that the most feasible all-electric HVAC system, given the software modeling constraints is a VAV system with an electric resistance reheat instead of hot water reheat coil. A parallel fan-powered box (PFPB) implementation of electric resistance reheat would further improve efficiency due to reducing ventilation requirements, but an accurate implementation of PFPBs is not currently available in compliance software.

Note that the actual natural gas consumption for the VAV hot water reheat baseline may be higher than the current simulation results due to a combination of boiler and hot water distribution losses. A recent research study shows that the total losses can account for as high as 80 percent of the boiler energy use.¹⁹

¹⁹ Raftery, P., A. Geronazzo, H. Cheng, and G. Paliaga. 2018. Quantifying energy losses in hot water reheat systems. Energy and Buildings, 179: 183-199. November. <https://doi.org/10.1016/j.enbuild.2018.09.020>. Retrieved from <https://escholarship.org/uc/item/3qs8f8qx>



If these losses are considered savings for the electric resistance reheat (which has zero associated distribution loss) may be higher.

The all-electric SHW system remains the same electric resistance water heater as the baseline and has no associated incremental costs.

Cost data for medium office designs are presented in Figure 10. The all-electric HVAC system presents cost savings compared to the hot water reheat system from elimination of the hot water boiler and associated hot water piping distribution. CZ10 and CZ15 all-electric design costs are slightly higher because they require larger size rooftop heat pumps than the other climate zones.

Figure 10. Medium Office HVAC System Costs

Climate Zone	Mixed Fuel Baseline	All Electric System	Incremental cost for All-Electric
CZ01	\$1,202,538	\$1,106,432	\$(96,106)
CZ02	\$1,261,531	\$1,178,983	\$(82,548)
CZ03	\$1,205,172	\$1,113,989	\$(91,183)
CZ04	\$1,283,300	\$1,205,434	\$(77,865)
CZ05	\$1,207,345	\$1,113,989	\$(93,356)
CZ06	\$1,216,377	\$1,131,371	\$(85,006)
CZ07	\$1,227,932	\$1,148,754	\$(79,178)
CZ08	\$1,250,564	\$1,172,937	\$(77,626)
CZ09	\$1,268,320	\$1,196,365	\$(71,955)
CZ10	\$1,313,580	\$1,256,825	\$(56,755)
CZ11	\$1,294,145	\$1,221,305	\$(72,840)
CZ12	\$1,274,317	\$1,197,121	\$(77,196)
CZ13	\$1,292,884	\$1,221,305	\$(71,579)
CZ14	\$1,286,245	\$1,212,236	\$(74,009)
CZ15	\$1,357,023	\$1,311,994	\$(45,029)
CZ16	\$1,295,766	\$1,222,817	\$(72,949)

3.3.1.2 Medium Retail

The baseline HVAC system includes five packaged single zone rooftop ACs with gas furnaces. Based on fan control requirements in section 140.4(m), units with cooling capacity $\geq 65,000$ Btu/h have variable air volume fans, while smaller units have constant volume fans. The SHW design includes one 8.75 kW electric resistance hot water heater with a 30-gallon storage tank.

For the medium retail all-electric HVAC design, the Reach Code Team assumed packaged heat pumps instead of the packaged ACs. The all-electric SHW system remains the same electric resistance water heater as the baseline and has no associated incremental costs.

Cost data for medium retail designs are presented in Figure 11. Costs for rooftop air-conditioning systems are very similar to rooftop heat pump systems.



Figure 11. Medium Retail HVAC System Costs

Climate Zone	Mixed Fuel Baseline	All Electric System	Incremental cost for All-Electric
CZ01	\$328,312	\$333,291	\$4,978
CZ02	\$373,139	\$373,702	\$563
CZ03	\$322,849	\$326,764	\$3,915
CZ04	\$329,900	\$335,031	\$5,131
CZ05	\$359,888	\$362,408	\$2,520
CZ06	\$335,728	\$341,992	\$6,265
CZ07	\$345,544	\$349,808	\$4,265
CZ08	\$368,687	\$369,792	\$1,104
CZ09	\$415,155	\$411,069	\$(4,087)
CZ10	\$345,993	\$346,748	\$755
CZ11	\$418,721	\$414,546	\$(4,175)
CZ12	\$405,110	\$400,632	\$(4,477)
CZ13	\$376,003	\$375,872	\$(131)
CZ14	\$405,381	\$406,752	\$1,371
CZ15	\$429,123	\$427,606	\$(1,517)
CZ16	\$401,892	\$404,147	\$2,256

3.3.1.3 Small Hotel

The small hotel has two different baseline equipment systems, one for the nonresidential spaces and one for the guest rooms. The nonresidential HVAC system includes two gas hot water boilers, four packaged rooftop units and twelve VAV terminal boxes with hot water reheat coil. The SHW design includes a small electric water heater with storage tank. The residential HVAC design includes one single zone AC unit with gas furnace for each guest room and the water heating design includes one central gas storage water heater with a recirculation pump for all guest rooms.

For the small hotel all-electric design, the Reach Code Team assumed the nonresidential HVAC system to be packaged heat pumps with electric resistance VAV terminal units, and the SHW system to remain a small electric resistance water heater.

For the guest room all-electric HVAC system, the analysis used a single zone (packaged terminal) heat pump and a central heat pump water heater serving all guest rooms. Central heat pump water heating with recirculation serving guest rooms cannot yet be modeled in CBECC-Com, and energy impacts were modeled by simulating individual heat pump water heaters in each guest room. The reach code team believes this is a conservative assumption, since individual heat pump water heaters will have much higher tank standby losses. The Reach Code Team attained costs for central heat pump water heating installation including storage tanks and controls and used these costs in the study.

Cost data for small hotel designs are presented in Figure 12. The all-electric design presents substantial cost savings because there is no hot water plant or piping distribution system serving the nonresidential spaces, as well as the lower cost of packaged terminal heat pumps serving the residential spaces compared to split DX/furnace systems with individual flues.



Figure 12. Small Hotel HVAC and Water Heating System Costs

Climate Zone	Mixed Fuel Baseline	All Electric System	Incremental cost for All-Electric
CZ01	\$2,337,531	\$1,057,178	\$(1,280,353)
CZ02	\$2,328,121	\$1,046,795	\$(1,281,326)
CZ03	\$2,294,053	\$1,010,455	\$(1,283,598)
CZ04	\$2,302,108	\$1,018,675	\$(1,283,433)
CZ05	\$2,298,700	\$1,015,214	\$(1,283,486)
CZ06	\$2,295,380	\$1,011,753	\$(1,283,627)
CZ07	\$2,308,004	\$1,026,029	\$(1,281,975)
CZ08	\$2,333,662	\$1,053,717	\$(1,279,946)
CZ09	\$2,312,099	\$1,030,355	\$(1,281,744)
CZ10	\$2,354,093	\$1,075,348	\$(1,278,745)
CZ11	\$2,347,980	\$1,068,426	\$(1,279,554)
CZ12	\$2,328,654	\$1,047,660	\$(1,280,994)
CZ13	\$2,348,225	\$1,068,858	\$(1,279,367)
CZ14	\$2,345,988	\$1,066,263	\$(1,279,725)
CZ15	\$2,357,086	\$1,079,241	\$(1,277,845)
CZ16	\$2,304,094	\$1,019,973	\$(1,284,121)

3.3.2 *Infrastructure Impacts*

Electric heating appliances and equipment often require a larger electrical connection than an equivalent natural gas appliance because of the higher voltage and amperage necessary to electrically generate heat. Thus, many buildings may require larger electrical capacity than a comparable building with natural gas appliances. This includes:

- ◆ Electric resistance VAV space heating in the medium office and common area spaces of the small hotel.
- ◆ Heat pump water heating for the guest room spaces of the small hotel.

3.3.2.1 *Electrical Panel Sizing and Wiring*

This section details the additional electrical panel sizing and wiring required for all-electric measures. In an all-electric new construction scenario, heat pumps replace packaged DX units which are paired with either a gas furnace or a hot water coil (supplied by a gas boiler). The electrical requirements of the replacement heat pump would be the same as the packaged DX unit it replaces, as the electrical requirements would be driven by the cooling capacity, which would remain the same between the two units.

VAV terminal units with hot water reheat coils that are replaced with electric resistance reheat coils require additional electrical infrastructure. In the case of electric resistance coils, the Reach Code Team assumed that on average, a VAV terminal unit serves around 900 ft² of conditioned space and has a heating capacity of 5 kW (15 kBtu/hr/ft²). The incremental electrical infrastructure costs were determined based on RS Means. Calculations for the medium office shown in Figure 13 include the cost to add electrical panels as well as the cost to add electrical lines to each VAV terminal unit electric resistance coil in the medium office prototype. Additionally, the Reach Code Team subtracted the electrical infrastructure costs associated with hot water pumps required in the mixed fuel baseline, which are not required in the all-electric measures.



The Reach Code Team calculated costs to increase electrical capacity for heat pump water heaters in the small hotel similarly.

Figure 13. Medium Office Electrical Infrastructure Costs for All-Electric Design

A	-	No. VAV Boxes	60
B	-	VAV box heating capacity (watts)	4,748
C	-	No. hot water pumps	2
D	-	Hot water pump power (watts)	398
E	-	Voltage	208
F	$(A \times B - C \times D) / E$	Panel ampacity required	1,366
G	$F / 400$	Number of 400-amp panels required	4
H	-	Cost per 400-amp panel	\$3,100
I	$G \times H$	Total panel cost	\$12,400
J	-	Total electrical line length required (ft)	4,320
K	-	Cost per linear foot of electrical line	\$3.62
L	$J \times K$	Total electrical line cost	\$15,402
	I + L	Total electrical infrastructure incremental cost	\$27,802

3.3.2.2 Natural Gas

This analysis assumes that in an all-electric new construction scenario natural gas would not be supplied to the site. Eliminating natural gas in new construction would save costs associated with connecting a service line from the street main to the building, piping distribution within the building, and monthly connection charges by the utility.

The Reach Code Team determined that for a new construction building with natural gas piping, there is a service line (branch connection) from the natural gas main to the building meter. In the medium office prototype, natural gas piping is routed to the boiler. The Reach Code Team assumed that the boiler is on the first floor, and that 30 feet of piping is required from the connection to the main to the boiler. The Reach Code Team assumed 1" corrugated stainless steel tubing (CSST) material is used for the plumbing distribution. The Reach Code Team included costs for a natural gas plan review, service extension, and a gas meter, as shown in Figure 14 below. The natural gas plan review cost is based on information received from the City of Palo Alto Utilities. The meter costs are from PG&E and include both material and labor. The service extension costs are based on guidance from PG&E, who noted that the cost range is highly varied and that there is no "typical" cost, with costs being highly dependent on length of extension, terrain, whether the building is in a developed or undeveloped area, and number of buildings to be served. While an actual service extension cost is highly uncertain, the team believes the costs assumed in this analysis are within a reasonable range based on a sample range of costs provided by PG&E. These costs assume development in a previously developed area.



Figure 14. Natural Gas Infrastructure Cost Savings for All-Electric Prototypes

Cost Type	Medium Office	Medium Retail	Small Hotel
Natural Gas Plan Review	\$2,316	\$2,316	\$2,316
Service Extension	\$13,000	\$13,000	\$13,000
Meter	\$3,000	\$3,000	\$3,000
Plumbing Distribution	\$633	\$9,711	\$37,704
Total Cost	\$18,949	\$28,027	\$56,020

3.4 Preempted High Efficiency Appliances

The Reach Code Team developed a package of high efficiency (HE) space and water heating appliances based on commonly available products for both the mixed-fuel and all-electric scenarios. This package assesses the standalone contribution that high efficiency measures would make toward achieving high performance thresholds. The Reach Code Team reviewed the Air Conditioning, Heating, and Refrigeration Institute (AHRI) certified product database to estimate appropriate efficiencies.²⁰

The Reach Code Team determined the efficiency increases to be appropriate based on equipment type, summarized in Figure 15, with cost premiums attained from a Bay Area mechanical contractor. The ranges in efficiency are indicative of varying federal standard requirements based on equipment size.

Figure 15. High Efficiency Appliance Assumptions

	Federal Minimum Efficiency	Preempted Efficiency	Cost Premium for HE Appliance
Gas space heating and water heating	80-82%	90-95%	10-15%
Large packaged rooftop cooling	9.8-12 EER 11.4-12.9 IEER	10.5-13 EER 15-15.5 IEER	10-15%
Single zone heat pump space heating	7.7 HSPF 3.2 COP	10 HSPF 3.5 COP	6-15%
Heat pump water heating	2.0 UEF	3.3 UEF	None (market does not carry 2.0 UEF)

3.5 Greenhouse Gas Emissions

The analysis uses the greenhouse gas (GHG) emissions estimates from Zero Code reports available in CBECC-Com.²¹ Zero Code uses 8760 hourly multipliers accounting for time dependent energy use and carbon emissions based on source emissions, including renewable portfolio standard projections. Fugitive

²⁰ Available at: <https://www.ahridirectory.org/Search/SearchHome?ReturnUrl=%2f>

²¹ More information available at: <https://zero-code.org/wp-content/uploads/2018/11/ZERO-Code-TSD-California.pdf>



emissions are not included. There are two strings of multipliers – one for Northern California climate zones, and another for Southern California climate zones.²²

4 Results

The Reach Code Team evaluated cost effectiveness of the following measure packages over a 2019 mixed-fuel code compliant baseline for all climate zones, as detailed in Sections 4.1 -- 4.3 and reiterated in Figure 16:

- ◆ **Package 1A – Mixed-Fuel + EE:** Mixed-fuel design with energy efficiency measures and federal minimum appliance efficiencies.
- ◆ **Package 1B – Mixed-Fuel + EE + PV + B:** Same as Package 1A, plus solar PV and batteries.
- ◆ **Package 1C – Mixed-fuel + HE:** Alternative design with high efficiency appliances, triggering federal preemption.
- ◆ **Package 2 – All-Electric Federal Code-Minimum Reference:** All-electric design with federal code minimum appliance efficiency. No solar PV or battery.
- ◆ **Package 3A – All-Electric + EE:** All-electric design with energy efficiency measures and federal minimum appliance efficiencies.
- ◆ **Package 3B – All-Electric + EE + PV + B:** Same as Package 3A, plus solar PV and batteries.
- ◆ **Package 3C – All-Electric + HE:** All-electric design with high efficiency appliances, triggering federal preemption.

Figure 16. Package Summary

Package	Fuel Type		Energy Efficiency Measures	PV & Battery (PV + B)	High Efficiency Appliances (HE)
	Mixed Fuel	All-Electric			
Mixed-Fuel Code Minimum Baseline	X				
1A – Mixed-Fuel + EE	X		X		
1B – Mixed-Fuel + EE + PV + B	X		X	X	
1C – Mixed-fuel + HE	X				X
2 – All-Electric Federal Code-Minimum Reference		X			
3A – All-Electric + EE		X	X		
3B – All-Electric + EE + PV + B		X	X	X	
3C – All-Electric + HE		X			X

²² CBECC-Com documentation does not state which climate zones fall under which region. CBECC-Res multipliers are the same for CZs 1-5 and 11-13 (presumed to be Northern California), while there is another set of multipliers for CZs 6-10 and 14-16 (assumed to be Southern California).



Section 4.4 presents the results of the PV-only and PV+Battery analysis.

The TDV and on-bill based cost effectiveness results are presented in terms of B/C ratio and NPV in this section. What constitutes a ‘benefit’ or a ‘cost’ varies with the scenarios because both energy savings and incremental construction costs may be negative depending on the package. Typically, utility bill savings are categorized as a ‘benefit’ while incremental construction costs are treated as ‘costs.’ In cases where both construction costs are negative and utility bill savings are negative, the construction cost savings are treated as the ‘benefit’ while the utility bill negative savings are as the ‘cost.’

Overarching factors to keep in mind when reviewing the results include:

- ◆ To pass the Energy Commission’s application process, local reach codes must both be cost effective and exceed the energy performance budget using TDV (i.e., have a positive compliance margin). To emphasize these two important factors, the figures in this Section highlight in green the modeling results that have **either** a positive compliance margin or are cost effective. This will allow readers to identify whether a scenario is fully or partially supportive of a reach code, and the opportunities/challenges that the scenario presents. Conversely, Section 4.4 only highlights results that **both** have a positive compliance margin and are cost effective, to allow readers to identify reach code-ready scenarios.
- ◆ **Note:** Compliance margin represents the proportion of energy usage that is saved compared to the baseline, measured on a TDV basis.
- ◆ The Energy Commission does not currently allow compliance credit for either solar PV or battery storage. Thus, the compliance margins in Packages 1A are the same as 1B, and Package 3A is the same as 3B. However, The Reach Code Team did include the impact of solar PV and battery when calculating TDV cost-effectiveness.
- ◆ When performance modeling residential buildings, the Energy Commission allows the Standard Design to be electric if the Proposed Design is electric, which removes TDV-related penalties and associated negative compliance margins. This essentially allows for a compliance pathway for all-electric residential buildings. Nonresidential buildings are not treated in the same way and are compared to a mixed-fuel standard design.
- ◆ Results do not include an analysis and comparison of utility rates. As mentioned in *Section 2.2*, The Reach Code Team coordinated with utilities to select tariffs for each prototype given the annual energy demand profile and the most prevalent rates in each utility territory. The Reach Code Team did not compare a variety of tariffs to determine their impact on cost effectiveness. Note that most utility time-of-use rates are continuously updated, which can affect cost effectiveness results.
- ◆ As a point of comparison, mixed-fuel baseline energy figures are provided in *Appendix 6.5*.

4.1 Cost Effectiveness Results – Medium Office

Figure 17 through Figure 23 contain the cost-effectiveness findings for the Medium Office packages. Notable findings for each package include:

- ◆ **1A – Mixed-Fuel + EE:** Packages achieve +12 to +20 percent compliance margins depending on climate zone. All packages are cost effective in all climate zones using the TDV approach. All packages are cost effective using the On-Bill approach except for LADWP territory.



- ◆ **1B – Mixed-Fuel + EE + PV + B:** All packages are cost effective using the On-Bill and TDV approaches, except On-Bill in LADWP territory. When compared to 1A, the B/C ratio changes depending on the utility and climate zone (some increase while others decrease). However, NPV savings are increased across the board, suggesting that larger investments yield larger returns.
- ◆ **1C – Mixed-Fuel + HE:** Packages achieve +3 to +5 percent compliance margins depending on climate zone, but no packages were cost effective. The incremental costs of a high efficiency condensing boiler compared to a non-condensing boiler contributes to 26-47% of total incremental cost depending on boiler size. Benefits of condensing boiler efficiency come from resetting hot water return temperature as boiler efficiency increases at lower hot water temperature. However, hot water temperature reset control cannot currently be implemented in the software. In addition, the natural gas energy cost constitutes no more than 5% of total cost for 15 climate zones, so improving boiler efficiency has limited contribution to reduction of total energy cost.
- ◆ **2 – All-Electric Federal Code-Minimum Reference:**
 - ◆ Packages achieve between -27 percent and +1 percent compliance margins depending on climate zone. This is likely because the modeled system is electric resistance, and TDV values electricity consumption more heavily than natural gas. This all-electric design without other efficiency measures does not comply with the Energy Commission’s TDV performance budget.
 - ◆ All incremental costs are negative due to the elimination of natural gas infrastructure.
 - ◆ Packages achieve utility cost savings and are cost effective using the On-Bill approach in CZs 6-10 and 14-15. Packages do not achieve savings and are not cost effective using the On-Bill approach in most of PG&E territory (CZs 1,2,4, 11-13, and 16). Packages achieve savings and are cost effective using TDV in all climate zones except CZ16.
- ◆ **3A – All-Electric + EE:** Packages achieve positive compliance margins except -15 percent in CZ16, which has a higher space heating load than other climate zones. All packages are cost effective in all climate zones except CZ16.
- ◆ **3B – All-Electric + EE + PV + B:** Packages achieve positive compliance margins except -15 percent in CZ16. All packages are cost-effective from a TDV perspective in all climate zones. All packages are cost effective from an On-Bill perspective in all climate zones except in CZ 2 and CZ 16 in LADWP territory.
- ◆ **3C – All-Electric + HE:** Packages achieve between -26 percent and +2 percent compliance margins depending on climate zone. The only packages that are cost effective and with a positive compliance margin are in CZs 7-9 and 15. As described in Package 1C results, space heating is a relatively low proportion of energy costs in most climate zones, limiting the costs gains for higher efficiency equipment.



Figure 17. Cost Effectiveness for Medium Office Package 1A – Mixed-Fuel + EE

CZ	Utility	Elec Savings (kWh)	Gas Savings (therms)	GHG Reduc-tions (mtons)	Comp-liance Margin	Incremental Package Cost	Lifecycle Utility Cost Savings	\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Package 1A: Mixed Fuel + EE												
CZ01	PG&E	34,421	-808	4.5	18%	\$66,649	\$125,902	\$71,307	1.9	1.1	\$59,253	\$4,658
CZ02	PG&E	40,985	-505	8.1	17%	\$66,649	\$163,655	\$99,181	2.5	1.5	\$97,005	\$32,532
CZ03	PG&E	36,266	-463	7.0	20%	\$66,649	\$141,897	\$84,051	2.1	1.3	\$75,248	\$17,401
CZ04	PG&E	40,590	-547	7.7	14%	\$66,649	\$162,139	\$95,410	2.4	1.4	\$95,489	\$28,761
CZ04-2	CPAU	40,590	-547	7.7	14%	\$66,649	\$85,537	\$95,410	1.3	1.4	\$18,887	\$28,761
CZ05	PG&E	38,888	-499	7.4	18%	\$66,649	\$154,044	\$91,115	2.3	1.4	\$87,395	\$24,465
CZ05-2	SCG	38,888	-499	7.4	18%	\$66,649	\$156,315	\$91,115	2.3	1.4	\$89,665	\$24,465
CZ06	SCE	39,579	-305	8.7	20%	\$66,649	\$86,390	\$100,469	1.3	1.5	\$19,741	\$33,820
CZ06-2	LADWP	39,579	-305	8.7	20%	\$66,649	\$51,828	\$100,469	0.8	1.5	(\$14,821)	\$33,820
CZ07	SDG&E	41,817	-6	11.3	20%	\$66,649	\$204,394	\$112,497	3.1	1.7	\$137,745	\$45,848
CZ08	SCE	41,637	-60	10.8	18%	\$66,649	\$89,783	\$113,786	1.3	1.7	\$23,134	\$47,137
CZ08-2	LADWP	41,637	-60	10.8	18%	\$66,649	\$54,876	\$113,786	0.8	1.7	(\$11,773)	\$47,137
CZ09	SCE	42,539	-210	10.1	16%	\$66,649	\$95,636	\$115,647	1.4	1.7	\$28,987	\$48,998
CZ09-2	LADWP	42,539	-210	10.1	16%	\$66,649	\$58,168	\$115,647	0.9	1.7	(\$8,481)	\$48,998
CZ10	SDG&E	41,857	-216	9.8	17%	\$66,649	\$210,303	\$108,726	3.2	1.6	\$143,654	\$42,077
CZ10-2	SCE	41,857	-216	9.8	17%	\$66,649	\$92,736	\$108,726	1.4	1.6	\$26,087	\$42,077
CZ11	PG&E	42,523	-390	9.1	13%	\$66,649	\$166,951	\$104,001	2.5	1.6	\$100,301	\$37,352
CZ12	PG&E	41,521	-466	8.4	14%	\$66,649	\$161,594	\$100,135	2.4	1.5	\$94,945	\$33,486
CZ12-2	SMUD	41,521	-466	8.4	14%	\$66,649	\$71,734	\$100,135	1.1	1.5	\$5,085	\$33,486
CZ13	PG&E	42,898	-434	9.0	13%	\$66,649	\$169,107	\$99,992	2.5	1.5	\$102,457	\$33,343
CZ14	SDG&E	42,224	-441	8.6	14%	\$66,649	\$211,529	\$106,913	3.2	1.6	\$144,880	\$40,264
CZ14-2	SCE	42,224	-441	8.6	14%	\$66,649	\$95,809	\$106,913	1.4	1.6	\$29,160	\$40,264
CZ15	SCE	45,723	-147	11.2	12%	\$66,649	\$102,714	\$118,034	1.5	1.8	\$36,065	\$51,384
CZ16	PG&E	37,758	-736	5.8	14%	\$66,649	\$145,947	\$79,755	2.2	1.2	\$79,297	\$13,106
CZ16-2	LADWP	37,758	-736	5.8	14%	\$66,649	\$40,115	\$79,755	0.6	1.2	(\$26,534)	\$13,106



Figure 18. Cost Effectiveness for Medium Office Package 1B – Mixed-Fuel + EE + PV + B

CZ	Utility	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (mtons)	Compliance Margin (%)	Incremental Package Cost	Lifecycle Energy Cost Savings	\$-TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Mixed Fuel + PV + Battery												
CZ01	PG&E	211,225	-808	39.9	18%	\$397,405	\$645,010	\$454,284	1.6	1.1	\$247,605	\$56,879
CZ02	PG&E	255,787	-505	50.6	17%	\$397,405	\$819,307	\$573,033	2.1	1.4	\$421,902	\$175,628
CZ03	PG&E	245,421	-463	48.8	20%	\$397,405	\$777,156	\$536,330	2.0	1.3	\$379,751	\$138,925
CZ04	PG&E	267,612	-547	52.7	14%	\$397,405	\$836,221	\$597,471	2.1	1.5	\$438,816	\$200,066
CZ04-2	CPAU	267,612	-547	52.7	14%	\$397,405	\$621,879	\$597,471	1.6	1.5	\$224,474	\$200,066
CZ05	PG&E	264,581	-499	52.5	18%	\$397,405	\$897,216	\$578,856	2.3	1.5	\$499,811	\$181,451
CZ05-2	SCG	264,581	-499	52.5	18%	\$397,405	\$899,487	\$578,856	2.3	1.5	\$502,082	\$181,451
CZ06	SCE	257,474	-305	52.1	20%	\$397,405	\$484,229	\$594,416	1.2	1.5	\$86,824	\$197,011
CZ06-2	LA	257,474	-305	52.1	20%	\$397,405	\$282,360	\$594,416	0.7	1.5	(\$115,045)	\$197,011
CZ07	SDG&E	264,530	-6	55.7	20%	\$397,405	\$817,528	\$610,548	2.1	1.5	\$420,123	\$213,143
CZ08	SCE	258,348	-60	54.0	18%	\$397,405	\$479,073	\$625,249	1.2	1.6	\$81,668	\$227,844
CZ08-2	LA	258,348	-60	54.0	18%	\$397,405	\$275,704	\$625,249	0.7	1.6	(\$121,701)	\$227,844
CZ09	SCE	262,085	-210	54.3	16%	\$397,405	\$480,241	\$622,528	1.2	1.6	\$82,836	\$225,123
CZ09-2	LA	262,085	-210	54.3	16%	\$397,405	\$282,209	\$622,528	0.7	1.6	(\$115,196)	\$225,123
CZ10	SDG&E	258,548	-216	53.4	17%	\$397,405	\$839,931	\$595,323	2.1	1.5	\$442,526	\$197,918
CZ10-2	SCE	258,548	-216	53.4	17%	\$397,405	\$485,523	\$595,323	1.2	1.5	\$88,118	\$197,918
CZ11	PG&E	253,623	-390	50.9	13%	\$397,405	\$826,076	\$585,682	2.1	1.5	\$428,671	\$188,277
CZ12	PG&E	252,868	-466	50.3	14%	\$397,405	\$802,715	\$582,866	2.0	1.5	\$405,310	\$185,461
CZ12-2	SMUD	252,868	-466	50.3	14%	\$397,405	\$415,597	\$582,866	1.0	1.5	\$18,192	\$185,461
CZ13	PG&E	250,915	-434	50.4	13%	\$397,405	\$806,401	\$573,606	2.0	1.4	\$408,996	\$176,201
CZ14	SDG&E	283,684	-441	56.4	14%	\$397,405	\$874,753	\$676,271	2.2	1.7	\$477,348	\$278,866
CZ14-2	SCE	283,684	-441	56.4	14%	\$397,405	\$493,888	\$676,271	1.2	1.7	\$96,483	\$278,866
CZ15	SCE	274,771	-147	56.0	12%	\$397,405	\$476,327	\$640,379	1.2	1.6	\$78,922	\$242,974
CZ16	PG&E	266,490	-736	51.8	14%	\$397,405	\$842,205	\$575,563	2.1	1.4	\$444,800	\$178,158
CZ16-2	LA	266,490	-736	51.8	14%	\$397,405	\$260,372	\$575,563	0.7	1.4	(\$137,033)	\$178,158



Figure 19. Cost Effectiveness for Medium Office Package 1C – Mixed-Fuel + HE

CZ	Utility	Elec Savings (kWh)	Gas Savings (therms)	GHG Reductions (mtons)	Compliance Margin	Incremental Package Cost	Lifecycle Utility Cost Savings	\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Package 1C: Mixed Fuel + HE												
CZ01	PG&E	288	688	4.1	3%	\$61,253	\$18,656	\$12,314	0.3	0.2	(\$42,597)	(\$48,939)
CZ02	PG&E	3,795	550	4.3	4%	\$68,937	\$36,683	\$24,676	0.5	0.4	(\$32,254)	(\$44,261)
CZ03	PG&E	1,241	439	2.9	3%	\$57,529	\$20,150	\$11,885	0.4	0.2	(\$37,379)	(\$45,644)
CZ04	PG&E	5,599	529	4.7	5%	\$72,074	\$44,915	\$30,928	0.6	0.4	(\$27,158)	(\$41,145)
CZ04-2	CPAU	5,599	529	4.7	5%	\$72,074	\$24,175	\$30,928	0.3	0.4	(\$47,898)	(\$41,145)
CZ05	PG&E	3,470	453	3.6	4%	\$60,330	\$35,072	\$18,232	0.6	0.3	(\$25,258)	(\$42,097)
CZ05-2	SCG	3,470	453	3.6	4%	\$60,330	\$32,777	\$18,232	0.5	0.3	(\$27,553)	(\$42,097)
CZ06	SCE	3,374	298	2.6	3%	\$55,594	\$19,446	\$16,132	0.3	0.3	(\$36,148)	(\$39,462)
CZ06-2	LADWP	3,374	298	2.6	3%	\$55,594	\$13,450	\$16,132	0.2	0.3	(\$42,145)	(\$39,462)
CZ07	SDG&E	5,257	140	2.3	4%	\$54,111	\$41,086	\$19,903	0.8	0.4	(\$13,025)	(\$34,208)
CZ08	SCE	5,921	176	2.7	4%	\$60,497	\$22,210	\$24,055	0.4	0.4	(\$38,287)	(\$36,442)
CZ08-2	LADWP	5,921	176	2.7	4%	\$60,497	\$14,064	\$24,055	0.2	0.4	(\$46,434)	(\$36,442)
CZ09	SCE	7,560	224	3.5	4%	\$61,311	\$28,576	\$31,835	0.5	0.5	(\$32,735)	(\$29,476)
CZ09-2	LADWP	7,560	224	3.5	4%	\$61,311	\$18,262	\$31,835	0.3	0.5	(\$43,049)	(\$29,476)
CZ10	SDG&E	5,786	288	3.2	4%	\$62,685	\$50,717	\$24,628	0.8	0.4	(\$11,968)	(\$38,057)
CZ10-2	SCE	5,786	288	3.2	4%	\$62,685	\$24,575	\$24,628	0.4	0.4	(\$38,110)	(\$38,057)
CZ11	PG&E	8,128	441	4.9	5%	\$71,101	\$54,188	\$37,849	0.8	0.5	(\$16,912)	(\$33,252)
CZ12	PG&E	6,503	478	4.7	5%	\$68,329	\$47,329	\$34,556	0.7	0.5	(\$20,999)	(\$33,773)
CZ12-2	SMUD	6,503	478	4.7	5%	\$68,329	\$24,003	\$34,556	0.4	0.5	(\$44,325)	(\$33,773)
CZ13	PG&E	8,398	432	5.0	5%	\$69,474	\$51,347	\$37,229	0.7	0.5	(\$18,128)	(\$32,246)
CZ14	SDG&E	7,927	470	5.0	5%	\$69,463	\$62,744	\$37,133	0.9	0.5	(\$6,718)	(\$32,329)
CZ14-2	SCE	7,927	470	5.0	5%	\$69,463	\$32,517	\$37,133	0.5	0.5	(\$36,946)	(\$32,329)
CZ15	SCE	15,140	219	5.5	5%	\$66,702	\$43,773	\$52,359	0.7	0.8	(\$22,929)	(\$14,344)
CZ16	PG&E	3,111	912	6.3	5%	\$71,765	\$36,002	\$24,914	0.5	0.3	(\$35,763)	(\$46,851)
CZ16-2	LADWP	3,111	912	6.3	5%	\$71,765	\$23,057	\$24,914	0.3	0.3	(\$48,708)	(\$46,851)



Figure 20. Cost Effectiveness for Medium Office Package 2 – All-Electric Federal Code Minimum

CZ	Utility	Elec Savings (kWh)	Gas Savings (therms)	GHG Reductions (mtons)	Compliance Margin	Incremental Package Cost*	Lifecycle Utility Cost Savings	\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Package 2: All-Electric Federal Code Minimum												
CZ01	PG&E	-53,657	4967	10.1	-15%	(\$87,253)	(\$98,237)	(\$58,420)	0.9	1.5	(\$10,984)	\$28,833
CZ02	PG&E	-49,684	3868	5.0	-7%	(\$73,695)	(\$101,605)	(\$41,429)	0.7	1.8	(\$27,910)	\$32,266
CZ03	PG&E	-35,886	3142	5.6	-7%	(\$82,330)	(\$57,345)	(\$29,592)	1.4	2.8	\$24,986	\$52,738
CZ04	PG&E	-48,829	3759	4.7	-6%	(\$69,012)	(\$90,527)	(\$40,570)	0.8	1.7	(\$21,515)	\$28,443
CZ04-2	CPAU	-48,829	3759	4.7	-6%	(\$69,012)	(\$19,995)	(\$40,570)	3.5	1.7	\$49,018	\$28,443
CZ05	PG&E	-40,531	3240	4.5	-8%	(\$84,503)	(\$63,663)	(\$39,997)	1.3	2.1	\$20,840	\$44,506
CZ06	SCE	-26,174	2117	3.1	-4%	(\$76,153)	\$24,908	(\$20,571)	>1	3.7	\$101,061	\$55,581
CZ06-2	LADWP	-26,174	2117	3.1	-4%	(\$76,153)	\$26,366	(\$20,571)	>1	3.7	\$102,518	\$55,581
CZ07	SDG&E	-12,902	950	0.9	-2%	(\$70,325)	\$46,879	(\$11,407)	>1	6.2	\$117,204	\$58,918
CZ08	SCE	-15,680	1219	1.5	-2%	(\$68,774)	\$17,859	(\$12,648)	>1	5.4	\$86,633	\$56,125
CZ08-2	LADWP	-15,680	1219	1.5	-2%	(\$68,774)	\$18,603	(\$12,648)	>1	5.4	\$87,376	\$56,125
CZ09	SCE	-19,767	1605	2.4	-2%	(\$63,102)	\$20,920	(\$14,462)	>1	4.4	\$84,022	\$48,640
CZ09-2	LADWP	-19,767	1605	2.4	-2%	(\$63,102)	\$21,929	(\$14,462)	>1	4.4	\$85,030	\$48,640
CZ10	SDG&E	-27,414	2053	2.2	-4%	(\$47,902)	\$38,918	(\$23,339)	>1	2.1	\$86,820	\$24,562
CZ10-2	SCE	-27,414	2053	2.2	-4%	(\$47,902)	\$20,765	(\$23,339)	>1	2.1	\$68,666	\$24,562
CZ11	PG&E	-40,156	3062	3.6	-4%	(\$63,987)	(\$72,791)	(\$32,837)	0.9	1.9	(\$8,804)	\$31,150
CZ12	PG&E	-43,411	3327	4.1	-5%	(\$68,343)	(\$85,856)	(\$35,463)	0.8	1.9	(\$17,512)	\$32,880
CZ12-2	SMUD	-43,411	3327	4.1	-5%	(\$68,343)	(\$5,109)	(\$35,463)	13.4	1.9	\$63,234	\$32,880
CZ13	PG&E	-39,649	3063	3.8	-4%	(\$62,726)	(\$70,705)	(\$32,408)	0.9	1.9	(\$7,980)	\$30,318
CZ14	SDG&E	-44,322	3266	3.4	-5%	(\$65,156)	\$6,043	(\$38,422)	>1	1.7	\$71,199	\$26,735
CZ14-2	SCE	-44,322	3266	3.4	-5%	(\$65,156)	\$4,798	(\$38,422)	>1	1.7	\$69,954	\$26,735
CZ15	SCE	-19,917	1537	1.8	-2%	(\$36,176)	\$12,822	(\$15,464)	>1	2.3	\$48,998	\$20,711
CZ16	PG&E	-94,062	6185	5.6	-27%	(\$64,096)	(\$212,158)	(\$150,871)	0.3	0.4	(\$148,062)	(\$86,775)
CZ16-2	LADWP	-94,062	6185	5.6	-27%	(\$64,096)	\$1,493	(\$150,871)	>1	0.4	\$65,589	(\$86,775)

*The Incremental Package Cost is equal to the sum of the incremental HVAC and water heating equipment costs from

Figure 10, the electrical infrastructure incremental cost of \$27,802 (see section 3.3.2.1), and the natural gas infrastructure incremental costs of \$(18,949) (see section 3.3.2.2).



Figure 21. Cost Effectiveness for Medium Office Package 3A – All-Electric + EE

CZ	Utility	Elec Savings (kWh)	Gas Savings (therms)	GHG Reductions (mtons)	Compliance Margin	Incremental Package Cost	Lifecycle Utility Cost Savings	\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Package 3A: All-Electric + EE												
CZ01	PG&E	-19,115	4967	19.4	7%	(\$20,604)	\$20,630	\$28,112	>1	>1	\$41,234	\$48,716
CZ02	PG&E	-11,811	3868	15.2	10%	(\$7,046)	\$39,260	\$58,563	>1	>1	\$46,306	\$65,609
CZ03	PG&E	2,530	3142	16.2	16%	(\$15,681)	\$85,241	\$68,682	>1	>1	\$100,922	\$84,363
CZ04	PG&E	-10,839	3759	14.8	9%	(\$2,363)	\$59,432	\$58,420	>1	>1	\$61,795	\$60,783
CZ04-2	CPAU	-10,839	3759	14.8	9%	(\$2,363)	\$70,680	\$58,420	>1	>1	\$73,043	\$60,783
CZ05	PG&E	-2,316	3240	14.6	12%	(\$17,854)	\$85,380	\$58,802	>1	>1	\$103,234	\$76,656
CZ06	SCE	15,399	2117	14.3	18%	(\$9,503)	\$114,962	\$89,921	>1	>1	\$124,466	\$99,425
CZ06-2	LADWP	15,399	2117	14.3	18%	(\$9,503)	\$82,389	\$89,921	>1	>1	\$91,893	\$99,425
CZ07	SDG&E	33,318	950	13.8	20%	(\$3,676)	\$256,704	\$111,399	>1	>1	\$260,380	\$115,076
CZ08	SCE	30,231	1219	14.2	18%	(\$2,124)	\$110,144	\$111,781	>1	>1	\$112,268	\$113,906
CZ08-2	LADWP	30,231	1219	14.2	18%	(\$2,124)	\$76,069	\$111,781	>1	>1	\$78,194	\$113,906
CZ09	SCE	24,283	1605	14.3	15%	\$3,547	\$119,824	\$108,249	33.8	30.5	\$116,277	\$104,702
CZ09-2	LADWP	24,283	1605	14.3	15%	\$3,547	\$83,549	\$108,249	23.6	30.5	\$80,001	\$104,702
CZ10	SDG&E	12,344	2053	12.6	13%	\$18,748	\$230,553	\$82,905	12.3	4.4	\$211,806	\$64,158
CZ10-2	SCE	12,344	2053	12.6	13%	\$18,748	\$105,898	\$82,905	5.6	4.4	\$87,150	\$64,158
CZ11	PG&E	929	3062	14.5	10%	\$2,662	\$85,988	\$75,030	32.3	28.2	\$83,326	\$72,368
CZ12	PG&E	-3,419	3327	14.8	10%	(\$1,694)	\$68,866	\$69,589	>1	>1	\$70,560	\$71,283
CZ12-2	SMUD	-3,419	3327	14.8	10%	(\$1,694)	\$71,761	\$69,589	>1	>1	\$73,455	\$71,283
CZ13	PG&E	1,398	3063	14.8	9%	\$3,923	\$89,799	\$71,307	22.9	18.2	\$85,875	\$67,384
CZ14	SDG&E	-5,469	3266	13.5	9%	\$1,493	\$206,840	\$69,016	138.6	46.2	\$205,347	\$67,523
CZ14-2	SCE	-5,469	3266	13.5	9%	\$1,493	\$94,143	\$69,016	63.1	46.2	\$92,650	\$67,523
CZ15	SCE	25,375	1537	13.7	10%	\$30,474	\$114,909	\$104,335	3.8	3.4	\$84,435	\$73,862
CZ16	PG&E	-65,877	6185	12.7	-15%	\$2,553	(\$91,477)	(\$85,673)	-35.8	-33.6	(\$94,030)	(\$88,226)
CZ16-2	LADWP	-65,877	6185	12.7	-15%	\$2,553	\$72,780	(\$85,673)	28.5	-33.6	\$70,227	(\$88,226)



Figure 22. Cost Effectiveness for Medium Office Package 3B – All-Electric + EE + PV + B

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (mtons)	Compliance Margin (%)	Incremental Package Cost	Lifecycle Energy Cost Savings	-\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
All-Electric + PV + B												
CZ01	PG&E	157,733	4967	54.9	7%	\$310,152	\$518,421	\$410,946	1.7	1.3	\$208,269	\$100,794
CZ02	PG&E	203,026	3868	57.8	10%	\$323,710	\$692,336	\$532,273	2.1	1.6	\$368,626	\$208,563
CZ03	PG&E	211,706	3142	58.0	16%	\$315,075	\$708,235	\$520,866	2.2	1.7	\$393,160	\$205,791
CZ04	PG&E	216,204	3759	59.9	9%	\$328,393	\$741,382	\$560,576	2.3	1.7	\$412,989	\$232,183
CZ04-2	CPAU	216,204	3759	59.9	9%	\$328,393	\$607,074	\$560,576	1.8	1.7	\$278,681	\$232,183
CZ05	PG&E	223,399	3240	59.8	12%	\$312,902	\$799,992	\$546,592	2.6	1.7	\$487,090	\$233,690
CZ06	SCE	233,299	2117	57.7	18%	\$321,252	\$509,969	\$583,963	1.6	1.8	\$188,716	\$262,711
CZ06-2	LA	233,299	2117	57.7	18%	\$321,252	\$311,931	\$583,963	1.0	1.8	(\$9,322)	\$262,711
CZ07	SDG&E	256,034	950	58.3	20%	\$327,079	\$870,156	\$609,498	2.7	1.9	\$543,076	\$282,419
CZ08	SCE	246,944	1219	57.4	18%	\$328,631	\$499,506	\$623,292	1.5	1.9	\$170,874	\$294,661
CZ08-2	LA	246,944	1219	57.4	18%	\$328,631	\$296,991	\$623,292	0.9	1.9	(\$31,640)	\$294,661
CZ09	SCE	243,838	1605	58.5	15%	\$334,303	\$504,498	\$615,178	1.5	1.8	\$170,195	\$280,875
CZ09-2	LA	243,838	1605	58.5	15%	\$334,303	\$307,626	\$615,178	0.9	1.8	(\$26,677)	\$280,875
CZ10	SDG&E	229,044	2053	56.2	13%	\$349,503	\$851,810	\$569,549	2.4	1.6	\$502,306	\$220,046
CZ10-2	SCE	229,044	2053	56.2	13%	\$349,503	\$491,383	\$569,549	1.4	1.6	\$141,880	\$220,046
CZ11	PG&E	212,047	3062	56.4	10%	\$333,418	\$743,403	\$556,758	2.2	1.7	\$409,985	\$223,340
CZ12	PG&E	207,955	3327	56.7	10%	\$329,062	\$713,054	\$552,415	2.2	1.7	\$383,993	\$223,353
CZ12-2	SMUD	207,955	3327	56.7	10%	\$329,062	\$414,371	\$552,415	1.3	1.7	\$85,310	\$223,353
CZ13	PG&E	209,431	3063	56.3	9%	\$334,679	\$728,822	\$544,969	2.2	1.6	\$394,143	\$210,289
CZ14	SDG&E	236,002	3266	61.3	9%	\$332,249	\$865,181	\$638,517	2.6	1.9	\$532,933	\$306,269
CZ14-2	SCE	236,002	3266	61.3	9%	\$332,249	\$488,163	\$638,517	1.5	1.9	\$155,914	\$306,269
CZ15	SCE	254,426	1537	58.5	10%	\$361,229	\$487,715	\$626,728	1.4	1.7	\$126,486	\$265,499
CZ16	PG&E	162,915	6185	58.6	-15%	\$333,309	\$580,353	\$406,746	1.7	1.2	\$247,044	\$73,437
CZ16-2	LA	162,915	6185	58.6	-15%	\$333,309	\$290,566	\$406,746	0.9	1.2	(\$42,742)	\$73,437



Figure 23. Cost Effectiveness for Medium Office Package 3C – All-Electric + HE

CZ	Utility	Elec Savings (kWh)	Gas Savings (therms)	GHG Reductions (mtons)	Compliance Margin	Incremental Package Cost	Lifecycle Utility Cost Savings	\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Package 3C: All-Electric + HE												
CZ01	PG&E	-53,390	4967	10.2	-14%	(\$43,987)	(\$93,740)	(\$57,752)	0.5	0.8	(\$49,753)	(\$13,765)
CZ02	PG&E	-45,916	3868	6.1	-5%	(\$22,722)	(\$77,212)	(\$26,394)	0.3	0.9	(\$54,490)	(\$3,672)
CZ03	PG&E	-34,656	3142	6.0	-6%	(\$38,261)	(\$45,796)	(\$25,153)	0.8	1.5	(\$7,535)	\$13,108
CZ04	PG&E	-43,248	3759	6.3	-3%	(\$15,229)	(\$56,932)	(\$18,996)	0.3	0.8	(\$41,703)	(\$3,767)
CZ04-2	CPAU	-43,248	3759	6.3	-3%	(\$15,229)	(\$5,298)	(\$18,996)	2.9	0.8	\$9,932	(\$3,767)
CZ05	PG&E	-37,068	3240	5.4	-6%	(\$40,434)	(\$38,330)	(\$29,544)	1.1	1.4	\$2,104	\$10,890
CZ06	SCE	-22,805	2117	4.0	-2%	(\$30,237)	\$39,812	(\$9,594)	>1	3.2	\$70,050	\$20,644
CZ06-2	LADWP	-22,805	2117	4.0	-2%	(\$30,237)	\$35,414	(\$9,594)	>1	3.2	\$65,651	\$20,644
CZ07	SDG&E	-7,646	950	2.5	1%	(\$22,564)	\$86,159	\$6,062	>1	>1	\$108,722	\$28,625
CZ08	SCE	-9,761	1219	3.2	1%	(\$18,443)	\$37,375	\$8,305	>1	>1	\$55,818	\$26,748
CZ08-2	LADWP	-9,761	1219	3.2	1%	(\$18,443)	\$29,973	\$8,305	>1	>1	\$48,416	\$26,748
CZ09	SCE	-12,211	1605	4.5	2%	(\$10,282)	\$46,335	\$13,364	>1	>1	\$56,617	\$23,646
CZ09-2	LADWP	-12,211	1605	4.5	2%	(\$10,282)	\$37,030	\$13,364	>1	>1	\$47,313	\$23,646
CZ10	SDG&E	-21,642	2053	3.7	-1%	\$11,340	\$84,901	(\$3,818)	7.5	-0.3	\$73,561	(\$15,158)
CZ10-2	SCE	-21,642	2053	3.7	-1%	\$11,340	\$40,659	(\$3,818)	3.6	-0.3	\$29,319	(\$15,158)
CZ11	PG&E	-32,052	3062	5.9	0%	(\$8,519)	(\$29,013)	(\$3,007)	0.3	2.8	(\$20,495)	\$5,512
CZ12	PG&E	-36,926	3327	6.0	-1%	(\$15,443)	(\$48,955)	(\$9,546)	0.3	1.6	(\$33,511)	\$5,898
CZ12-2	SMUD	-36,926	3327	6.0	-1%	(\$15,443)	\$9,916	(\$9,546)	>1	1.6	\$25,359	\$5,898
CZ13	PG&E	-31,253	3063	6.3	0%	(\$7,257)	(\$27,782)	(\$3,055)	0.3	2.4	(\$20,525)	\$4,202
CZ14	SDG&E	-36,402	3266	5.7	-1%	(\$10,651)	\$61,605	(\$9,832)	>1	1.1	\$72,256	\$819
CZ14-2	SCE	-36,402	3266	5.7	-1%	(\$10,651)	\$30,625	(\$9,832)	>1	1.1	\$41,276	\$819
CZ15	SCE	-4,775	1537	6.0	3%	\$28,927	\$52,955	\$32,790	1.8	1.1	\$24,028	\$3,863
CZ16	PG&E	-90,949	6185	6.5	-26%	(\$8,467)	(\$194,115)	(\$142,041)	0.0	0.1	(\$185,648)	(\$133,574)
CZ16-2	LADWP	-90,949	6185	6.5	-26%	(\$8,467)	\$37,127	(\$142,041)	>1	0.1	\$45,594	(\$133,574)



4.2 Cost Effectiveness Results – Medium Retail

Figure 24 through Figure 30 contain the cost-effectiveness findings for the Medium Retail packages. Notable findings for each package include:

- ◆ **1A – Mixed-Fuel + EE:**
 - ◆ Packages achieve +9% to +18% compliance margins depending on climate zone, and all packages are cost effective in all climate zones.
 - ◆ Incremental package costs vary across climate zones because of the HVAC system size in some climate zones are small enough (<54 kBtu/h) to have the economizers measure applied.
 - ◆ B/C ratios are high compared to other prototypes because the measures applied are primarily low-cost lighting measures. This suggests room for the inclusion of other energy efficiency measures with lower cost-effectiveness to achieve even higher compliance margins for a cost effective package.
- ◆ **1B – Mixed-Fuel + EE + PV + B:** All packages are cost effective using both the On-Bill and TDV approach, except On-Bill in LADWP territory. Adding PV and battery to the efficiency packages reduces the B/C ratio but increases overall NPV savings.
- ◆ **1C – Mixed-fuel + HE:** Packages achieve +1 to +4% compliance margins depending on climate zone, and packages are cost effective in all climate zones except CZs 1, 3 and 5 using the TDV approach.
- ◆ **2 – All-Electric Federal Code-Minimum Reference:**
 - ◆ Packages achieve between -12% and +1% compliance margins depending on climate zone.
 - ◆ Packages achieve positive savings using both the On-Bill and TDV approaches in CZs 6-10 and 14-15. Packages do not achieve On-Bill or TDV savings in most of PG&E territory (CZs 1, 2, 4, 5, 12-13, and 16).
 - ◆ Packages are cost effective in all climate zones except CZ16.
 - ◆ All incremental costs are negative primarily due to elimination of natural gas infrastructure.
- ◆ **3A – All-Electric + EE:** Packages achieve between +3% and +16% compliance margins depending on climate zone. All packages are cost effective in all climate zones.
- ◆ **3B – All-Electric + EE + PV + B:** All packages are cost effective using both the On-Bill and TDV approaches, except On-Bill in LADWP territory. Adding PV and Battery to the efficiency package reduces the B/C ratio but increases overall NPV savings.
- ◆ **3C – All-Electric + HE:** Packages achieve between -8% and +5% compliance margins depending on climate zone, and packages are cost effective using both On-Bill and TDV approaches in all CZs except CZs 1 and 16.



Figure 24. Cost Effectiveness for Medium Retail Package 1A – Mixed-Fuel + EE

CZ	Utility	Elec Savings (kWh)	Gas Savings (therms)	GHG Reductions (mtons)	Compliance Margin	Incremental Package Cost	Lifecycle Utility Cost Savings	\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Package 1A: Mixed Fuel + EE												
CZ01	PG&E	15,210	1209	11.10	18%	\$2,712	\$68,358	\$60,189	25.2	22.2	\$65,646	\$57,478
CZ02	PG&E	18,885	613	8.73	13%	\$5,569	\$76,260	\$59,135	13.7	10.6	\$70,691	\$53,566
CZ03	PG&E	18,772	462	7.87	16%	\$5,569	\$66,813	\$57,135	12.0	10.3	\$61,244	\$51,566
CZ04	PG&E	19,100	439	7.84	14%	\$5,569	\$75,989	\$58,036	13.6	10.4	\$70,420	\$52,467
CZ04-2	CPAU	19,100	439	7.84	14%	\$5,569	\$51,556	\$58,036	9.3	10.4	\$45,987	\$52,467
CZ05	PG&E	17,955	415	7.41	16%	\$5,569	\$63,182	\$55,003	11.3	9.9	\$57,613	\$49,435
CZ05-2	SCG	17,955	415	7.41	16%	\$5,569	\$61,810	\$55,003	11.1	9.9	\$56,241	\$49,435
CZ06	SCE	12,375	347	5.54	10%	\$2,712	\$31,990	\$41,401	11.8	15.3	\$29,278	\$38,689
CZ06-2	LADWP	12,375	347	5.54	10%	\$2,712	\$21,667	\$41,401	8.0	15.3	\$18,956	\$38,689
CZ07	SDG&E	17,170	136	5.65	13%	\$5,569	\$73,479	\$49,883	13.2	9.0	\$67,910	\$44,314
CZ08	SCE	12,284	283	5.15	10%	\$2,712	\$30,130	\$41,115	11.1	15.2	\$27,419	\$38,403
CZ08-2	LADWP	12,284	283	5.15	10%	\$2,712	\$20,243	\$41,115	7.5	15.2	\$17,531	\$38,403
CZ09	SCE	13,473	302	5.51	10%	\$5,569	\$32,663	\$46,126	5.9	8.3	\$27,094	\$40,557
CZ09-2	LADWP	13,473	302	5.51	10%	\$5,569	\$22,435	\$46,126	4.0	8.3	\$16,866	\$40,557
CZ10	SDG&E	19,873	267	6.99	12%	\$5,569	\$83,319	\$58,322	15.0	10.5	\$77,751	\$52,753
CZ10-2	SCE	19,873	267	6.99	12%	\$5,569	\$39,917	\$58,322	7.2	10.5	\$34,348	\$52,753
CZ11	PG&E	21,120	578	9.14	13%	\$5,569	\$86,663	\$67,485	15.6	12.1	\$81,095	\$61,916
CZ12	PG&E	20,370	562	8.85	13%	\$5,569	\$81,028	\$64,409	14.6	11.6	\$75,459	\$58,840
CZ12-2	SMUD	20,370	562	8.85	13%	\$5,569	\$44,991	\$64,409	8.1	11.6	\$39,422	\$58,840
CZ13	PG&E	22,115	620	9.98	15%	\$2,712	\$109,484	\$83,109	40.4	30.6	\$106,772	\$80,398
CZ14	SDG&E	25,579	406	9.38	13%	\$2,712	\$116,354	\$80,055	42.9	29.5	\$113,643	\$77,343
CZ14-2	SCE	26,327	383	9.42	13%	\$2,712	\$57,290	\$83,065	21.1	30.6	\$54,578	\$80,354
CZ15	SCE	26,433	169	8.35	12%	\$2,712	\$57,152	\$79,506	21.1	29.3	\$54,440	\$76,794
CZ16	PG&E	15,975	752	8.72	13%	\$2,712	\$72,427	\$55,025	26.7	20.3	\$69,715	\$52,314
CZ16-2	LADWP	15,975	752	8.72	13%	\$2,712	\$31,906	\$55,025	11.8	20.3	\$29,194	\$52,314



Figure 25. Cost Effectiveness for Medium Retail Package 1B – Mixed-Fuel + EE + PV + B

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Compliance Margin (%)	Incremental Package Cost	Lifecycle Energy Cost Savings	-\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Mixed Fuel + PV + Battery												
CZ01	PG&E	158,584	1209	40.79	18%	\$277,383	\$509,092	\$383,683	1.8	1.4	\$231,709	\$106,300
CZ02	PG&E	189,400	613	43.75	13%	\$280,240	\$590,043	\$465,474	2.1	1.7	\$309,803	\$185,234
CZ03	PG&E	191,016	462	43.52	16%	\$280,240	\$578,465	\$452,795	2.1	1.6	\$298,224	\$172,554
CZ04	PG&E	195,014	439	44.14	14%	\$280,240	\$605,369	\$480,989	2.2	1.7	\$325,129	\$200,748
CZ04-2	CPAU	195,014	439	44.14	14%	\$280,240	\$451,933	\$480,989	1.6	1.7	\$171,693	\$200,748
CZ05	PG&E	196,654	415	44.30	16%	\$280,240	\$589,771	\$464,749	2.1	1.7	\$309,530	\$184,509
CZ05-2	SCG	196,654	415	44.30	16%	\$280,240	\$588,407	\$464,749	2.1	1.7	\$308,167	\$184,509
CZ06	SCE	185,903	347	41.61	10%	\$277,383	\$322,495	\$456,596	1.2	1.6	\$45,111	\$179,213
CZ06-2	LA	185,903	347	41.61	10%	\$277,383	\$191,428	\$456,596	0.7	1.6	(\$85,955)	\$179,213
CZ07	SDG&E	197,650	136	43.24	13%	\$280,240	\$496,786	\$477,582	1.8	1.7	\$216,545	\$197,342
CZ08	SCE	187,869	283	41.48	10%	\$277,383	\$326,810	\$478,132	1.2	1.7	\$49,427	\$200,749
CZ08-2	LA	187,869	283	41.48	10%	\$277,383	\$190,379	\$478,132	0.7	1.7	(\$87,004)	\$200,749
CZ09	SCE	191,399	302	42.32	10%	\$280,240	\$334,869	\$472,770	1.2	1.7	\$54,629	\$192,530
CZ09-2	LA	191,399	302	42.32	10%	\$280,240	\$201,759	\$472,770	0.7	1.7	(\$78,481)	\$192,530
CZ10	SDG&E	200,033	267	44.01	12%	\$280,240	\$547,741	\$472,880	2.0	1.7	\$267,501	\$192,640
CZ10-2	SCE	200,033	267	44.01	12%	\$280,240	\$340,822	\$472,880	1.2	1.7	\$60,582	\$192,640
CZ11	PG&E	192,846	578	44.07	13%	\$280,240	\$582,969	\$490,855	2.1	1.8	\$302,728	\$210,615
CZ12	PG&E	191,720	562	43.70	13%	\$280,240	\$586,836	\$485,076	2.1	1.7	\$306,596	\$204,836
CZ12-2	SMUD	191,720	562	43.70	13%	\$280,240	\$319,513	\$485,076	1.1	1.7	\$39,273	\$204,836
CZ13	PG&E	195,031	620	45.19	15%	\$277,383	\$605,608	\$486,285	2.2	1.8	\$328,225	\$208,901
CZ14	SDG&E	217,183	406	47.86	13%	\$277,383	\$559,148	\$534,915	2.0	1.9	\$281,765	\$257,532
CZ14-2	SCE	217,927	383	47.91	14%	\$277,383	\$354,757	\$538,058	1.3	1.9	\$77,373	\$260,674
CZ15	SCE	208,662	169	44.51	12%	\$277,383	\$338,772	\$496,107	1.2	1.8	\$61,389	\$218,724
CZ16	PG&E	210,242	752	48.76	13%	\$277,383	\$608,779	\$490,262	2.2	1.8	\$331,395	\$212,879
CZ16-2	LA	210,242	752	48.76	13%	\$277,383	\$207,160	\$490,262	0.7	1.8	(\$70,223)	\$212,879



Figure 26. Cost Effectiveness for Medium Retail Package 1C – Mixed-Fuel + HE

CZ	Utility	Elec Savings (kWh)	Gas Savings (therms)	GHG Reductions (mtons)	Compliance Margin	Incremental Package Cost	Lifecycle Utility Cost Savings	\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Package 1C: Mixed Fuel + HE												
CZ01	PG&E	57	346	2.04	2%	\$9,006	\$6,301	\$6,065	0.7	0.7	(\$2,705)	(\$2,941)
CZ02	PG&E	2,288	229	2.01	3%	\$9,726	\$23,016	\$13,998	2.4	1.4	\$13,291	\$4,273
CZ03	PG&E	1,087	171	1.31	2%	\$9,063	\$6,782	\$7,186	0.7	0.8	(\$2,282)	(\$1,877)
CZ04	PG&E	1,862	159	1.46	3%	\$9,004	\$17,891	\$10,878	2.0	1.2	\$8,887	\$1,874
CZ04-2	CPAU	1,862	159	1.46	3%	\$9,004	\$7,821	\$10,878	0.9	1.2	(\$1,182)	\$1,874
CZ05	PG&E	664	162	1.11	1%	\$9,454	\$5,119	\$4,725	0.5	0.5	(\$4,335)	(\$4,729)
CZ05-2	SCG	664	162	1.11	1%	\$9,454	\$4,558	\$4,725	0.5	0.5	(\$4,896)	(\$4,729)
CZ06	SCE	2,648	90	1.24	3%	\$8,943	\$11,646	\$11,427	1.3	1.3	\$2,703	\$2,484
CZ06-2	LADWP	2,648	90	1.24	3%	\$8,943	\$7,329	\$11,427	0.8	1.3	(\$1,614)	\$2,484
CZ07	SDG&E	2,376	49	0.95	2%	\$9,194	\$20,103	\$9,779	2.2	1.1	\$10,909	\$585
CZ08	SCE	2,822	72	1.20	3%	\$9,645	\$11,989	\$12,877	1.2	1.3	\$2,344	\$3,233
CZ08-2	LADWP	2,822	72	1.20	3%	\$9,645	\$7,427	\$12,877	0.8	1.3	(\$2,218)	\$3,233
CZ09	SCE	4,206	88	1.73	4%	\$10,446	\$16,856	\$18,745	1.6	1.8	\$6,410	\$8,299
CZ09-2	LADWP	4,206	88	1.73	4%	\$10,446	\$10,604	\$18,745	1.0	1.8	\$158	\$8,299
CZ10	SDG&E	4,226	119	1.88	4%	\$9,514	\$36,412	\$19,008	3.8	2.0	\$26,898	\$9,494
CZ10-2	SCE	4,226	119	1.88	4%	\$9,514	\$17,094	\$19,008	1.8	2.0	\$7,580	\$9,494
CZ11	PG&E	4,188	225	2.56	4%	\$10,479	\$31,872	\$22,393	3.0	2.1	\$21,392	\$11,913
CZ12	PG&E	3,675	214	2.34	4%	\$10,409	\$29,653	\$20,525	2.8	2.0	\$19,243	\$10,115
CZ12-2	SMUD	3,675	214	2.34	4%	\$10,409	\$12,823	\$20,525	1.2	2.0	\$2,414	\$10,115
CZ13	PG&E	4,818	180	2.46	4%	\$9,809	\$34,149	\$23,623	3.5	2.4	\$24,340	\$13,814
CZ14	SDG&E	6,439	153	2.71	4%	\$12,103	\$44,705	\$26,348	3.7	2.2	\$32,601	\$14,245
CZ14-2	SCE	6,439	153	2.71	4%	\$12,103	\$22,032	\$26,348	1.8	2.2	\$9,929	\$14,245
CZ15	SCE	8,802	48	2.76	5%	\$12,534	\$25,706	\$31,402	2.1	2.5	\$13,171	\$18,868
CZ16	PG&E	2,316	390	2.97	3%	\$11,999	\$22,663	\$13,888	1.9	1.2	\$10,665	\$1,890
CZ16-2	LADWP	2,316	390	2.97	3%	\$11,999	\$11,921	\$13,888	1.0	1.2	(\$78)	\$1,890



Figure 27. Cost Effectiveness for Medium Retail Package 2 – All-Electric Federal Code Minimum

CZ	Utility	Elec Savings (kWh)	Gas Savings (therms)	GHG Reductions (mtons)	Compliance Margin	Incremental Package Cost*	Lifecycle Utility Cost Savings	\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Package 2: All-Electric Federal Code Minimum												
CZ01	PG&E	-29,155	3893	13.85	-4.1%	(\$23,048)	(\$8,333)	(\$13,910)	2.8	1.7	\$14,715	\$9,138
CZ02	PG&E	-21,786	2448	7.49	-1.0%	(\$27,464)	(\$16,476)	(\$4,483)	1.7	6.1	\$10,987	\$22,981
CZ03	PG&E	-14,583	1868	6.26	-0.4%	(\$24,111)	\$263	(\$1,450)	>1	16.6	\$24,374	\$22,661
CZ04	PG&E	-14,186	1706	5.30	-0.1%	(\$22,896)	(\$8,753)	(\$220)	2.6	104.2	\$14,143	\$22,676
CZ04-2	CPAU	-14,186	1706	5.30	-0.1%	(\$22,896)	\$12,493	(\$220)	>1	104.2	\$35,389	\$22,676
CZ05	PG&E	-14,334	1746	5.47	-1.2%	(\$25,507)	(\$1,567)	(\$4,197)	16.3	6.1	\$23,940	\$21,309
CZ06	SCE	-7,527	1002	3.32	0.5%	(\$21,762)	\$18,590	\$1,868	>1	>1	\$40,351	\$23,630
CZ06-2	LADWP	-7,527	1002	3.32	0.5%	(\$21,762)	\$19,309	\$1,868	>1	>1	\$41,071	\$23,630
CZ07	SDG&E	-3,812	522	1.76	0.3%	(\$23,762)	\$54,345	\$1,318	>1	>1	\$78,107	\$25,080
CZ08	SCE	-5,805	793	2.70	0.4%	(\$26,922)	\$16,735	\$1,846	>1	>1	\$43,658	\$28,768
CZ08-2	LADWP	-5,805	793	2.70	0.4%	(\$26,922)	\$17,130	\$1,846	>1	>1	\$44,052	\$28,768
CZ09	SCE	-7,241	970	3.32	0.4%	(\$32,113)	\$18,582	\$1,978	>1	>1	\$50,695	\$34,091
CZ09-2	LADWP	-7,241	970	3.32	0.4%	(\$32,113)	\$19,089	\$1,978	>1	>1	\$51,202	\$34,091
CZ10	SDG&E	-10,336	1262	3.99	0.1%	(\$27,272)	\$54,453	\$505	>1	>1	\$81,724	\$27,777
CZ10-2	SCE	-10,336	1262	3.99	0.1%	(\$27,272)	\$20,996	\$505	>1	>1	\$48,268	\$27,777
CZ11	PG&E	-19,251	2415	7.95	0.5%	(\$32,202)	(\$7,951)	\$2,615	4.1	>1	\$24,251	\$34,817
CZ12	PG&E	-19,471	2309	7.28	-0.1%	(\$32,504)	(\$14,153)	(\$461)	2.3	70.4	\$18,351	\$32,042
CZ12-2	SMUD	-19,471	2309	7.28	-0.1%	(\$32,504)	\$12,939	(\$461)	>1	70.4	\$45,443	\$32,042
CZ13	PG&E	-16,819	1983	6.15	-0.4%	(\$28,158)	(\$10,575)	(\$2,022)	2.7	13.9	\$17,582	\$26,136
CZ14	SDG&E	-13,208	1672	5.44	0.7%	(\$26,656)	\$41,117	\$4,461	>1	>1	\$67,772	\$31,117
CZ14-2	SCE	-13,208	1672	5.44	0.7%	(\$26,656)	\$18,467	\$4,461	>1	>1	\$45,123	\$31,117
CZ15	SCE	-2,463	518	2.14	0.9%	(\$29,544)	\$16,796	\$5,823	>1	>1	\$46,339	\$35,367
CZ16	PG&E	-41,418	4304	13.23	-12.2%	(\$25,771)	(\$49,862)	(\$52,542)	0.5	0.5	(\$24,091)	(\$26,771)
CZ16-2	LADWP	-41,418	4304	13.23	-12.2%	(\$25,771)	\$39,319	(\$52,542)	>1	0.5	\$65,090	(\$26,771)

*The Incremental Package Cost is the addition of the incremental HVAC and water heating equipment costs from Figure 11 and the natural gas infrastructure incremental cost savings of \$28,027 (see section 3.3.2.2).



Figure 28. Cost Effectiveness for Medium Retail Package 3A – All-Electric + EE

CZ	Utility	Elec Savings (kWh)	Gas Savings (therms)	GHG Reductions (mtons)	Compliance Margin	Incremental Package Cost	Lifecycle Utility Cost Savings	\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Package 3A: All-Electric + EE												
CZ01	PG&E	-5,478	3893	20.64	15%	(\$20,336)	\$63,593	\$51,224	>1	>1	\$83,929	\$71,560
CZ02	PG&E	2,843	2448	14.58	13%	(\$21,895)	\$74,997	\$56,893	>1	>1	\$96,892	\$78,788
CZ03	PG&E	7,791	1868	12.73	16%	(\$18,542)	\$68,968	\$56,586	>1	>1	\$87,511	\$75,128
CZ04	PG&E	8,572	1706	11.89	14%	(\$17,327)	\$81,957	\$57,904	>1	>1	\$99,284	\$75,231
CZ04-2	CPAU	8,572	1706	11.89	14%	(\$17,327)	\$63,082	\$57,904	>1	>1	\$80,408	\$75,231
CZ05	PG&E	6,973	1746	11.68	15%	(\$19,938)	\$63,677	\$51,949	>1	>1	\$83,615	\$71,887
CZ06	SCE	7,431	1002	7.72	11%	(\$19,050)	\$47,072	\$42,610	>1	>1	\$66,122	\$61,660
CZ06-2	LADWP	7,431	1002	7.72	11%	(\$19,050)	\$37,078	\$42,610	>1	>1	\$56,128	\$61,660
CZ07	SDG&E	14,350	522	6.98	13%	(\$18,193)	\$127,461	\$50,828	>1	>1	\$145,654	\$69,021
CZ08	SCE	8,524	793	6.90	10%	(\$24,210)	\$43,679	\$42,258	>1	>1	\$67,890	\$66,468
CZ08-2	LADWP	8,524	793	6.90	10%	(\$24,210)	\$34,038	\$42,258	>1	>1	\$58,248	\$66,468
CZ09	SCE	8,403	970	7.81	10%	(\$26,545)	\$47,819	\$47,356	>1	>1	\$74,364	\$73,901
CZ09-2	LADWP	8,403	970	7.81	10%	(\$26,545)	\$37,934	\$47,356	>1	>1	\$64,478	\$73,901
CZ10	SDG&E	11,737	1262	10.23	12%	(\$21,703)	\$137,436	\$58,761	>1	>1	\$159,139	\$80,464
CZ10-2	SCE	11,737	1262	10.23	12%	(\$21,703)	\$58,257	\$58,761	>1	>1	\$79,959	\$80,464
CZ11	PG&E	5,892	2415	15.13	12%	(\$26,633)	\$85,256	\$65,859	>1	>1	\$111,889	\$92,492
CZ12	PG&E	5,548	2309	14.46	12%	(\$26,935)	\$80,631	\$63,903	>1	>1	\$107,566	\$90,838
CZ12-2	SMUD	5,548	2309	14.46	12%	(\$26,935)	\$59,311	\$63,903	>1	>1	\$86,246	\$90,838
CZ13	PG&E	10,184	1983	14.15	14%	(\$25,446)	\$110,105	\$80,604	>1	>1	\$135,551	\$106,050
CZ14	SDG&E	16,583	1672	13.83	15%	(\$23,944)	\$171,200	\$88,471	>1	>1	\$195,145	\$112,415
CZ14-2	SCE	16,583	1672	13.83	15%	(\$23,944)	\$656,178	\$159,604	>1	>1	\$680,122	\$183,548
CZ15	SCE	23,642	518	9.44	12%	(\$26,832)	\$65,573	\$76,781	>1	>1	\$92,404	\$103,612
CZ16	PG&E	-18,232	4304	19.80	3%	(\$23,059)	\$38,796	\$14,152	>1	>1	\$61,855	\$37,211
CZ16-2	LADWP	-18,232	4304	19.80	3%	(\$23,059)	\$67,793	\$14,152	>1	>1	\$90,852	\$37,211



Figure 29. Cost Effectiveness for Medium Retail Package 3B – All-Electric + EE + PV + B

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Compliance Margin (%)	Incremental Package Cost	Lifecycle Energy Cost Savings	\$-TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
All-Electric + PV + B												
CZ01	PG&E	137,956	3893	50.51	15%	\$254,335	\$510,831	\$374,432	2.0	1.5	\$256,496	\$120,097
CZ02	PG&E	173,387	2448	49.87	13%	\$252,777	\$590,112	\$463,431	2.3	1.8	\$337,336	\$210,654
CZ03	PG&E	180,055	1868	48.55	16%	\$256,129	\$585,861	\$452,399	2.3	1.8	\$329,732	\$196,270
CZ04	PG&E	184,499	1706	48.38	14%	\$257,345	\$608,814	\$481,011	2.4	1.9	\$351,470	\$223,666
CZ04-2	CPAU	184,499	1706	48.38	14%	\$257,345	\$465,690	\$481,011	1.8	1.9	\$208,345	\$223,666
CZ05	PG&E	185,690	1746	48.84	15%	\$254,734	\$600,933	\$461,804	2.4	1.8	\$346,199	\$207,071
CZ06	SCE	180,968	1002	43.91	11%	\$255,621	\$335,909	\$457,959	1.3	1.8	\$80,288	\$202,337
CZ06-2	LADWP	180,968	1002	43.91	11%	\$255,621	\$206,021	\$457,959	0.8	1.8	(\$49,601)	\$202,337
CZ07	SDG&E	194,837	522	44.67	13%	\$256,478	\$550,714	\$478,637	2.1	1.9	\$294,236	\$222,159
CZ08	SCE	184,120	793	43.32	10%	\$250,461	\$340,301	\$479,406	1.4	1.9	\$89,840	\$228,945
CZ08-2	LADWP	184,120	793	43.32	10%	\$250,461	\$203,813	\$479,406	0.8	1.9	(\$46,648)	\$228,945
CZ09	SCE	186,346	970	44.77	10%	\$248,127	\$349,524	\$474,176	1.4	1.9	\$101,397	\$226,049
CZ09-2	LADWP	186,346	970	44.77	10%	\$248,127	\$216,654	\$474,176	0.9	1.9	(\$31,473)	\$226,049
CZ10	SDG&E	191,923	1262	47.46	12%	\$252,969	\$593,514	\$473,605	2.3	1.9	\$340,545	\$220,636
CZ10-2	SCE	191,923	1262	47.46	12%	\$252,969	\$356,958	\$473,605	1.4	1.9	\$103,989	\$220,636
CZ11	PG&E	177,639	2415	50.26	12%	\$248,039	\$585,689	\$489,317	2.4	2.0	\$337,650	\$241,278
CZ12	PG&E	176,919	2309	49.46	12%	\$247,736	\$591,104	\$484,702	2.4	2.0	\$343,368	\$236,966
CZ12-2	SMUD	176,919	2309	49.46	12%	\$247,736	\$335,286	\$484,702	1.4	2.0	\$87,550	\$236,966
CZ13	PG&E	183,129	1983	49.48	14%	\$249,226	\$608,560	\$483,670	2.4	1.9	\$359,334	\$234,444
CZ14	SDG&E	208,183	1672	52.54	15%	\$250,727	\$593,232	\$544,079	2.4	2.2	\$342,505	\$293,351
CZ14-2	SCE	264,589	1672	80.97	15%	\$250,727	\$656,178	\$580,403	2.6	2.3	\$405,450	\$329,676
CZ15	SCE	205,869	518	45.67	12%	\$247,840	\$347,125	\$493,339	1.4	2.0	\$99,285	\$245,499
CZ16	PG&E	176,114	4304	60.13	3%	\$251,612	\$567,822	\$446,795	2.3	1.8	\$316,210	\$195,183
CZ16-2	LADWP	176,114	4304	60.13	3%	\$251,612	\$241,757	\$446,795	1.0	1.8	(\$9,856)	\$195,183



Figure 30. Cost Effectiveness for Medium Retail Package 3C – All-Electric + HE

CZ	Utility	Elec Savings (kWh)	Gas Savings (therms)	GHG Reductions (mtons)	Compliance Margin	Incremental Package Cost	Lifecycle Utility Cost Savings	\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Package 3C: All-Electric + HE												
CZ01	PG&E	-26,199	3893	14.76	-2%	(\$587)	\$369	(\$5,757)	>1	0.1	\$956	(\$5,170)
CZ02	PG&E	-16,989	2448	8.95	3%	(\$4,211)	\$12,323	\$11,251	>1	>1	\$16,534	\$15,463
CZ03	PG&E	-11,703	1868	7.15	2%	(\$2,213)	\$9,159	\$6,944	>1	>1	\$11,372	\$9,157
CZ04	PG&E	-10,675	1706	6.37	3%	(\$316)	\$14,317	\$11,383	>1	>1	\$14,633	\$11,700
CZ04-2	CPAU	-10,675	1706	6.37	3%	(\$316)	\$20,599	\$11,383	>1	>1	\$20,915	\$11,700
CZ05	PG&E	-11,969	1746	6.19	1%	(\$2,298)	\$5,592	\$1,824	>1	>1	\$7,890	\$4,122
CZ06	SCE	-3,919	1002	4.35	3%	\$1,418	\$29,751	\$13,734	21.0	9.7	\$28,333	\$12,316
CZ06-2	LADWP	-3,919	1002	4.35	3%	\$1,418	\$25,891	\$13,734	18.3	9.7	\$24,473	\$12,316
CZ07	SDG&E	-955	522	2.59	3%	(\$710)	\$74,518	\$11,229	>1	>1	\$75,227	\$11,939
CZ08	SCE	-2,224	793	3.74	4%	(\$3,719)	\$28,067	\$15,075	>1	>1	\$31,785	\$18,793
CZ08-2	LADWP	-2,224	793	3.74	4%	(\$3,719)	\$23,848	\$15,075	>1	>1	\$27,566	\$18,793
CZ09	SCE	-2,089	970	4.84	4%	(\$8,268)	\$34,648	\$21,162	>1	>1	\$42,916	\$29,430
CZ09-2	LADWP	-2,089	970	4.84	4%	(\$8,268)	\$28,837	\$21,162	>1	>1	\$37,105	\$29,430
CZ10	SDG&E	-4,868	1262	5.58	4%	(\$5,222)	\$91,136	\$20,041	>1	>1	\$96,358	\$25,263
CZ10-2	SCE	-4,868	1262	5.58	4%	(\$5,222)	\$37,200	\$20,041	>1	>1	\$42,422	\$25,263
CZ11	PG&E	-12,651	2415	9.95	5%	(\$8,217)	\$29,015	\$26,172	>1	>1	\$37,232	\$34,389
CZ12	PG&E	-13,479	2309	9.10	4%	(\$9,239)	\$20,839	\$21,228	>1	>1	\$30,078	\$30,466
CZ12-2	SMUD	-13,479	2309	9.10	4%	(\$9,239)	\$26,507	\$21,228	>1	>1	\$35,746	\$30,466
CZ13	PG&E	-9,935	1983	8.23	4%	(\$4,975)	\$30,123	\$24,063	>1	>1	\$35,097	\$29,037
CZ14	SDG&E	-5,407	1672	7.71	5%	\$121	\$88,669	\$31,029	732.5	256.3	\$88,547	\$30,908
CZ14-2	SCE	-5,407	1672	7.71	5%	\$121	\$40,709	\$31,029	336.3	256.3	\$40,588	\$30,908
CZ15	SCE	6,782	518	4.77	6%	(\$2,508)	\$42,238	\$37,379	>1	>1	\$44,745	\$39,887
CZ16	PG&E	-35,297	4304	15.03	-8%	\$1,102	(\$21,384)	(\$33,754)	-19.4	-30.6	(\$22,486)	(\$34,856)
CZ16-2	LADWP	-35,297	4304	15.03	-8%	\$1,102	\$48,625	(\$33,754)	44.1	-30.6	\$47,523	(\$34,856)



4.3 Cost Effectiveness Results – Small Hotel

The following issues must be considered when reviewing the Small Hotel results:

- ◆ The Small Hotel is a mix of residential and nonresidential space types, which results in different occupancy and load profiles than the office and retail prototypes.
- ◆ A potential laundry load has not been examined for the Small Hotel. The Reach Code Team attempted to characterize and apply the energy use intensity of laundry loads in hotels but did not find readily available data for use. Thus, cost effectiveness including laundry systems has not been examined.
- ◆ Contrary to the office and retail prototypes, the Small Hotel baseline water heater is a central gas storage type. Current compliance software cannot model central heat pump water heater systems with recirculation serving guest rooms.²³ The only modeling option for heat pump water heating is individual water heaters at each guest room even though this is a very uncommon configuration. TRC modeled individual heat pump water heaters but as a proxy for central heat pump water heating performance, but integrated costs associated with tank and controls for central heat pump water heating into cost effectiveness calculations.
- ◆ Assuming central heat pump water heating also enabled the inclusion of a solar hot water thermal collection system, which was a key efficiency measure to achieving compliance in nearly all climate zones.

Figure 31 through Figure 37 contain the cost-effectiveness findings for the Small Hotel packages. Notable findings for each package include:

- ◆ **1A – Mixed-Fuel + EE:**
 - ◆ Packages achieve +3 to +10% compliance margins depending on climate zone.
 - ◆ Packages are cost effective using either the On-Bill or TDV approach in all CZs except 12 (using SMUD rates), 14 (using SCE rates), and 15 (with SCE rates).
 - ◆ The hotel is primarily guest rooms with a smaller proportion of nonresidential space. Thus, the inexpensive VAV minimum flow measure and lighting measures that have been applied to the entirety of the Medium Office and Medium Retail prototypes have a relatively small impact in the Small Hotel.²⁴
- ◆ **1B – Mixed-Fuel + EE + PV + B:** Packages are cost effective using either the On-Bill or TDV approach in all CZs. Solar PV generally increases cost effectiveness compared to efficiency-only, particularly when using an NPV metric.
- ◆ **1C – Mixed-Fuel + HE:** Packages achieve +2 to +5% compliance margins depending on climate zone. The package is cost effective using the On-Bill approach in a minority of climate zones, and cost effective using TDV approach only in CZ15.

²³ The IOUs and CEC are actively working on including central heat pump water heater modeling with recirculation systems in early 2020.

²⁴ Title 24 requires that hotel/motel guest room lighting design comply with the residential lighting standards, which are all mandatory and are not awarded compliance credit for improved efficacy.



◆ **2 – All-Electric Federal Code-Minimum Reference:**

◆ This all-electric design does not comply with the Energy Commission’s TDV performance budget. Packages achieve between -50% and -4% compliance margins depending on climate zone. This may be because the modeled HW system is constrained to having an artificially low efficiency to avoid triggering federal pre-emption, and the heat pump space heating systems must operate overnight when operation is less efficient.

◆ All packages are cost effective in all climate zones.

◆ **3A – All-Electric + EE:** Packages achieve positive compliance margins in all CZs ranging from 0% to +17%, except CZ16 which had a -18% compliance margin. All packages are cost effective in all climate zones. The improved degree of cost effectiveness outcomes in Package 3A compared to Package 1A appear to be due to the significant incremental package cost savings.

◆ **3B – All-Electric + EE + PV + B:** All packages are cost effective. Packages improve in B/C ratio when compared to 3A and increase in magnitude of overall NPV savings. PV appears to be more cost-effective with higher building electricity loads.

◆ **3C – All-Electric + HE:**

◆ Packages do not comply with Title 24 in all CZs except CZ15 which resulted in a +0.04% compliance margin.

◆ All packages are cost effective.



Figure 31. Cost Effectiveness for Small Hotel Package 1A – Mixed-Fuel + EE

CZ	Utility	Elec Savings (kWh)	Gas Savings (therms)	GHG Reductions (mtons)	Compliance Margin	Incremental Package Cost	Lifecycle Utility Cost Savings	\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Package 1A: Mixed Fuel + EE												
CZ01	PG&E	3,855	1288	5.65	9%	\$20,971	\$34,339	\$36,874	1.6	1.8	\$13,368	\$15,903
CZ02	PG&E	3,802	976	3.91	7%	\$20,971	\$26,312	\$29,353	1.3	1.4	\$5,341	\$8,381
CZ03	PG&E	4,153	1046	4.48	10%	\$20,971	\$31,172	\$35,915	1.5	1.7	\$10,201	\$14,944
CZ04	PG&E	5,007	395	0.85	6%	\$21,824	\$24,449	\$24,270	1.1	1.1	\$2,625	\$2,446
CZ04-2	CPAU	4,916	422	0.98	6%	\$21,824	\$18,713	\$24,306	0.9	1.1	(\$3,111)	\$2,483
CZ05	PG&E	3,530	1018	4.13	9%	\$20,971	\$28,782	\$34,448	1.4	1.6	\$7,810	\$13,477
CZ05-2	SCG	3,530	1018	4.13	9%	\$20,971	\$23,028	\$34,448	1.1	1.6	\$2,057	\$13,477
CZ06	SCE	5,137	418	1.16	8%	\$21,824	\$16,001	\$26,934	0.7	1.2	(\$5,823)	\$5,110
CZ06-2	LADWP	5,137	418	1.16	8%	\$21,824	\$11,706	\$26,934	0.5	1.2	(\$10,118)	\$5,110
CZ07	SDG&E	5,352	424	1.31	8%	\$21,824	\$26,699	\$27,975	1.2	1.3	\$4,876	\$6,152
CZ08	SCE	5,151	419	1.21	7%	\$21,824	\$15,931	\$23,576	0.7	1.1	(\$5,893)	\$1,752
CZ08-2	LADWP	5,151	419	1.21	7%	\$21,824	\$11,643	\$23,576	0.5	1.1	(\$10,180)	\$1,752
CZ09	SCE	5,229	406	1.16	6%	\$21,824	\$15,837	\$22,365	0.7	1.0	(\$5,987)	\$541
CZ09-2	LADWP	5,229	406	1.16	6%	\$21,824	\$11,632	\$22,365	0.5	1.0	(\$10,192)	\$541
CZ10	SDG&E	4,607	342	0.92	5%	\$21,824	\$25,506	\$22,219	1.2	1.0	\$3,683	\$396
CZ10-2	SCE	4,607	342	0.92	5%	\$21,824	\$13,868	\$22,219	0.6	1.0	(\$7,956)	\$396
CZ11	PG&E	4,801	325	0.87	4%	\$21,824	\$22,936	\$19,503	1.1	0.9	\$1,112	(\$2,321)
CZ12	PG&E	5,276	327	0.90	5%	\$21,824	\$22,356	\$21,305	1.0	0.98	\$532	(\$519)
CZ12-2	SMUD	5,276	327	0.90	5%	\$21,824	\$15,106	\$21,305	0.7	0.98	(\$6,717)	(\$519)
CZ13	PG&E	4,975	310	0.87	4%	\$21,824	\$23,594	\$19,378	1.1	0.9	\$1,770	(\$2,445)
CZ14	SDG&E	4,884	370	0.82	4%	\$21,824	\$24,894	\$21,035	1.1	0.96	\$3,070	(\$789)
CZ14-2	SCE	4,884	370	0.82	4%	\$21,824	\$14,351	\$21,035	0.7	0.96	(\$7,473)	(\$789)
CZ15	SCE	5,187	278	1.23	3%	\$21,824	\$13,645	\$18,089	0.6	0.8	(\$8,178)	(\$3,735)
CZ16	PG&E	2,992	1197	4.95	6%	\$20,971	\$27,813	\$30,869	1.3	1.5	\$6,842	\$9,898
CZ16-2	LADWP	2,992	1197	4.95	6%	\$20,971	\$19,782	\$30,869	0.9	1.5	(\$1,190)	\$9,898



Figure 32. Cost Effectiveness for Small Hotel Package 1B – Mixed-Fuel + EE + PV + B

CZ	Utility	Elec Savings (kWh)	Gas Savings (therms)	GHG Reductions (mtons)	Compliance Margin	Incremental Package Cost	Lifecycle Utility Cost Savings	\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Package 1B: Mixed Fuel + EE + PV + B												
CZ01	PG&E	107,694	1288	28.73	9%	\$228,341	\$366,509	\$295,731	1.6	1.3	\$138,168	\$67,390
CZ02	PG&E	130,144	976	31.14	7%	\$228,341	\$359,248	\$336,575	1.6	1.5	\$130,907	\$108,233
CZ03	PG&E	129,107	1046	31.57	10%	\$228,341	\$430,737	\$335,758	1.9	1.5	\$202,396	\$107,416
CZ04	PG&E	132,648	395	28.46	6%	\$229,194	\$355,406	\$338,455	1.6	1.5	\$126,212	\$109,262
CZ04-2	CPAU	132,556	422	28.59	6%	\$229,194	\$322,698	\$338,492	1.4	1.5	\$93,504	\$109,298
CZ05	PG&E	136,318	1018	32.73	9%	\$228,341	\$452,611	\$352,342	2.0	1.5	\$224,269	\$124,001
CZ05-2	SCG	136,318	1018	32.73	9%	\$228,341	\$446,858	\$352,342	2.0	1.5	\$218,516	\$124,001
CZ06	SCE	131,051	418	28.47	8%	\$229,194	\$217,728	\$336,843	0.9	1.5	(\$11,466)	\$107,649
CZ06-2	LADWP	131,051	418	28.47	8%	\$229,194	\$131,052	\$336,843	0.6	1.5	(\$98,142)	\$107,649
CZ07	SDG&E	136,359	424	29.63	8%	\$229,194	\$306,088	\$345,378	1.3	1.5	\$76,894	\$116,184
CZ08	SCE	132,539	419	28.85	7%	\$229,194	\$227,297	\$353,013	1.0	1.5	(\$1,897)	\$123,819
CZ08-2	LADWP	132,539	419	28.85	7%	\$229,194	\$134,739	\$353,013	0.6	1.5	(\$94,455)	\$123,819
CZ09	SCE	131,422	406	28.82	6%	\$229,194	\$230,791	\$343,665	1.0	1.5	\$1,597	\$114,471
CZ09-2	LADWP	131,422	406	28.82	6%	\$229,194	\$136,024	\$343,665	0.6	1.5	(\$93,170)	\$114,471
CZ10	SDG&E	134,146	342	29.05	5%	\$229,194	\$339,612	\$342,574	1.5	1.5	\$110,418	\$113,380
CZ10-2	SCE	134,146	342	29.05	5%	\$229,194	\$226,244	\$342,574	1.0	1.5	(\$2,949)	\$113,380
CZ11	PG&E	128,916	325	27.62	4%	\$229,194	\$352,831	\$337,208	1.5	1.5	\$123,637	\$108,014
CZ12	PG&E	131,226	327	28.04	5%	\$229,194	\$425,029	\$338,026	1.9	1.5	\$195,835	\$108,832
CZ12-2	SMUD	131,226	327	28.04	5%	\$229,194	\$213,176	\$338,026	0.9	1.5	(\$16,018)	\$108,832
CZ13	PG&E	127,258	310	27.33	4%	\$229,194	\$351,244	\$324,217	1.5	1.4	\$122,050	\$95,023
CZ14	SDG&E	147,017	370	30.96	4%	\$229,194	\$861,445	\$217,675	3.8	0.9	\$632,251	(\$11,518)
CZ14-2	SCE	147,017	370	30.96	4%	\$229,194	\$244,100	\$381,164	1.1	1.7	\$14,906	\$151,970
CZ15	SCE	137,180	278	29.12	3%	\$229,194	\$225,054	\$348,320	1.0	1.5	(\$4,140)	\$119,127
CZ16	PG&E	141,478	1197	34.60	6%	\$228,341	\$377,465	\$357,241	1.7	1.6	\$149,124	\$128,899
CZ16-2	LADWP	141,478	1197	34.60	6%	\$228,341	\$136,563	\$357,241	0.6	1.6	(\$91,778)	\$128,899



Figure 33. Cost Effectiveness for Small Hotel Package 1C - Mixed-Fuel + HE

CZ	Utility	Elec Savings (kWh)	Gas Savings (therms)	GHG Reductions (mtons)	Compliance Margin	Incremental Package Cost	Lifecycle Utility Cost Savings	\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Package 1C: Mixed Fuel + HE												
CZ01	PG&E	10	632	3.76	2%	\$22,839	\$11,015	\$10,218	0.5	0.4	(\$11,823)	(\$12,621)
CZ02	PG&E	981	402	2.69	3%	\$23,092	\$16,255	\$11,808	0.7	0.5	(\$6,837)	(\$11,284)
CZ03	PG&E	81	383	2.30	2%	\$20,510	\$7,066	\$6,850	0.3	0.3	(\$13,444)	(\$13,660)
CZ04	PG&E	161	373	2.26	2%	\$22,164	\$8,593	\$7,645	0.4	0.3	(\$13,571)	(\$14,519)
CZ04-2	CPAU	161	373	2.26	2%	\$22,164	\$7,097	\$7,645	0.3	0.3	(\$15,067)	(\$14,519)
CZ05	PG&E	154	361	2.19	2%	\$21,418	\$6,897	\$6,585	0.3	0.3	(\$14,521)	(\$14,833)
CZ05-2	SCG	154	361	2.19	2%	\$21,418	\$4,786	\$6,585	0.2	0.3	(\$16,632)	(\$14,833)
CZ06	SCE	237	201	1.27	2%	\$20,941	\$3,789	\$4,882	0.2	0.2	(\$17,152)	(\$16,059)
CZ06-2	LADWP	237	201	1.27	2%	\$20,941	\$3,219	\$4,882	0.2	0.2	(\$17,722)	(\$16,059)
CZ07	SDG&E	1,117	158	1.28	2%	\$19,625	\$13,771	\$7,342	0.7	0.4	(\$5,854)	(\$12,283)
CZ08	SCE	1,302	169	1.39	2%	\$20,678	\$8,378	\$8,591	0.4	0.4	(\$12,300)	(\$12,088)
CZ08-2	LADWP	1,302	169	1.39	2%	\$20,678	\$5,802	\$8,591	0.3	0.4	(\$14,877)	(\$12,088)
CZ09	SCE	1,733	178	1.56	3%	\$20,052	\$10,489	\$11,164	0.5	0.6	(\$9,563)	(\$8,888)
CZ09-2	LADWP	1,733	178	1.56	3%	\$20,052	\$7,307	\$11,164	0.4	0.6	(\$12,745)	(\$8,888)
CZ10	SDG&E	3,170	220	2.29	4%	\$22,682	\$35,195	\$19,149	1.6	0.8	\$12,513	(\$3,533)
CZ10-2	SCE	3,170	220	2.29	4%	\$22,682	\$16,701	\$19,149	0.7	0.8	(\$5,981)	(\$3,533)
CZ11	PG&E	3,343	323	2.96	4%	\$23,344	\$27,633	\$20,966	1.2	0.9	\$4,288	(\$2,379)
CZ12	PG&E	1,724	320	2.44	4%	\$22,302	\$11,597	\$15,592	0.5	0.7	(\$10,705)	(\$6,710)
CZ12-2	SMUD	1,724	320	2.44	4%	\$22,302	\$11,156	\$15,592	0.5	0.7	(\$11,146)	(\$6,710)
CZ13	PG&E	3,083	316	2.81	3%	\$22,882	\$23,950	\$17,068	1.0	0.7	\$1,068	(\$5,814)
CZ14	SDG&E	3,714	312	2.99	4%	\$23,299	\$35,301	\$21,155	1.5	0.9	\$12,002	(\$2,144)
CZ14-2	SCE	3,714	312	2.99	4%	\$23,299	\$18,460	\$21,155	0.8	0.9	(\$4,839)	(\$2,144)
CZ15	SCE	8,684	97	3.21	5%	\$20,945	\$26,738	\$31,600	1.3	1.5	\$5,792	\$10,655
CZ16	PG&E	836	700	4.42	3%	\$24,616	\$18,608	\$14,494	0.8	0.6	(\$6,007)	(\$10,121)
CZ16-2	LADWP	836	700	4.42	3%	\$24,616	\$15,237	\$14,494	0.6	0.6	(\$9,378)	(\$10,121)



Figure 34. Cost Effectiveness for Small Hotel Package 2 – All-Electric Federal Code Minimum

CZ	Utility	Elec Savings (kWh)	Gas Savings (therms)	GHG Reductions (mtons)	Compliance Margin	Incremental Package Cost*	Lifecycle Utility Cost Savings	\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Package 2: All-Electric Federal Code Minimum												
CZ01	PG&E	-159,802	16917	53.92	-28%	(\$1,296,784)	(\$582,762)	(\$115,161)	2.2	11.3	\$714,022	\$1,181,623
CZ02	PG&E	-118,739	12677	40.00	-12%	(\$1,297,757)	(\$245,434)	(\$51,620)	5.3	25.1	\$1,052,322	\$1,246,137
CZ03	PG&E	-110,595	12322	40.48	-14%	(\$1,300,029)	(\$326,633)	(\$51,166)	4.0	25.4	\$973,396	\$1,248,863
CZ04	PG&E	-113,404	11927	36.59	-13%	(\$1,299,864)	(\$225,307)	(\$53,134)	5.8	24.5	\$1,074,556	\$1,246,730
CZ04-2	CPAU	-113,404	11927	36.59	-13%	(\$1,299,864)	(\$17,768)	(\$53,134)	73.2	24.5	\$1,282,096	\$1,246,730
CZ05	PG&E	-108,605	11960	38.34	-15%	(\$1,299,917)	(\$350,585)	(\$54,685)	3.7	23.8	\$949,332	\$1,245,232
CZ06	SCE	-78,293	8912	29.36	-5%	(\$1,300,058)	(\$61,534)	(\$28,043)	21.1	46.4	\$1,238,524	\$1,272,015
CZ06-2	LA	-78,293	8912	29.36	-5%	(\$1,300,058)	\$43,200	(\$28,043)	>1	46.4	\$1,343,258	\$1,272,015
CZ07	SDG&E	-69,819	8188	28.04	-7%	(\$1,298,406)	(\$137,638)	(\$23,199)	9.4	56.0	\$1,160,768	\$1,275,207
CZ08	SCE	-71,914	8353	28.21	-6%	(\$1,296,376)	(\$53,524)	(\$22,820)	24.2	56.8	\$1,242,852	\$1,273,556
CZ08-2	LA	-71,914	8353	28.21	-6%	(\$1,296,376)	\$42,841	(\$22,820)	>1	56.8	\$1,339,217	\$1,273,556
CZ09	SCE	-72,262	8402	28.38	-6%	(\$1,298,174)	(\$44,979)	(\$21,950)	28.9	59.1	\$1,253,196	\$1,276,224
CZ09-2	LA	-72,262	8402	28.38	-6%	(\$1,298,174)	\$46,679	(\$21,950)	>1	59.1	\$1,344,853	\$1,276,224
CZ10	SDG&E	-80,062	8418	26.22	-8%	(\$1,295,176)	(\$172,513)	(\$36,179)	7.5	35.8	\$1,122,663	\$1,258,997
CZ10-2	SCE	-80,062	8418	26.22	-8%	(\$1,295,176)	(\$63,974)	(\$36,179)	20.2	35.8	\$1,231,202	\$1,258,997
CZ11	PG&E	-99,484	10252	30.99	-10%	(\$1,295,985)	(\$186,037)	(\$49,387)	7.0	26.2	\$1,109,948	\$1,246,598
CZ12	PG&E	-99,472	10403	32.08	-10%	(\$1,297,425)	(\$340,801)	(\$45,565)	3.8	28.5	\$956,624	\$1,251,860
CZ12-2	SMUD	-99,067	10403	32.21	-10%	(\$1,297,425)	\$5,794	(\$44,354)	>1	29.3	\$1,303,219	\$1,253,071
CZ13	PG&E	-96,829	10029	30.60	-10%	(\$1,295,797)	(\$184,332)	(\$50,333)	7.0	25.7	\$1,111,465	\$1,245,464
CZ14	SDG&E	-101,398	10056	29.68	-11%	(\$1,296,156)	(\$325,928)	(\$56,578)	4.0	22.9	\$970,228	\$1,239,578
CZ14-2	SCE	-101,398	10056	29.68	-11%	(\$1,296,156)	(\$121,662)	(\$56,578)	10.7	22.9	\$1,174,494	\$1,239,578
CZ15	SCE	-49,853	5579	18.07	-4%	(\$1,294,276)	\$209	(\$21,420)	>1	60.4	\$1,294,485	\$1,272,856
CZ16	PG&E	-216,708	17599	41.89	-50%	(\$1,300,552)	(\$645,705)	(\$239,178)	2.0	5.4	\$654,847	\$1,061,374
CZ16-2	LA	-216,708	17599	41.89	-50%	(\$1,300,552)	\$30,974	(\$239,178)	>1	5.4	\$1,331,526	\$1,061,374

*The Incremental Package Cost is the addition of the incremental HVAC and water heating equipment costs from Figure 12, the electrical infrastructure incremental cost of \$26,800 (see section 3.3.2.1), and the natural gas infrastructure incremental cost savings of \$56,020 (see section 3.3.2.2).



Figure 35. Cost Effectiveness for Small Hotel Package 3A – All-Electric + EE

CZ	Utility	Elec Savings (kWh)	Gas Savings (therms)	GHG Reductions (mtons)	Compliance Margin	Incremental Package Cost	Lifecycle Utility Cost Savings	\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Package 3A: All-Electric + EE												
CZ01	PG&E	-113,259	16917	62.38	1.3%	(\$1,251,544)	(\$200,367)	\$5,460	6.2	>1	\$1,051,177	\$1,257,005
CZ02	PG&E	-90,033	12677	45.46	4%	(\$1,265,064)	(\$108,075)	\$15,685	11.7	>1	\$1,156,989	\$1,280,749
CZ03	PG&E	-83,892	12322	45.93	6%	(\$1,267,509)	(\$198,234)	\$20,729	6.4	>1	\$1,069,274	\$1,288,237
CZ04	PG&E	-91,197	11927	40.36	0.2%	(\$1,263,932)	(\$112,892)	\$703	11.2	>1	\$1,151,041	\$1,264,635
CZ04-2	CPAU	-90,981	11927	40.42	0.2%	(\$1,263,932)	\$32,557	\$918	>1	>1	\$1,296,489	\$1,264,850
CZ05	PG&E	-82,491	11960	43.62	5%	(\$1,267,355)	(\$221,492)	\$18,488	5.7	>1	\$1,045,863	\$1,285,843
CZ06	SCE	-61,523	8912	32.45	7%	(\$1,267,916)	(\$33,475)	\$15,142	37.9	>1	\$1,234,441	\$1,283,057
CZ06-2	LADWP	-61,523	8912	32.45	7%	(\$1,267,916)	\$57,215	\$15,142	>1	>1	\$1,325,130	\$1,283,057
CZ07	SDG&E	-53,308	8188	31.22	7%	(\$1,266,354)	(\$81,338)	\$22,516	15.6	>1	\$1,185,015	\$1,288,870
CZ08	SCE	-55,452	8353	31.33	3%	(\$1,264,408)	(\$23,893)	\$9,391	52.9	>1	\$1,240,515	\$1,273,800
CZ08-2	LADWP	-55,452	8353	31.33	3%	(\$1,264,408)	\$57,058	\$9,391	>1	>1	\$1,321,466	\$1,273,800
CZ09	SCE	-55,887	8402	31.40	2%	(\$1,266,302)	(\$19,887)	\$9,110	63.7	>1	\$1,246,415	\$1,275,412
CZ09-2	LADWP	-55,887	8402	31.40	2%	(\$1,266,302)	\$60,441	\$9,110	>1	>1	\$1,326,743	\$1,275,412
CZ10	SDG&E	-60,239	8418	29.96	2%	(\$1,256,002)	(\$126,072)	\$7,365	10.0	>1	\$1,129,930	\$1,263,367
CZ10-2	SCE	-60,239	8418	29.96	2%	(\$1,256,002)	(\$33,061)	\$7,365	38.0	>1	\$1,222,940	\$1,263,367
CZ11	PG&E	-77,307	10252	35.12	1%	(\$1,256,149)	(\$80,187)	\$3,114	15.7	>1	\$1,175,962	\$1,259,263
CZ12	PG&E	-75,098	10403	36.73	2%	(\$1,256,824)	(\$234,275)	\$9,048	5.4	>1	\$1,022,550	\$1,265,872
CZ12-2	SMUD	-75,098	10403	36.73	2%	(\$1,256,824)	\$54,941	\$9,048	>1	>1	\$1,311,765	\$1,265,872
CZ13	PG&E	-75,052	10029	34.72	0.3%	(\$1,256,109)	(\$79,378)	\$1,260	15.8	>1	\$1,176,731	\$1,257,369
CZ14	SDG&E	-76,375	10056	34.28	0.1%	(\$1,255,704)	(\$170,975)	\$543	7.3	>1	\$1,084,729	\$1,256,247
CZ14-2	SCE	-76,375	10056	34.28	0.1%	(\$1,255,704)	(\$34,418)	\$543	36.5	>1	\$1,221,286	\$1,256,247
CZ15	SCE	-33,722	5579	21.43	2%	(\$1,257,835)	\$26,030	\$12,262	>1	>1	\$1,283,864	\$1,270,097
CZ16	PG&E	-139,676	17599	55.25	-14%	(\$1,255,364)	(\$197,174)	(\$66,650)	6.4	18.8	\$1,058,190	\$1,188,714
CZ16-2	LADWP	-139,676	17599	55.25	-14%	(\$1,255,364)	\$165,789	(\$66,650)	>1	18.8	\$1,421,153	\$1,188,714



Figure 36. Cost Effectiveness for Small Hotel Package 3B – All-Electric + EE + PV + B

CZ	Utility	Elec Savings (kWh)	Gas Savings (therms)	GHG Reductions (mtons)	Compliance Margin	Incremental Package Cost	Lifecycle Utility Cost Savings	\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Package 3B: All-Electric + EE + PV + B												
CZ01	PG&E	-8,900	16917	87.15	1%	(\$1,044,174)	\$90,964	\$324,376	>1	>1	\$1,135,139	\$1,368,551
CZ02	PG&E	36,491	12677	73.03	4%	(\$1,057,694)	\$242,514	\$313,711	>1	>1	\$1,300,208	\$1,371,405
CZ03	PG&E	41,239	12322	73.43	6%	(\$1,060,139)	\$155,868	\$308,385	>1	>1	\$1,216,007	\$1,368,524
CZ04	PG&E	36,628	11927	69.70	0.2%	(\$1,056,562)	\$240,799	\$308,682	>1	>1	\$1,297,361	\$1,365,244
CZ04-2	CPAU	36,844	11927	69.76	0.2%	(\$1,056,562)	\$336,813	\$418,836	>1	>1	\$1,393,375	\$1,475,398
CZ05	PG&E	36,365	11960	73.11	5%	(\$1,059,985)	\$119,173	\$317,952	>1	>1	\$1,179,158	\$1,377,937
CZ06	SCE	64,476	8912	60.47	7%	(\$1,060,545)	\$156,327	\$311,730	>1	>1	\$1,216,872	\$1,372,275
CZ06-2	LADWP	64,476	8912	60.47	7%	(\$1,060,545)	\$180,648	\$311,730	>1	>1	\$1,241,193	\$1,372,275
CZ07	SDG&E	77,715	8188	60.45	7%	(\$1,058,983)	\$197,711	\$330,458	>1	>1	\$1,256,694	\$1,389,441
CZ08	SCE	71,990	8353	59.49	3%	(\$1,057,038)	\$165,393	\$320,814	>1	>1	\$1,222,432	\$1,377,852
CZ08-2	LADWP	71,990	8353	60.24	3%	(\$1,057,038)	\$180,367	\$443,809	>1	>1	\$1,237,405	\$1,500,847
CZ09	SCE	70,465	8402	59.29	2%	(\$1,058,932)	\$175,602	\$301,459	>1	>1	\$1,234,534	\$1,360,391
CZ09-2	LADWP	70,465	8402	59.29	2%	(\$1,058,932)	\$183,220	\$301,459	>1	>1	\$1,242,152	\$1,360,391
CZ10	SDG&E	69,581	8418	58.04	2%	(\$1,048,632)	\$161,513	\$294,530	>1	>1	\$1,210,145	\$1,343,162
CZ10-2	SCE	69,581	8418	58.04	2%	(\$1,048,632)	\$164,837	\$294,530	>1	>1	\$1,213,469	\$1,343,162
CZ11	PG&E	47,260	10252	61.57	1%	(\$1,048,779)	\$253,717	\$286,797	>1	>1	\$1,302,496	\$1,335,576
CZ12	PG&E	51,115	10403	64.07	2%	(\$1,049,454)	\$104,523	\$305,446	>1	>1	\$1,153,977	\$1,354,900
CZ12-2	SMUD	51,115	10403	64.99	2%	(\$1,049,454)	\$253,197	\$430,977	>1	>1	\$1,302,651	\$1,480,431
CZ13	PG&E	47,757	10029	60.77	0.3%	(\$1,048,739)	\$251,663	\$281,877	>1	>1	\$1,300,402	\$1,330,616
CZ14	SDG&E	66,084	10056	64.54	0.1%	(\$1,048,334)	\$148,510	\$334,938	>1	>1	\$1,196,844	\$1,383,272
CZ14-2	SCE	66,084	10056	64.54	0.1%	(\$1,048,334)	\$185,018	\$334,938	>1	>1	\$1,233,352	\$1,383,272
CZ15	SCE	98,755	5579	49.04	2.1%	(\$1,050,465)	\$233,308	\$311,121	>1	>1	\$1,283,772	\$1,361,585
CZ16	PG&E	-873	17599	84.99	-14%	(\$1,047,994)	\$191,994	\$240,724	>1	>1	\$1,239,987	\$1,288,718
CZ16-2	LADWP	-873	17599	84.99	-14%	(\$1,047,994)	\$291,279	\$240,724	>1	>1	\$1,339,273	\$1,288,718



Figure 37. Cost Effectiveness for Small Hotel Package 3C - All-Electric + HE

CZ	Utility	Elec Savings (kWh)	Gas Savings (therms)	GHG Reductions (mtons)	Compliance Margin	Incremental Package Cost	Lifecycle Utility Cost Savings	\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Package 3C: All-Electric + HE												
CZ01	PG&E	-154,840	16917	56.24	-24%	(\$1,281,338)	(\$606,619)	(\$101,272)	2.1	12.7	\$674,719	\$1,180,066
CZ02	PG&E	-118,284	12677	41.18	-11%	(\$1,283,243)	(\$395,641)	(\$44,505)	3.2	28.8	\$887,602	\$1,238,738
CZ03	PG&E	-113,413	12322	40.80	-14%	(\$1,288,782)	(\$522,458)	(\$51,582)	2.5	25.0	\$766,324	\$1,237,200
CZ04	PG&E	-115,928	11927	37.09	-13%	(\$1,287,878)	(\$383,177)	(\$53,285)	3.4	24.2	\$904,701	\$1,234,593
CZ04-2	CPAU	-115,928	11927	37.09	-13%	(\$1,287,878)	(\$24,170)	(\$53,285)	53.3	24.2	\$1,263,708	\$1,234,593
CZ05	PG&E	-111,075	11960	38.75	-15%	(\$1,288,242)	(\$530,740)	(\$56,124)	2.4	23.0	\$757,502	\$1,232,119
CZ06	SCE	-83,000	8912	29.41	-15%	(\$1,288,695)	(\$154,625)	(\$32,244)	8.3	40.0	\$1,134,069	\$1,256,451
CZ06-2	LADWP	-83,000	8912	29.41	-15%	(\$1,288,695)	(\$17,626)	(\$32,244)	73.1	40.0	\$1,271,068	\$1,256,451
CZ07	SDG&E	-73,823	8188	28.32	-7%	(\$1,285,759)	(\$268,207)	(\$24,069)	4.8	53.4	\$1,017,552	\$1,261,690
CZ08	SCE	-75,573	8353	28.56	-6%	(\$1,281,241)	(\$157,393)	(\$21,912)	8.1	58.5	\$1,123,848	\$1,259,329
CZ08-2	LADWP	-75,573	8353	28.56	-6%	(\$1,281,241)	(\$18,502)	(\$21,912)	69.2	58.5	\$1,262,739	\$1,259,329
CZ09	SCE	-74,790	8402	29.04	-4%	(\$1,285,139)	(\$138,746)	(\$16,992)	9.3	75.6	\$1,146,393	\$1,268,147
CZ09-2	LADWP	-74,790	8402	29.04	-4%	(\$1,285,139)	(\$6,344)	(\$16,992)	202.6	75.6	\$1,278,794	\$1,268,147
CZ10	SDG&E	-80,248	8418	27.57	-5%	(\$1,278,097)	(\$235,479)	(\$24,107)	5.4	53.0	\$1,042,617	\$1,253,990
CZ10-2	SCE	-80,248	8418	27.57	-5%	(\$1,278,097)	(\$123,371)	(\$24,107)	10.4	53.0	\$1,154,726	\$1,253,990
CZ11	PG&E	-98,041	10252	32.73	-7%	(\$1,279,528)	(\$278,242)	(\$35,158)	4.6	36.4	\$1,001,286	\$1,244,370
CZ12	PG&E	-100,080	10403	33.24	-9%	(\$1,282,834)	(\$480,347)	(\$38,715)	2.7	33.1	\$802,487	\$1,244,119
CZ12-2	SMUD	-100,080	10403	33.24	-9%	(\$1,282,834)	(\$23,362)	(\$38,715)	54.9	33.1	\$1,259,472	\$1,244,119
CZ13	PG&E	-94,607	10029	32.47	-7%	(\$1,279,301)	(\$276,944)	\$244,552	4.6	>1	\$1,002,357	\$1,523,853
CZ14	SDG&E	-97,959	10056	31.91	-7%	(\$1,279,893)	(\$302,123)	(\$37,769)	4.2	33.9	\$977,770	\$1,242,124
CZ14-2	SCE	-97,959	10056	31.91	-7%	(\$1,279,893)	(\$129,082)	(\$37,769)	9.9	33.9	\$1,150,811	\$1,242,124
CZ15	SCE	-45,226	5579	20.17	0.04%	(\$1,276,847)	(\$6,533)	\$227	195.4	>1	\$1,270,314	\$1,277,074
CZ16	PG&E	-198,840	17599	47.73	-39%	(\$1,288,450)	(\$605,601)	(\$185,438)	2.1	6.9	\$682,848	\$1,103,011
CZ16-2	LADWP	-198,840	17599	47.73	-39%	(\$1,288,450)	\$40,268	(\$185,438)	>1	6.9	\$1,328,718	\$1,103,011



4.4 Cost Effectiveness Results – PV-only and PV+Battery

The Reach Code Team ran packages of PV-only and PV+Battery measures, without any additional efficiency measures, to assess cost effectiveness on top of the mixed-fuel baseline building and the all-electric federal code minimum reference (Package 2 in Sections 4.1 – 4.3).

Jurisdictions interested in adopting PV-only reach codes should reference the mixed-fuel cost effectiveness results because a mixed-fuel building is the baseline for the nonresidential prototypes analyzed in this study. PV or PV+Battery packages are added to all-electric federal code minimum reference which (in many scenarios) do not have a positive compliance margin compared to the mixed-fuel baseline model, and are solely provided for informational purposes. Jurisdictions interested in reach codes requiring all-electric+PV or all-electric+PV+battery should reference package 3B results in Sections 4.1 – 4.3.²⁵

Each of the following eight packages were evaluated against a mixed fuel baseline designed as per 2019 Title 24 Part 6 requirements.

- ◆ **Mixed-Fuel + 3 kW PV Only:**
- ◆ **Mixed-Fuel + 3 kW PV + 5 kWh battery**
- ◆ **Mixed-Fuel + PV Only:** PV sized per the roof size of the building, or to offset the annual electricity consumption, whichever is smaller
- ◆ **Mixed-Fuel + PV + 50 kWh Battery:** PV sized per the roof size of the building, or to offset the annual electricity consumption, whichever is smaller, along with 50 kWh battery
- ◆ **All-Electric + 3 kW PV Only**
- ◆ **All-Electric + 3 kW PV + 5 kWh Battery**
- ◆ **All-Electric + PV Only:** PV sized per the roof size of the building, or to offset the annual electricity consumption, whichever is smaller
- ◆ **All-Electric + PV + 50 kWh Battery:** PV sized per the roof size of the building, or to offset the annual electricity consumption, whichever is smaller, along with 50 kWh battery

Figure 38 through Figure 40 summarize the on-bill and TDV B/C ratios for each prototype for the two PV only packages and the two PV plus battery packages. Compliance margins are 0 percent for all mixed-fuel packages. For all-electric packages, compliance margins are equal to those found in Package 2 for each prototype in Sections 4.1 – 4.3. The compliance margins are not impacted by renewables and battery storage measures and hence not shown in the tables. These figures are formatted in the following way:

- ◆ Cells highlighted in green have a B/C ratio greater than 1 and are cost-effective. The shade of green gets darker as cost effectiveness increases.
- ◆ Cells not highlighted have a B/C ratio less than one and are not cost effective.

²⁵ Because this study shows that the addition of battery generally reduces cost effectiveness, removing a battery measure would only increase cost effectiveness. Thus, a jurisdiction can apply the EE+PV+Battery cost effectiveness findings to support EE+PV reach codes, because EE+PV would still remain cost effective without a battery.

Please see Appendix 6.7 for results in full detail. Generally, for mixed-fuel packages across all prototypes, all climate zones were proven to have cost effective outcomes using TDV except in CZ1 with a 3 kW PV + 5 kWh Battery scenario. Most climate zones also had On-Bill cost effectiveness. The addition of a battery slightly reduces cost effectiveness.

In all-electric packages, the results for most climate zones were found cost effective using both TDV and On-Bill approaches with larger PV systems or PV+Battery systems. Most 3 kW PV systems were also found to be cost effective except in some scenarios analyzing the Medium Office using the On-Bill method. CZ16 results continue to show challenges being cost effective with all electric buildings, likely due to the high heating loads in this climate. The addition of a battery slightly reduces the cost effectiveness for all-electric buildings with PV.



Figure 38. Cost Effectiveness for Medium Office - PV and Battery

CZ	PV Battery Utility	Mixed Fuel								All-Electric							
		3kW		3kW		135kW		135kW		3kW		3kW		135kW		135kW	
		0		5kWh		0		50kWh		0		5kWh		0		50kWh	
		On-Bill	TDV	On-Bill	TDV	On-Bill	TDV	On-Bill	TDV	On-Bill	TDV	On-Bill	TDV	On-Bill	TDV	On-Bill	TDV
CZ01	PG&E	2.8	1.5	1.7	0.9	1.7	1.3	1.6	1.2	0.9	1.6	0.9	1.6	2.5	2.0	2.1	1.7
CZ02	PG&E	3.7	1.9	2.1	1.1	2.2	1.6	2.0	1.4	0.8	2.2	0.9	2.6	3.2	2.4	2.7	2.1
CZ03	PG&E	3.7	1.8	2.2	1.0	2.1	1.5	1.9	1.4	1.9	3.9	2.0	4.0	3.4	2.5	2.9	2.2
CZ04	PG&E	3.6	2.0	2.1	1.2	2.3	1.6	2.1	1.5	0.9	2.1	1.1	2.7	3.3	2.5	2.9	2.2
CZ04-2	CPAU	2.1	2.0	1.3	1.2	1.8	1.6	1.6	1.5	7.7	2.1	9.8	2.7	2.9	2.5	2.5	2.2
CZ05	PG&E	4.2	1.9	2.4	1.1	2.5	1.6	2.3	1.5	1.8	2.7	1.9	2.7	4.0	2.7	3.4	2.3
CZ05-2	SCG	4.2	1.9	2.4	1.1	2.5	1.6	2.3	1.5	>1	>1	>1	>1	>1	3.0	9.4	2.6
CZ06	SCE	2.0	2.0	1.2	1.1	1.3	1.6	1.2	1.5	>1	7.2	>1	8.2	2.4	2.7	2.1	2.3
CZ06-2	LA	1.2	2.0	0.7	1.1	0.8	1.6	0.7	1.5	>1	7.2	>1	8.2	1.5	2.7	1.3	2.3
CZ07	SDG&E	3.2	2.0	1.9	1.2	2.1	1.6	1.9	1.5	>1	>1	>1	>1	3.7	2.7	3.2	2.3
CZ08	SCE	1.9	2.0	1.1	1.2	1.3	1.7	1.2	1.5	>1	>1	>1	>1	2.2	2.7	1.9	2.4
CZ08-2	LA	1.2	2.0	0.7	1.2	0.7	1.7	0.7	1.5	>1	>1	>1	>1	1.3	2.7	1.1	2.4
CZ09	SCE	1.9	2.0	1.1	1.2	1.3	1.7	1.2	1.5	>1	>1	>1	>1	2.2	2.6	1.9	2.3
CZ09-2	LA	1.1	2.0	0.7	1.2	0.7	1.7	0.7	1.5	>1	>1	>1	>1	1.3	2.6	1.2	2.3
CZ10	SDG&E	3.8	1.9	2.2	1.1	2.1	1.6	1.9	1.5	>1	3.3	>1	6.3	3.3	2.3	2.9	2.0
CZ10-2	SCE	2.1	1.9	1.2	1.1	1.3	1.6	1.2	1.5	>1	3.3	>1	6.3	2.0	2.3	1.8	2.0
CZ11	PG&E	3.6	1.9	2.1	1.1	2.2	1.6	2.0	1.5	1.1	2.6	1.5	3.6	3.2	2.4	2.8	2.1
CZ12	PG&E	3.5	1.9	2.1	1.1	2.2	1.6	2.0	1.5	0.9	2.5	1.2	3.2	3.1	2.4	2.7	2.1
CZ12-2	SMUD	1.4	1.9	0.8	1.1	1.1	1.6	1.04	1.5	>1	2.5	>1	3.2	1.9	2.4	1.6	2.1
CZ13	PG&E	3.5	1.8	2.0	1.1	2.2	1.5	2.0	1.4	1.1	2.5	1.5	3.6	3.1	2.3	2.7	2.0
CZ14	SDG&E	3.4	2.3	2.0	1.3	2.2	1.9	2.0	1.7	>1	2.3	>1	3.1	3.6	2.8	3.2	2.5
CZ14-2	SCE	1.9	2.3	1.1	1.3	1.3	1.9	1.2	1.7	>1	2.3	>1	3.1	2.2	2.8	1.9	2.5
CZ15	SCE	1.8	2.1	1.1	1.2	1.2	1.7	1.1	1.6	>1	7.5	>1	>1	1.8	2.4	1.6	2.1
CZ16	PG&E	3.9	2.0	2.3	1.1	2.3	1.6	2.1	1.5	0.3	0.4	0.4	0.6	2.5	1.8	2.2	1.6
CZ16-2	LA	1.2	2.0	0.7	1.1	0.7	1.6	0.7	1.5	>1	0.4	>1	0.6	1.3	1.8	1.2	1.6



Figure 39. Cost Effectiveness for Medium Retail - PV and Battery

CZ	Utility	Mixed Fuel								All-Electric							
		3kW		3kW		90 kW		90 kW		3kW		3kW		90 kW		90 kW	
		0		5kWh		0		50kWh		0		5kWh		0		50kWh	
		On-Bill	TDV	On-Bill	TDV	On-Bill	TDV	On-Bill	TDV	On-Bill	TDV	On-Bill	TDV	On-Bill	TDV	On-Bill	TDV
CZ01	PG&E	2.3	1.5	1.3	0.9	1.8	1.3	1.6	1.2	>1	3.0	>1	2.7	2.5	1.6	2.2	1.5
CZ02	PG&E	3.2	1.8	1.9	1.1	1.9	1.5	1.8	1.5	>1	>1	>1	>1	2.7	2.1	2.3	1.9
CZ03	PG&E	2.7	1.8	1.6	1.1	2.2	1.5	2.0	1.4	>1	>1	>1	>1	3.0	2.1	2.6	1.9
CZ04	PG&E	3.3	1.9	1.9	1.1	2.0	1.6	1.9	1.5	>1	>1	>1	>1	2.7	2.1	2.5	2.0
CZ04-2	CPAU	2.1	1.9	1.2	1.1	1.7	1.6	1.5	1.5	>1	>1	>1	>1	2.4	2.1	2.1	2.0
CZ05	PG&E	2.8	1.9	1.6	1.1	2.3	1.6	2.0	1.5	>1	>1	>1	>1	3.2	2.1	2.7	2.0
CZ05-2	SCG	2.8	1.9	1.6	1.1	2.3	1.6	2.0	1.5	>1	>1	>1	>1	3.7	1.9	3.2	1.6
CZ06	SCE	2.0	1.9	1.2	1.1	1.2	1.6	1.1	1.5	>1	>1	>1	>1	1.7	2.2	1.5	2.0
CZ06-2	LA	1.3	1.9	0.7	1.1	0.7	1.6	0.6	1.5	>1	>1	>1	>1	1.01	2.2	0.9	2.0
CZ07	SDG&E	4.0	2.0	2.4	1.2	1.5	1.6	1.6	1.6	>1	>1	>1	>1	2.4	2.3	2.3	2.1
CZ08	SCE	2.1	2.0	1.2	1.2	1.2	1.7	1.1	1.6	>1	>1	>1	>1	1.7	2.4	1.5	2.1
CZ08-2	LA	1.3	2.0	0.8	1.2	0.7	1.7	0.6	1.6	>1	>1	>1	>1	1.01	2.4	0.9	2.1
CZ09	SCE	2.0	2.0	1.2	1.2	1.2	1.7	1.1	1.5	>1	>1	>1	>1	1.8	2.4	1.6	2.1
CZ09-2	LA	1.2	2.0	0.7	1.2	0.7	1.7	0.7	1.5	>1	>1	>1	>1	1.1	2.4	0.99	2.1
CZ10	SDG&E	3.8	2.0	2.2	1.2	1.7	1.6	1.7	1.5	>1	>1	>1	>1	2.6	2.3	2.5	2.0
CZ10-2	SCE	2.0	2.0	1.2	1.2	1.2	1.6	1.1	1.5	>1	>1	>1	>1	1.8	2.3	1.6	2.0
CZ11	PG&E	2.8	1.9	1.6	1.1	1.9	1.6	1.8	1.5	>1	>1	>1	>1	2.7	2.3	2.5	2.1
CZ12	PG&E	3.0	1.9	1.7	1.1	1.9	1.6	1.8	1.5	>1	>1	>1	>1	2.7	2.3	2.5	2.1
CZ12-2	SMUD	1.5	1.9	0.9	1.1	1.1	1.6	0.997	1.5	>1	>1	>1	>1	1.7	2.3	1.4	2.1
CZ13	PG&E	3.0	1.9	1.7	1.1	1.9	1.6	1.8	1.4	>1	>1	>1	>1	2.7	2.2	2.4	1.9
CZ14	SDG&E	3.5	2.2	2.1	1.3	1.6	1.8	1.5	1.6	>1	>1	>1	>1	2.5	2.6	2.2	2.2
CZ14-2	SCE	1.8	2.2	1.1	1.3	1.2	1.8	1.1	1.6	>1	>1	>1	>1	1.7	2.6	1.5	2.2
CZ15	SCE	1.9	2.0	1.1	1.2	1.1	1.7	1.02	1.5	>1	>1	>1	>1	1.7	2.4	1.5	2.1
CZ16	PG&E	3.7	2.0	2.1	1.2	2.1	1.7	1.9	1.6	0.6	0.5	0.5	0.4	2.7	2.0	2.3	1.8
CZ16-2	LA	1.3	2.0	0.7	1.2	0.7	1.7	0.6	1.6	>1	0.5	>1	0.4	1.2	2.0	1.0	1.8



Figure 40. Cost Effectiveness for Small Hotel - PV and Battery

CZ	Utility	Mixed Fuel								All-Electric							
		3kW		3kW		80kW		80kW		3kW		3kW		80kW		80kW	
		0		5kWh		0		50kWh		0		5kWh		0		50kWh	
		On-Bill	TDV	On-Bill	TDV	On-Bill	TDV	On-Bill	TDV	On-Bill	TDV	On-Bill	TDV	On-Bill	TDV	On-Bill	TDV
CZ01	PG&E	2.3	1.5	1.3	0.9	1.9	1.2	1.6	1.1	2.3	>1	2.3	>1	4.8	>1	4.7	>1
CZ02	PG&E	2.3	1.9	1.3	1.1	1.8	1.5	1.6	1.4	5.6	>1	5.6	>1	>1	>1	>1	>1
CZ03	PG&E	2.7	1.8	1.6	1.05	2.3	1.5	1.9	1.4	4.2	>1	4.2	>1	>1	>1	>1	>1
CZ04	PG&E	2.4	1.9	1.4	1.1	1.8	1.6	1.6	1.5	6.2	>1	6.2	>1	>1	>1	>1	>1
CZ04-2	CPAU	2.1	1.9	1.2	1.1	1.7	1.6	1.5	1.5	>1	>1	>1	>1	>1	>1	>1	>1
CZ05	PG&E	2.9	1.9	1.7	1.1	2.4	1.6	2.0	1.5	3.9	>1	3.9	>1	>1	>1	>1	>1
CZ05-2	SCG	2.9	1.9	1.7	1.1	2.4	1.6	2.0	1.5	>1	>1	>1	>1	>1	>1	>1	>1
CZ06	SCE	1.8	1.9	1.1	1.1	1.1	1.6	0.9	1.4	>1	>1	>1	>1	>1	>1	>1	>1
CZ06-2	LA	1.1	1.9	0.7	1.1	0.7	1.6	0.6	1.4	>1	>1	>1	>1	>1	>1	>1	>1
CZ07	SDG&E	2.6	2.0	1.5	1.1	1.4	1.6	1.3	1.5	>1	>1	>1	>1	>1	>1	>1	>1
CZ08	SCE	1.9	2.0	1.1	1.2	1.2	1.7	1.0	1.5	>1	>1	>1	>1	>1	>1	>1	>1
CZ08-2	LA	1.2	2.0	0.7	1.2	0.7	1.7	0.6	1.5	>1	>1	>1	>1	>1	>1	>1	>1
CZ09	SCE	1.9	1.9	1.1	1.1	1.2	1.6	0.997	1.4	>1	>1	>1	>1	>1	>1	>1	>1
CZ09-2	LA	1.1	1.9	0.7	1.1	0.7	1.6	0.6	1.4	>1	>1	>1	>1	>1	>1	>1	>1
CZ10	SDG&E	2.9	1.9	1.7	1.1	1.5	1.6	1.4	1.4	8.2	>1	8.2	>1	>1	>1	>1	>1
CZ10-2	SCE	1.7	1.9	0.99	1.1	1.2	1.6	0.99	1.4	>1	>1	>1	>1	>1	>1	>1	>1
CZ11	PG&E	2.6	1.9	1.5	1.1	1.8	1.6	1.5	1.4	7.6	>1	7.6	>1	>1	>1	>1	>1
CZ12	PG&E	2.7	1.9	1.6	1.1	2.3	1.6	1.9	1.4	4.0	>1	4.0	>1	>1	>1	>1	>1
CZ12-2	SMUD	1.4	1.9	0.8	1.1	1.1	1.6	0.95	1.4	>1	>1	>1	>1	>1	>1	>1	>1
CZ13	PG&E	2.6	1.8	1.5	1.1	1.8	1.5	1.5	1.4	7.7	>1	7.7	>1	>1	>1	>1	>1
CZ14	SDG&E	3.0	2.2	1.7	1.3	1.7	1.8	1.5	1.6	4.2	>1	4.2	>1	>1	>1	>1	>1
CZ14-2	SCE	1.8	2.2	1.1	1.3	1.3	1.8	1.1	1.6	>1	>1	>1	>1	>1	>1	>1	>1
CZ15	SCE	1.7	2.0	1.002	1.2	1.2	1.7	1.003	1.4	>1	>1	>1	>1	>1	>1	>1	>1
CZ16	PG&E	2.7	2.0	1.6	1.2	1.9	1.6	1.7	1.5	2.1	5.7	2.1	5.6	5.8	>1	5.8	>1
CZ16-2	LA	1.02	2.0	0.6	1.2	0.6	1.6	0.6	1.5	>1	5.7	>1	5.6	>1	>1	>1	>1



5 Summary, Conclusions, and Further Considerations

The Reach Codes Team developed packages of energy efficiency measures as well as packages combining energy efficiency with PV generation and battery storage systems, simulated them in building modeling software, and gathered costs to determine the cost effectiveness of multiple scenarios. The Reach Codes team coordinated assumptions with multiple utilities, cities, and building community experts to develop a set of assumptions considered reasonable in the current market. Changing assumptions, such as the period of analysis, measure selection, cost assumptions, energy escalation rates, or utility tariffs are likely to change results.

5.1 Summary

Figure 41 through Figure 43 summarize results for each prototype and depict the compliance margins achieved for each climate zone and package. Because local reach codes must both exceed the Energy Commission performance budget (i.e., have a positive compliance margin) and be cost-effective, the Reach Code Team highlighted cells meeting these two requirements to help clarify the upper boundary for potential reach code policies:

- ◆ Cells highlighted in green depict a positive compliance margin and cost-effective results using both On-Bill and TDV approaches.
- ◆ Cells highlighted in yellow depict a positive compliance and cost-effective results using either the On-Bill or TDV approach.
- ◆ Cells not highlighted either depict a negative compliance margin or a package that was not cost effective using either the On-Bill or TDV approach.

For more detail on the results in the Figures, please refer to *Section 4 Results*. As described in Section 4.4, PV-only and PV+Battery packages in the mixed-fuel building were found to be cost effective across all prototypes, climate zones, and packages using the TDV approach, and results are not reiterated in the following figures.



Figure 41. Medium Office Summary of Compliance Margin and Cost Effectiveness

CZ	Utility	Mixed Fuel			All Electric			
		EE	EE + PV + B	HE	Fed Code	EE	EE + PV + B	HE
CZ01	PG&E	18%	18%	3%	-15%	7%	7%	-14%
CZ02	PG&E	17%	17%	4%	-7%	10%	10%	-5%
CZ03	PG&E	20%	20%	3%	-7%	16%	16%	-6%
CZ04	PG&E	14%	14%	5%	-6%	9%	9%	-3%
CZ04-2	CPAU	14%	14%	5%	-6%	9%	9%	-3%
CZ05	PG&E	18%	18%	4%	-8%	12%	12%	-6%
CZ05-2	SCG	18%	18%	4%	NA	NA	NA	NA
CZ06	SCE	20%	20%	3%	-4%	18%	18%	-2%
CZ06-2	LADWP	20%	20%	3%	-4%	18%	18%	-2%
CZ07	SDG&E	20%	20%	4%	-2%	20%	20%	1%
CZ08	SCE	18%	18%	4%	-2%	18%	18%	1%
CZ08-2	LADWP	18%	18%	4%	-2%	18%	18%	1%
CZ09	SCE	16%	16%	4%	-2%	15%	15%	2%
CZ09-2	LADWP	16%	16%	4%	-2%	15%	15%	2%
CZ10	SDG&E	17%	17%	4%	-4%	13%	13%	-1%
CZ10-2	SCE	17%	17%	4%	-4%	13%	13%	-1%
CZ11	PG&E	13%	13%	5%	-4%	10%	10%	0%
CZ12	PG&E	14%	14%	5%	-5%	10%	10%	-1%
CZ12-2	SMUD	14%	14%	5%	-5%	10%	10%	-1%
CZ13	PG&E	13%	13%	5%	-4%	9%	9%	0%
CZ14	SDG&E	14%	14%	5%	-5%	9%	9%	-1%
CZ14-2	SCE	14%	14%	5%	-5%	9%	9%	-1%
CZ15	SCE	12%	12%	5%	-2%	10%	10%	3%
CZ16	PG&E	14%	14%	5%	-27%	-15%	-15%	-26%
CZ16-2	LADWP	14%	14%	5%	-27%	-15%	-15%	-26%



Figure 42. Medium Retail Summary of Compliance Margin and Cost Effectiveness

CZ	Utility	Mixed Fuel			All Electric			
		EE	EE + PV + B	HE	Fed Code	EE	EE + PV + B	HE
CZ01	PG&E	18%	18%	2%	-4.1%	15%	15%	-2%
CZ02	PG&E	13%	13%	3%	-1.0%	13%	13%	3%
CZ03	PG&E	16%	16%	2%	-0.4%	16%	16%	2%
CZ04	PG&E	14%	14%	3%	-0.1%	14%	14%	3%
CZ04-2	CPAU	14%	14%	3%	-0.1%	14%	14%	3%
CZ05	PG&E	16%	16%	1%	-1.2%	15%	15%	1%
CZ05-2	SCG	16%	16%	1%	NA	NA	NA	NA
CZ06	SCE	10%	10%	3%	0.5%	11%	11%	3%
CZ06-2	LADWP	10%	10%	3%	0.5%	11%	11%	3%
CZ07	SDG&E	13%	13%	2%	0.3%	13%	13%	3%
CZ08	SCE	10%	10%	3%	0.4%	10%	10%	4%
CZ08-2	LADWP	10%	10%	3%	0.4%	10%	10%	4%
CZ09	SCE	10%	10%	4%	0.4%	10%	10%	4%
CZ09-2	LADWP	10%	10%	4%	0.4%	10%	10%	4%
CZ10	SDG&E	12%	12%	4%	0.1%	12%	12%	4%
CZ10-2	SCE	12%	12%	4%	0.1%	12%	12%	4%
CZ11	PG&E	13%	13%	4%	0.5%	12%	12%	5%
CZ12	PG&E	13%	13%	4%	-0.1%	12%	12%	4%
CZ12-2	SMUD	13%	13%	4%	-0.1%	12%	12%	4%
CZ13	PG&E	15%	15%	4%	-0.4%	14%	14%	4%
CZ14	SDG&E	13%	13%	4%	0.7%	15%	15%	5%
CZ14-2	SCE	13%	13%	4%	0.7%	15%	15%	5%
CZ15	SCE	12%	12%	5%	0.9%	12%	12%	6%
CZ16	PG&E	13%	13%	3%	-12.2%	3%	3%	-8%
CZ16-2	LADWP	13%	13%	3%	-12.2%	3%	3%	-8%



Figure 43. Small Hotel Summary of Compliance Margin and Cost Effectiveness

CZ	Utility	Mixed Fuel			All Electric			
		EE	EE + PV + B	HE	Fed Code	EE	EE + PV + B	HE
CZ01	PG&E	9%	9%	2%	-28%	1%	1%	-24%
CZ02	PG&E	7%	7%	3%	-12%	4%	4%	-11%
CZ03	PG&E	10%	10%	2%	-14%	6%	6%	-14%
CZ04	PG&E	6%	6%	2%	-13%	0.2%	0.2%	-13%
CZ04-2	CPAU	6%	6%	2%	-13%	0.2%	0.2%	-13%
CZ05	PG&E	9%	9%	2%	-15%	5%	5%	-15%
CZ05-2	SCG	9%	9%	2%	NA	NA	NA	NA
CZ06	SCE	8%	8%	2%	-5%	7%	7%	-15%
CZ06-2	LADWP	8%	8%	2%	-5%	7%	7%	-15%
CZ07	SDG&E	8%	8%	2%	-7%	7%	7%	-7%
CZ08	SCE	7%	7%	2%	-6%	3%	3%	-6%
CZ08-2	LADWP	7%	7%	2%	-6%	3%	3%	-6%
CZ09	SCE	6%	6%	3%	-6%	2%	2%	-4%
CZ09-2	LADWP	6%	6%	3%	-6%	2%	2%	-4%
CZ10	SDG&E	5%	5%	4%	-8%	2%	2%	-5%
CZ10-2	SCE	5%	5%	4%	-8%	2%	2%	-5%
CZ11	PG&E	4%	4%	4%	-10%	1%	1%	-7%
CZ12	PG&E	5%	5%	4%	-10%	2%	2%	-9%
CZ12-2	SMUD	5%	5%	4%	-10%	2%	2%	-9%
CZ13	PG&E	4%	4%	3%	-10%	0.3%	0.3%	-7%
CZ14	SDG&E	4%	4%	4%	-11%	0.1%	0.1%	-7%
CZ14-2	SCE	4%	4%	4%	-11%	0.1%	0.1%	-7%
CZ15	SCE	3%	3%	5%	-4%	2%	2%	0.04%
CZ16	PG&E	6%	6%	3%	-50%	-14%	-14%	-39%
CZ16-2	LADWP	6%	6%	3%	-50%	-14%	-14%	-39%

5.2 Conclusions and Further Considerations

Findings are specific to the scenarios analyzed under this specific methodology, and largely pertain to office, retail, and hotel-type occupancies. Nonresidential buildings constitute a wide variety of occupancy profiles and process loads, making findings challenging to generalize across multiple building types.

Findings indicate the following overall conclusions:

1. This study assumed that electrifying space heating and service water heating could eliminate natural gas infrastructure alone, because these were the only gas end-uses included the prototypes. Avoiding the installation of natural gas infrastructure results in significant cost savings and is a primary factor toward cost-effective outcomes in all-electric designs, even with necessary increases in electrical capacity.
2. There is ample opportunity for cost effective energy efficiency improvements, as demonstrated by the compliance margins achieved in many of the efficiency-only and efficiency + PV packages. Though much of the energy savings are attributable to lighting measures, efficiency measures selected for these prototypes are confined to the building systems that can be modeled. There is



likely further opportunity for energy savings through measures that cannot be currently demonstrated in compliance software, such as high-performance control sequences or variable speed parallel fan powered boxes.

3. High efficiency appliances triggering federal preemption do not achieve as high compliance margins as the other efficiency measures analyzed in this study. Cost effectiveness appears to be dependent on the system type and building type. Nonetheless, specifying high efficiency equipment will always be a key feature in integrated design.
4. Regarding the Small Hotel prototype:
 - a. The Small Hotel presents a challenging prototype to cost-effectively exceed the state's energy performance budget without efficiency measures. The Reach Code Team is uncertain of the precision of the results due to the inability to directly model either drain water heat recovery or a central heat pump water heater with a recirculation loop.
 - b. Hotel results may be applicable to high-rise (4 or more stories) multifamily buildings. Both hotel and multifamily buildings have the same or similar mandatory and prescriptive compliance options for hot water systems, lighting, and envelope. Furthermore, the Alternate Calculation Method Reference Manual specifies the same baseline HVAC system for both building types.
 - c. Hotel compliance margins were the lowest among the three building types analyzed, and thus the most conservative performance thresholds applicable to other nonresidential buildings not analyzed in this study. As stated previously, the varying occupancy and energy profiles of nonresidential buildings makes challenging to directly apply these results across all buildings.
5. Many all-electric and solar PV packages demonstrated greater GHG reductions than their mixed-fuel counterparts, contrary to TDV-based performance, suggesting a misalignment among the TDV metric and California's long-term GHG-reduction goals. The Energy Commission has indicated that they are aware of this issue and are seeking to address it.
6. Changes to the Nonresidential Alternative Calculation Method (ACM) Reference Manual can drastically impact results. Two examples include:
 - a. When performance modeling residential buildings, the Standard Design is electric if the Proposed Design is electric, which removes TDV-related penalties and associated negative compliance margins. This essentially allows for a compliance pathway for all-electric residential buildings. If nonresidential buildings were treated in the same way, all-electric cost effectiveness using the TDV approach would improve.
 - b. The baseline mixed-fuel system for a hotel includes a furnace in each guest room, which carries substantial plumbing costs and labor costs for assembly. A change in the baseline system would lead to different base case costs and different cost effectiveness outcomes.
7. All-electric federal code-minimum packages appear to be cost effective, largely due to avoided natural gas infrastructure, but in most cases do not comply with the Energy Commission's minimum performance budget (as described in item 7a above). For most cases it appears that adding cost-effective efficiency measures achieves compliance. All-electric nonresidential projects can leverage the initial cost savings of avoiding natural gas infrastructure by adding energy efficiency measures that would not be cost effective independently.



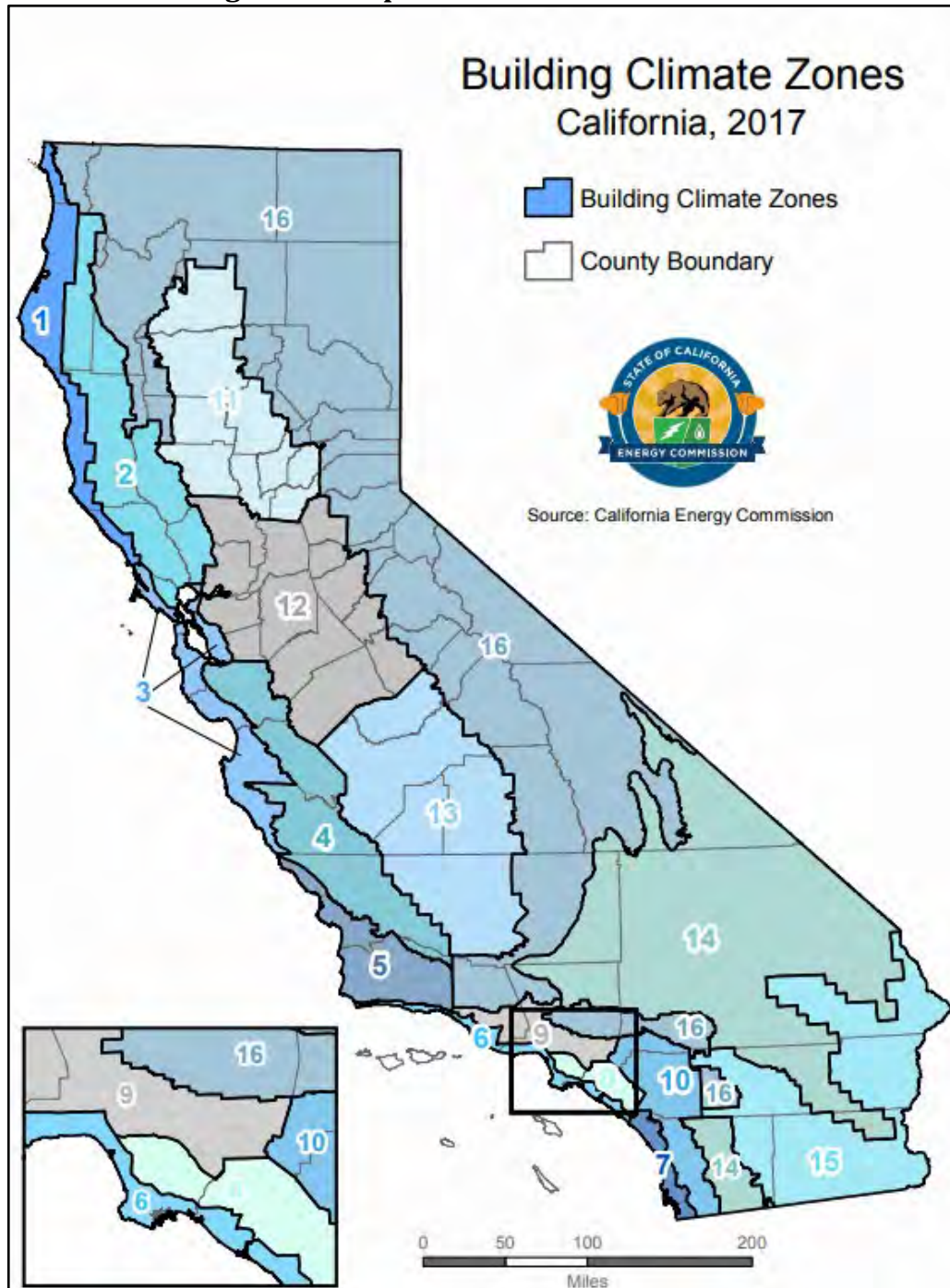
6 Appendices

6.1 Map of California Climate Zones

Climate zone geographical boundaries are depicted in Figure 44. The map in Figure 44 along with a zip-code search directory is available at:

https://ww2.energy.ca.gov/maps/renewable/building_climate_zones.html

Figure 44. Map of California Climate Zones



6.2 Lighting Efficiency Measures

Figure 45 details the applicability and impact of each lighting efficiency measure by prototype and space function and includes the resulting LPD that is modeled as the proposed by building type and by space function.

Figure 45. Impact of Lighting Measures on Proposed LPDs by Space Function

Space Function	Baseline	Impact				Modeled Proposed
	LPD (W/ft ²)	Interior Lighting Reduced LPD	Institutional Tuning	Daylight Dimming Plus OFF	Occupant Sensing in Open Office Plan	LPD (W/ft ²)
Medium Office						
Office Area (Open plan office) - Interior	0.65	15%	10%	-	17%	0.429
Office Area (Open plan office) - Perimeter	0.65	15%	5%	10%	30%	0.368
Medium Retail						
Commercial/Industrial Storage (Warehouse)	0.45	10%	5%	-	-	0.386
Main Entry Lobby	0.85	10%	5%	-	-	0.729
Retail Sales Area (Retail Merchandise Sales)	0.95	5%	5%	-	-	0.857
Small Hotel						
Commercial/Industrial Storage (Warehouse)	0.45	10%	5%	-	-	0.386
Convention, Conference, Multipurpose, and Meeting	0.85	10%	5%	-	-	0.729
Corridor Area	0.60	10%	5%	-	-	0.514
Exercise/Fitness Center and Gymnasium Areas	0.50	10%	-	-	-	0.450
Laundry Area	0.45	10%	-	-	-	0.405
Lounge, Breakroom, or Waiting Area	0.65	10%	5%	-	-	0.557
Mechanical	0.40	10%	-	-	-	0.360
Office Area (>250 ft ²)	0.65	10%	5%	-	-	0.557

6.3 Drain Water Heat Recovery Measure Analysis

To support potential DWHR savings in the Small Hotel prototype, the Reach Code Team modeled the drain water heat recovery measure in CBECC-Res 2019 in the all-electric and mixed fuel 6,960 ft² prototype residential buildings. The Reach Code Team assumed one heat recovery device for every three showers assuming unequal flow to the shower. Based on specifications from three different drain water heat recovery device manufacturers for device effectiveness in hotel applications, the team assumed a heat recovery efficiency of 50 percent.

The Reach Code Team modeled mixed fuel and all-electric residential prototype buildings both with and without heat recovery in each climate zone. Based on these model results, the Reach Code Team determined the percentage savings of domestic water heating energy in terms of gas, electricity, and TDV for mixed fuel and all-electric, in each climate zone. The Reach Code Team then applied the savings



percentages to the Small Hotel prototype domestic water heating energy in both the mixed-fuel and all-electric to determine energy savings for the drain water heat recovery measure in the Small Hotel. The Reach Code Team applied volumetric energy rates to estimate on-bill cost impacts from this measure.

6.4 Utility Rate Schedules

The Reach Codes Team used the IOU and POU rates depicted in Figure 46 to determine the On-Bill savings for each prototype.

Figure 46. Utility Tariffs Analyzed Based on Climate Zone – Detailed View

Climate Zones	Electric / Gas Utility	Electricity (Time-of-use)			Natural Gas
		Medium Office	Medium Retail	Small Hotel	All Prototypes
CZ01	PG&E	A-10	A-1	A-1 or A-10	G-NR1
CZ02	PG&E	A-10	A-10	A-1 or A-10	G-NR1
CZ03	PG&E	A-10	A-1 or A-10	A-1 or A-10	G-NR1
CZ04	PG&E	A-10	A-10	A-1 or A-10	G-NR1
CZ04-2	CPAU/PG&E	E-2	E-2	E-2	G-NR1
CZ05	PG&E	A-10	A-1	A-1 or A-10	G-NR1
CZ05-2	PG&E/SCG	A-10	A-1	A-1 or A-10	G-10 (GN-10)
CZ06	SCE/SCG	TOU-GS-2	TOU-GS-2	TOU-GS-2 or TOU-GS-3	G-10 (GN-10)
CZ06	LADWP/SCG	TOU-GS-2	TOU-GS-2	TOU-GS-2 or TOU-GS-3	G-10 (GN-10)
CZ07	SDG&E	AL-TOU+EECC (AL-TOU)	AL-TOU+EECC (AL-TOU)	AL-TOU+EECC (AL-TOU)	GN-3
CZ08	SCE/SCG	TOU-GS-2	TOU-GS-2	TOU-GS-2 or TOU-GS-3	G-10 (GN-10)
CZ08-2	LADWP/SCG	A-2 (B)	A-2 (B)	A-2 (B)	G-10 (GN-10)
CZ09	SCE/SCG	TOU-GS-2	TOU-GS-2	TOU-GS-2 or TOU-GS-3	G-10 (GN-10)
CZ09-2	LADWP/SCG	A-2 (B)	A-2 (B)	A-2 (B)	G-10 (GN-10)
CZ10	SCE/SCG	TOU-GS-2	TOU-GS-2	TOU-GS-2	G-10 (GN-10)
CZ10-2	SDG&E	AL-TOU+EECC (AL-TOU)	AL-TOU+EECC (AL-TOU)	AL-TOU+EECC (AL-TOU)	GN-3
CZ11	PG&E	A-10	A-10	A-10	G-NR1
CZ12	PG&E	A-10	A-10	A-1 or A-10	G-NR1
CZ12-2	SMUD/PG&E	GS	GS	GS	G-NR1
CZ13	PG&E	A-10	A-10	A-10	G-NR1
CZ14	SCE/SCG	TOU-GS-3	TOU-GS-3	TOU-GS-3	G-10 (GN-10)
CZ14-2	SDG&E	AL-TOU+EECC (AL-TOU)	AL-TOU+EECC (AL-TOU)	AL-TOU+EECC (AL-TOU)	GN-3
CZ15	SCE/SCG	TOU-GS-3	TOU-GS-2	TOU-GS-2	G-10 (GN-10)
CZ16	PG&E	A-10	A-10	A-1 or A-10	G-NR1
CZ16-2	LADWP/SCG	A-2 (B)	A-2 (B)	A-2 (B)	G-10 (GN-10)



6.5 Mixed Fuel Baseline Energy Figures

Figures 47 to 49 show the annual electricity and natural gas consumption and cost, compliance TDV, and GHG emissions for each prototype under the mixed fuel design baseline.

Figure 47. Medium Office – Mixed Fuel Baseline

Climate Zone	Utility	Electricity Consumption (kWh)	Natural Gas Consumption (Therms)	Electricity Cost	Natural Gas Cost	Compliance TDV	GHG Emissions (lbs)
Medium Office Mixed Fuel Baseline							
CZ01	PG&E	358,455	4,967	\$109,507	\$6,506	84	266,893
CZ02	PG&E	404,865	3,868	\$130,575	\$5,256	122	282,762
CZ03	PG&E	370,147	3,142	\$116,478	\$4,349	88	251,759
CZ04	PG&E	431,722	3,759	\$140,916	\$5,144	141	299,993
CZ04-2	CPAU	431,722	3,759	\$75,363	\$5,144	141	299,993
CZ05	PG&E	400,750	3,240	\$131,277	\$4,481	106	269,768
CZ05-2	SCG	400,750	3,240	\$131,277	\$3,683	106	269,768
CZ06	SCE	397,441	2,117	\$74,516	\$2,718	105	253,571
CZ06-2	LA	397,441	2,117	\$44,311	\$2,718	105	253,571
CZ07	SDG&E	422,130	950	\$164,991	\$4,429	118	257,324
CZ08	SCE	431,207	1,219	\$79,181	\$1,820	132	265,179
CZ08-2	LA	431,207	1,219	\$46,750	\$1,820	132	265,179
CZ09	SCE	456,487	1,605	\$86,190	\$2,196	155	287,269
CZ09-2	LA	456,487	1,605	\$51,111	\$2,196	155	287,269
CZ10	SDG&E	431,337	2,053	\$173,713	\$5,390	130	272,289
CZ10-2	SCE	431,337	2,053	\$80,636	\$2,603	130	272,289
CZ11	PG&E	464,676	3,062	\$150,520	\$4,333	163	310,307
CZ12	PG&E	441,720	3,327	\$142,902	\$4,647	152	299,824
CZ12-2	SMUD	441,720	3,327	\$65,707	\$4,647	152	299,824
CZ13	PG&E	471,540	3,063	\$150,919	\$4,345	161	316,228
CZ14	SDG&E	467,320	3,266	\$185,812	\$6,448	165	314,258
CZ14-2	SCE	467,320	3,266	\$92,071	\$3,579	165	314,258
CZ15	SCE	559,655	1,537	\$105,388	\$2,058	211	347,545
CZ16	PG&E	405,269	6,185	\$127,201	\$8,056	116	312,684
CZ16-2	LA	405,269	6,185	\$43,115	\$8,056	116	312,684



Figure 48. Medium Retail – Mixed Fuel Baseline

Climate Zone	Utility	Electricity Consumption (kWh)	Natural Gas Consumption (Therms)	Electricity Cost	Natural Gas Cost	Compliance TDV	GHG Emissions (lbs)
Medium Retail Mixed Fuel Baseline							
CZ01	PG&E	184,234	3,893	\$43,188	\$5,247	155	156,972
CZ02	PG&E	214,022	2,448	\$70,420	\$3,572	202	157,236
CZ03	PG&E	199,827	1,868	\$47,032	\$2,871	165	140,558
CZ04	PG&E	208,704	1,706	\$66,980	\$2,681	187	143,966
CZ04-2	CPAU	208,704	1,706	\$36,037	\$2,681	187	143,966
CZ05	PG&E	195,864	1,746	\$45,983	\$2,697	155	135,849
CZ05-2	SCG	195,864	1,746	\$45,983	\$2,342	155	135,849
CZ06	SCE	211,123	1,002	\$36,585	\$1,591	183	135,557
CZ06-2	LA	211,123	1,002	\$21,341	\$1,591	183	135,557
CZ07	SDG&E	211,808	522	\$75,486	\$4,055	178	130,436
CZ08	SCE	212,141	793	\$36,758	\$1,373	190	133,999
CZ08-2	LA	212,141	793	\$21,436	\$1,373	190	133,999
CZ09	SCE	227,340	970	\$40,083	\$1,560	218	146,680
CZ09-2	LA	227,340	970	\$23,487	\$1,560	218	146,680
CZ10	SDG&E	235,465	1,262	\$87,730	\$4,700	228	154,572
CZ10-2	SCE	235,465	1,262	\$41,000	\$1,853	228	154,572
CZ11	PG&E	234,560	2,415	\$76,670	\$3,547	244	170,232
CZ12	PG&E	228,958	2,309	\$75,084	\$3,426	234	165,133
CZ12-2	SMUD	228,958	2,309	\$32,300	\$3,426	234	165,133
CZ13	PG&E	242,927	1,983	\$81,995	\$3,034	258	170,345
CZ14	SDG&E	264,589	1,672	\$97,581	\$5,059	277	178,507
CZ14-2	SCE	264,589	1,672	\$46,217	\$2,172	277	178,507
CZ15	SCE	290,060	518	\$50,299	\$1,083	300	179,423
CZ16	PG&E	212,204	4,304	\$67,684	\$5,815	197	180,630
CZ16-2	LA	212,204	4,304	\$20,783	\$5,815	197	180,630



Figure 49. Small Hotel – Mixed Fuel Baseline

Climate Zone	Utility	Electricity Consumption (kWh)	Natural Gas Consumption (Therms)	Electricity Cost	Natural Gas Cost	Compliance TDV	GHG Emissions (lbs)
Small Hotel Mixed Fuel Baseline							
CZ01	PG&E	177,734	16,936	40,778	20,465	110	340,491
CZ02	PG&E	189,319	12,696	53,396	15,664	110	293,056
CZ03	PG&E	183,772	12,341	42,325	15,210	98	284,217
CZ04	PG&E	187,482	11,945	52,118	14,806	106	281,851
CZ04-2	CPAU	187,482	11,945	32,176	14,806	106	281,851
CZ05	PG&E	187,150	11,979	43,182	14,733	98	281,183
CZ05-2	SCG	187,150	11,979	43,182	10,869	98	281,183
CZ06	SCE	191,764	8,931	28,036	8,437	98	244,664
CZ06-2	LA	191,764	8,931	16,636	8,437	98	244,664
CZ07	SDG&E	189,174	8,207	58,203	10,752	90	233,884
CZ08	SCE	190,503	8,372	27,823	7,991	94	236,544
CZ08-2	LA	190,503	8,372	16,555	7,991	94	236,544
CZ09	SCE	198,204	8,421	30,262	8,030	103	242,296
CZ09-2	LA	198,204	8,421	17,951	8,030	103	242,296
CZ10	SDG&E	215,364	8,437	71,713	10,926	122	255,622
CZ10-2	SCE	215,364	8,437	33,736	8,043	122	255,622
CZ11	PG&E	219,852	10,271	63,724	12,882	131	282,232
CZ12	PG&E	199,499	10,422	46,245	13,022	115	270,262
CZ12-2	SMUD	199,499	10,422	26,872	13,022	115	270,262
CZ13	PG&E	226,925	10,048	65,559	12,629	132	284,007
CZ14	SDG&E	226,104	10,075	73,621	12,167	134	283,287
CZ14-2	SCE	226,104	10,075	35,187	9,350	134	283,287
CZ15	SCE	280,595	5,598	42,852	5,777	152	260,378
CZ16	PG&E	191,231	17,618	51,644	21,581	127	358,590
CZ16-2	LA	191,231	17,618	16,029	21,581	127	358,590

6.6 Hotel TDV Cost Effectiveness with Propane Baseline

The Reach Codes Team further analyzed TDV cost effectiveness of the all-electric packages with a mixed-fuel design baseline using propane instead of natural gas. Results for each package are shown in Figure 50. through Figure 53. below.

All electric models compared to a propane baseline have positive compliance margins in all climate zones when compared to results using a natural gas baseline. Compliance margin improvement is roughly 30 percent, which also leads to improved cost effectiveness for the all-electric packages. These outcomes are likely due to the TDV penalty associated with propane when compared to natural gas.



Across packages, TDV cost effectiveness with a propane baseline follows similar trends as the natural gas baseline. Adding efficiency measures increased compliance margins by 3 to 10 percent depending on climate zone, while adding high efficiency HVAC and SHW equipment alone increased compliance margins by smaller margins of about 2 to 4 percent compared to the All-Electric package.

Figure 50. TDV Cost Effectiveness for Small Hotel, Propane Baseline – Package 2 All-Electric Federal Code Minimum

Climate Zone	Compliance Margin (%)	Incremental Package Cost	\$-TDV Savings	B/C Ratio (TDV)	NPV (TDV)
CZ01	-4%	(\$1,271,869)	(\$28,346)	44.9	\$1,243,523
CZ02	27%	(\$1,272,841)	\$170,263	>1	\$1,443,104
CZ03	-3%	(\$1,275,114)	(\$16,425)	77.6	\$1,258,689
CZ04	26%	(\$1,274,949)	\$155,466	>1	\$1,430,414
CZ05	27%	(\$1,275,002)	\$154,709	>1	\$1,429,710
CZ06	17%	(\$1,275,143)	\$126,212	>1	\$1,401,355
CZ07	25%	(\$1,273,490)	\$117,621	>1	\$1,391,111
CZ08	24%	(\$1,271,461)	\$122,087	>1	\$1,393,548
CZ09	23%	(\$1,273,259)	\$123,525	>1	\$1,396,784
CZ10	18%	(\$1,270,261)	\$109,522	>1	\$1,379,783
CZ11	19%	(\$1,271,070)	\$129,428	>1	\$1,400,498
CZ12	-4%	(\$1,272,510)	(\$26,302)	48.4	\$1,246,208
CZ13	18%	(\$1,270,882)	\$124,357	>1	\$1,395,239
CZ14	17%	(\$1,271,241)	\$117,621	>1	\$1,388,861
CZ15	-7%	(\$1,269,361)	(\$45,338)	28.0	\$1,224,023
CZ16	9%	(\$1,275,637)	\$68,272	>1	\$1,343,908



Figure 51. TDV Cost Effectiveness for Small Hotel, Propane Baseline – Package 3A (All-Electric + EE)

Climate Zone	Compliance Margin (%)	Incremental Package Cost	-\$-TDV Savings	B/C Ratio (TDV)	NPV (TDV)
CZ01	35%	(\$1,250,898)	\$252,831	>1	\$1,503,729
CZ02	34%	(\$1,251,870)	\$217,238	>1	\$1,469,108
CZ03	37%	(\$1,254,142)	\$218,642	>1	\$1,472,784
CZ04	31%	(\$1,250,769)	\$191,393	>1	\$1,442,162
CZ05	36%	(\$1,254,031)	\$208,773	>1	\$1,462,804
CZ06	25%	(\$1,250,964)	\$159,714	>1	\$1,410,677
CZ07	32%	(\$1,249,311)	\$154,111	>1	\$1,403,422
CZ08	29%	(\$1,247,282)	\$146,536	>1	\$1,393,818
CZ09	27%	(\$1,249,080)	\$146,671	>1	\$1,395,751
CZ10	22%	(\$1,246,081)	\$134,477	>1	\$1,380,559
CZ11	23%	(\$1,246,891)	\$157,138	>1	\$1,404,029
CZ12	27%	(\$1,248,330)	\$167,945	>1	\$1,416,276
CZ13	22%	(\$1,246,703)	\$149,270	>1	\$1,395,973
CZ14	21%	(\$1,247,061)	\$145,269	>1	\$1,392,331
CZ15	14%	(\$1,245,182)	\$93,647	>1	\$1,338,829
CZ16	20%	(\$1,254,665)	\$154,035	>1	\$1,408,701

Figure 52. TDV Cost Effectiveness for Small Hotel, Propane Baseline – Package 3B (All-Electric + EE + PV)

Climate Zone	Compliance Margin (%)	Incremental Package Cost	-\$-TDV Savings	B/C Ratio (TDV)	NPV (TDV)
CZ01	35%	(\$1,043,528)	\$511,688	>1	\$1,555,215
CZ02	34%	(\$1,044,500)	\$524,460	>1	\$1,568,960
CZ03	37%	(\$1,046,772)	\$518,485	>1	\$1,565,257
CZ04	31%	(\$1,043,399)	\$505,579	>1	\$1,548,978
CZ05	36%	(\$1,046,660)	\$526,668	>1	\$1,573,328
CZ06	25%	(\$1,043,594)	\$469,623	>1	\$1,513,216
CZ07	32%	(\$1,041,941)	\$471,513	>1	\$1,513,454
CZ08	29%	(\$1,039,912)	\$475,973	>1	\$1,515,885
CZ09	27%	(\$1,041,710)	\$467,971	>1	\$1,509,681
CZ10	22%	(\$1,038,711)	\$454,832	>1	\$1,493,543
CZ11	23%	(\$1,039,521)	\$474,844	>1	\$1,514,364
CZ12	27%	(\$1,040,960)	\$484,667	>1	\$1,525,627
CZ13	22%	(\$1,039,333)	\$454,108	>1	\$1,493,441
CZ14	21%	(\$1,039,691)	\$505,398	>1	\$1,545,090
CZ15	14%	(\$1,037,811)	\$423,879	>1	\$1,461,691
CZ16	20%	(\$1,047,295)	\$480,407	>1	\$1,527,702



Figure 53. TDV Cost Effectiveness for Small Hotel, Propane Baseline – Package 3C (All Electric + HE)

Climate Zone	Compliance Margin (%)	Incremental Package Cost	-\$TDV Savings	B/C Ratio (TDV)	NPV (TDV)
CZ01	27%	(\$1,256,423)	\$194,975	>1	\$1,451,398
CZ02	28%	(\$1,258,328)	\$177,378	>1	\$1,435,706
CZ03	28%	(\$1,263,867)	\$164,094	>1	\$1,427,961
CZ04	26%	(\$1,262,963)	\$155,314	>1	\$1,418,277
CZ05	26%	(\$1,263,327)	\$153,271	>1	\$1,416,598
CZ06	17%	(\$1,263,779)	\$122,011	>1	\$1,385,790
CZ07	24%	(\$1,260,844)	\$116,751	>1	\$1,377,594
CZ08	25%	(\$1,256,326)	\$122,995	>1	\$1,379,321
CZ09	24%	(\$1,260,223)	\$128,482	>1	\$1,388,706
CZ10	20%	(\$1,253,181)	\$121,595	>1	\$1,374,776
CZ11	21%	(\$1,254,613)	\$143,658	>1	\$1,398,271
CZ12	23%	(\$1,257,919)	\$142,901	>1	\$1,400,820
CZ13	21%	(\$1,254,386)	\$138,625	>1	\$1,393,011
CZ14	20%	(\$1,254,978)	\$136,430	>1	\$1,391,407
CZ15	14%	(\$1,251,932)	\$96,087	>1	\$1,348,019
CZ16	15%	(\$1,263,534)	\$122,011	>1	\$1,385,545



6.7 PV-only and PV+Battery-only Cost Effectiveness Results Details

The Reach Code Tea evaluated cost effectiveness of installing a PV system and battery storage in six different measure combinations over a 2019 code-compliant baseline for all climate zones. The baseline for all nonresidential buildings is a mixed-fuel design.

All mixed fuel models are compliant with 2019 Title24, whereas all electric models can show negative compliance. The compliance margin is the same as that of their respective federal minimum design and is not affected by addition of solar PV or battery. These scenarios evaluate the cost effectiveness of PV and/or battery measure individually. The climate zones where all-electric design is not compliant will have the flexibility to ramp up the efficiency of appliance or add another measure to be code compliant, as per package 1B and 3B in main body of the report. The large negative lifecycle costs in all electric packages are due to lower all-electric HVAC system costs and avoided natural gas infrastructure costs. This is commonly applied across all climate zones and packages over any additional costs for PV and battery.

6.7.1 Cost Effectiveness Results – Medium Office

Figure 54 through Figure 61 contain the cost-effectiveness findings for the Medium Office packages. Notable findings for each package include:

- ◆ **Mixed-Fuel + 3 kW PV Only:** All packages are cost effective using the On-Bill and TDV approaches.
- ◆ **Mixed-Fuel + 3 kW PV + 5 kWh Battery:** The packages are mostly cost effective on a TDV basis except in CZ1. As compared to the 3 kW PV only package, battery reduces cost effectiveness. This package is not cost effective for LADWP and SMUD territories using an On-Bill approach.
- ◆ **Mixed-Fuel + PV only:** The packages are less cost effective as compared to 3 kW PV packages in most climate zones. In areas served by LADWP, the B/C ratio is narrowly less than 1 and not cost effective.
- ◆ **Mixed-Fuel + PV + 50 kWh Battery:** The packages are cost effective in all climate zones except for in the areas served by LADWP. On-Bill and TDV B/C ratios are slightly lower compared to the PV only package.
- ◆ **All-Electric + 3 kW PV:** Packages are on-bill cost effective in ten of sixteen climate zones. Climate zones 1,2,4,12, and 16 were not found to be cost-effective from an on-bill perspective. These zones are within PG&E’s service area. Packages are cost effective using TDV in all climate zones except CZ16.
- ◆ **All-Electric + 3 kW PV + 5 kWh Battery:** Packages are slightly more cost effective than the previous minimal PV only package. Packages are on-bill cost effective in most climate zones except for 1,2 and 16 from an on-bill perspective. These zones are within PG&E’s service area. Packages are cost effective using TDV in all climate zones except CZ16.
- ◆ **All-Electric + PV only:** All packages are cost effective and achieve savings using the On-Bill and TDV approaches.



- ◆ **All-Electric + PV + 50 kWh Battery:** All packages are cost effective and achieve savings using the On-Bill and TDV approaches. On-Bill and TDV B/C ratios are slightly lower compared to the PV only package.



Figure 54. Cost Effectiveness for Medium Office - Mixed Fuel + 3kW PV

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Incremental Package Cost	Lifecycle Energy Cost Savings	Lifecycle \$-TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Mixed Fuel + 3kW PV											
CZ01	PG&E	3,941	0	0.8	\$5,566	\$15,743	\$8,448	2.8	1.5	\$10,177	\$2,882
CZ02	PG&E	4,785	0	0.9	\$5,566	\$20,372	\$10,500	3.7	1.9	\$14,806	\$4,934
CZ03	PG&E	4,660	0	0.9	\$5,566	\$20,603	\$9,975	3.7	1.8	\$15,037	\$4,409
CZ04	PG&E	5,056	0	1.0	\$5,566	\$20,235	\$11,073	3.6	2.0	\$14,669	\$5,507
CZ04-2	CPAU	5,056	0	1.0	\$5,566	\$11,945	\$11,073	2.1	2.0	\$6,379	\$5,507
CZ05	PG&E	5,027	0	1.0	\$5,566	\$23,159	\$10,834	4.2	1.9	\$17,593	\$5,268
CZ06	SCE	4,853	0	0.9	\$5,566	\$10,968	\$10,930	2.0	2.0	\$5,402	\$5,364
CZ06-2	LADWP	4,853	0	0.9	\$5,566	\$6,575	\$10,930	1.2	2.0	\$1,009	\$5,364
CZ07	SDG&E	4,960	0	1.0	\$5,566	\$17,904	\$11,025	3.2	2.0	\$12,338	\$5,459
CZ08	SCE	4,826	0	0.9	\$5,566	\$10,768	\$11,359	1.9	2.0	\$5,202	\$5,793
CZ08-2	LADWP	4,826	0	0.9	\$5,566	\$6,503	\$11,359	1.2	2.0	\$937	\$5,793
CZ09	SCE	4,889	0	1.0	\$5,566	\$10,622	\$11,216	1.9	2.0	\$5,056	\$5,650
CZ09-2	LADWP	4,889	0	1.0	\$5,566	\$6,217	\$11,216	1.1	2.0	\$651	\$5,650
CZ10	SDG&E	4,826	0	0.9	\$5,566	\$21,280	\$10,787	3.8	1.9	\$15,714	\$5,221
CZ10-2	SCE	4,826	0	0.9	\$5,566	\$11,598	\$10,787	2.1	1.9	\$6,032	\$5,221
CZ11	PG&E	4,701	0	0.9	\$5,566	\$19,869	\$10,644	3.6	1.9	\$14,303	\$5,078
CZ12	PG&E	4,707	0	0.9	\$5,566	\$19,643	\$10,644	3.5	1.9	\$14,077	\$5,078
CZ12-2	SMUD	4,707	0	0.9	\$5,566	\$8,005	\$10,644	1.4	1.9	\$2,439	\$5,078
CZ13	PG&E	4,633	0	0.9	\$5,566	\$19,231	\$10,262	3.5	1.8	\$13,665	\$4,696
CZ14	SDG&E	5,377	0	1.0	\$5,566	\$18,789	\$12,600	3.4	2.3	\$13,223	\$7,034
CZ14-2	SCE	5,377	0	1.0	\$5,566	\$10,512	\$12,600	1.9	2.3	\$4,946	\$7,034
CZ15	SCE	5,099	0	1.0	\$5,566	\$10,109	\$11,550	1.8	2.1	\$4,543	\$5,984
CZ16	PG&E	5,096	0	1.0	\$5,566	\$21,836	\$10,882	3.9	2.0	\$16,270	\$5,316
CZ16-2	LADWP	5,096	0	1.0	\$5,566	\$6,501	\$10,882	1.2	2.0	\$935	\$5,316



Figure 55. Cost Effectiveness for Medium Office – Mixed Fuel + 3kW PV + 5 kWh Battery

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Incremental Package Cost	Lifecycle Energy Cost Savings	\$-TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Mixed Fuel + 3kW PV + 5kWh Battery											
CZ01	PG&E	3,941	0	0.8	\$9,520	\$15,743	\$8,448	1.7	0.9	\$6,223	(\$1,072)
CZ02	PG&E	4,785	0	0.9	\$9,520	\$20,372	\$10,500	2.1	1.1	\$10,852	\$980
CZ03	PG&E	4,660	0	0.9	\$9,520	\$20,603	\$9,975	2.2	1.0	\$11,083	\$455
CZ04	PG&E	5,056	0	1.0	\$9,520	\$20,235	\$11,073	2.1	1.2	\$10,714	\$1,553
CZ04-2	CPAU	5,056	0	1.0	\$9,520	\$11,945	\$11,073	1.3	1.2	\$2,425	\$1,553
CZ05	PG&E	5,027	0	1.0	\$9,520	\$23,159	\$10,834	2.4	1.1	\$13,639	\$1,314
CZ06	SCE	4,853	0	0.9	\$9,520	\$10,968	\$10,930	1.2	1.1	\$1,448	\$1,410
CZ06-2	LADWP	4,853	0	0.9	\$9,520	\$6,575	\$10,930	0.7	1.1	(\$2,945)	\$1,410
CZ07	SDG&E	4,960	0	1.0	\$9,520	\$17,904	\$11,025	1.9	1.2	\$8,384	\$1,505
CZ08	SCE	4,826	0	0.9	\$9,520	\$10,768	\$11,359	1.1	1.2	\$1,248	\$1,839
CZ08-2	LADWP	4,826	0	0.9	\$9,520	\$6,503	\$11,359	0.7	1.2	(\$3,017)	\$1,839
CZ09	SCE	4,889	0	1.0	\$9,520	\$10,622	\$11,216	1.1	1.2	\$1,102	\$1,696
CZ09-2	LADWP	4,889	0	1.0	\$9,520	\$6,217	\$11,216	0.7	1.2	(\$3,303)	\$1,696
CZ10	SDG&E	4,826	0	0.9	\$9,520	\$21,280	\$10,787	2.2	1.1	\$11,760	\$1,267
CZ10-2	SCE	4,826	0	0.9	\$9,520	\$11,598	\$10,787	1.2	1.1	\$2,078	\$1,267
CZ11	PG&E	4,701	0	0.9	\$9,520	\$19,869	\$10,644	2.1	1.1	\$10,349	\$1,123
CZ12	PG&E	4,707	0	0.9	\$9,520	\$19,643	\$10,644	2.1	1.1	\$10,123	\$1,123
CZ12-2	SMUD	4,707	0	0.9	\$9,520	\$8,005	\$10,644	0.8	1.1	(\$1,515)	\$1,123
CZ13	PG&E	4,633	0	0.9	\$9,520	\$19,231	\$10,262	2.0	1.1	\$9,711	\$742
CZ14	SDG&E	5,377	0	1.0	\$9,520	\$18,789	\$12,600	2.0	1.3	\$9,269	\$3,080
CZ14-2	SCE	5,377	0	1.0	\$9,520	\$10,512	\$12,600	1.1	1.3	\$992	\$3,080
CZ15	SCE	5,099	0	1.0	\$9,520	\$10,109	\$11,550	1.1	1.2	\$589	\$2,030
CZ16	PG&E	5,096	0	1.0	\$9,520	\$21,836	\$10,882	2.3	1.1	\$12,316	\$1,362
CZ16-2	LADWP	5,096	0	1.0	\$9,520	\$6,501	\$10,882	0.7	1.1	(\$3,019)	\$1,362



Figure 56. Cost Effectiveness for Medium Office – Mixed Fuel + 135kW PV

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Incremental Package Cost	Lifecycle Energy Cost Savings	Lifecycle TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Mixed Fuel +135kW PV											
CZ01	PG&E	177,340	0	34.3	\$302,856	\$526,352	\$380,399	1.7	1.3	\$223,497	\$77,544
CZ02	PG&E	215,311	0	41.5	\$302,856	\$666,050	\$471,705	2.2	1.6	\$363,194	\$168,849
CZ03	PG&E	209,717	0	40.7	\$302,856	\$645,010	\$449,797	2.1	1.5	\$342,154	\$146,942
CZ04	PG&E	227,535	0	44.0	\$302,856	\$686,434	\$497,431	2.3	1.6	\$383,578	\$194,575
CZ04-2	CPAU	227,535	0	44.0	\$302,856	\$537,521	\$497,431	1.8	1.6	\$234,665	\$194,575
CZ05	PG&E	226,195	0	44.1	\$302,856	\$753,230	\$486,596	2.5	1.6	\$450,374	\$183,741
CZ06	SCE	218,387	0	42.3	\$302,856	\$401,645	\$492,515	1.3	1.6	\$98,789	\$189,659
CZ06-2	LADWP	218,387	0	42.3	\$302,856	\$233,909	\$492,515	0.8	1.6	(\$68,947)	\$189,659
CZ07	SDG&E	223,185	0	43.3	\$302,856	\$623,078	\$496,667	2.1	1.6	\$320,223	\$193,811
CZ08	SCE	217,171	0	42.0	\$302,856	\$389,435	\$510,270	1.3	1.7	\$86,579	\$207,414
CZ08-2	LADWP	217,171	0	42.0	\$302,856	\$222,066	\$510,270	0.7	1.7	(\$80,790)	\$207,414
CZ09	SCE	220,010	0	43.2	\$302,856	\$387,977	\$505,783	1.3	1.7	\$85,122	\$202,928
CZ09-2	LADWP	220,010	0	43.2	\$302,856	\$226,516	\$505,783	0.7	1.7	(\$76,340)	\$202,928
CZ10	SDG&E	217,148	0	42.5	\$302,856	\$632,726	\$485,451	2.1	1.6	\$329,870	\$182,595
CZ10-2	SCE	217,148	0	42.5	\$302,856	\$394,884	\$485,451	1.3	1.6	\$92,028	\$182,595
CZ11	PG&E	211,556	0	40.9	\$302,856	\$671,691	\$478,912	2.2	1.6	\$368,835	\$176,056
CZ12	PG&E	211,824	0	40.9	\$302,856	\$653,242	\$478,101	2.2	1.6	\$350,386	\$175,245
CZ12-2	SMUD	211,824	0	40.9	\$302,856	\$345,255	\$478,101	1.1	1.6	\$42,399	\$175,245
CZ13	PG&E	208,465	0	40.5	\$302,856	\$651,952	\$462,732	2.2	1.5	\$349,096	\$159,876
CZ14	SDG&E	241,965	0	46.7	\$302,856	\$659,487	\$566,351	2.2	1.9	\$356,632	\$263,496
CZ14-2	SCE	241,965	0	46.7	\$302,856	\$401,712	\$566,351	1.3	1.9	\$98,856	\$263,496
CZ15	SCE	229,456	0	43.9	\$302,856	\$378,095	\$520,102	1.2	1.7	\$75,239	\$217,246
CZ16	PG&E	229,317	0	44.8	\$302,856	\$707,095	\$489,508	2.3	1.6	\$404,239	\$186,652
CZ16-2	LADWP	229,317	0	44.8	\$302,856	\$223,057	\$489,508	0.7	1.6	(\$79,799)	\$186,652



Figure 57. Cost Effectiveness for Medium Office – Mixed Fuel + 135kW PV + 50 kWh Battery

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Incremental Package Cost	Lifecycle Energy Cost Savings	Lifecycle TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Mixed Fuel + 135kW PV + 50 kWh Battery											
CZ01	PG&E	176,903	0	35.3	\$330,756	\$525,948	\$381,450	1.6	1.2	\$195,192	\$50,694
CZ02	PG&E	214,861	0	42.6	\$330,756	\$665,864	\$472,898	2.0	1.4	\$335,108	\$142,142
CZ03	PG&E	209,255	0	41.8	\$330,756	\$644,170	\$451,611	1.9	1.4	\$313,414	\$120,855
CZ04	PG&E	227,076	0	45.0	\$330,756	\$685,605	\$502,108	2.1	1.5	\$354,849	\$171,352
CZ04-2	CPAU	227,076	0	45.0	\$330,756	\$536,463	\$502,108	1.6	1.5	\$205,707	\$171,352
CZ05	PG&E	225,752	0	45.1	\$330,756	\$753,558	\$487,742	2.3	1.5	\$422,803	\$156,986
CZ06	SCE	217,939	0	43.4	\$330,756	\$401,356	\$494,042	1.2	1.5	\$70,601	\$163,286
CZ06-2	LADWP	217,939	0	43.4	\$330,756	\$233,673	\$494,042	0.7	1.5	(\$97,083)	\$163,286
CZ07	SDG&E	222,746	0	44.4	\$330,756	\$628,383	\$498,147	1.9	1.5	\$297,627	\$167,391
CZ08	SCE	216,724	0	43.1	\$330,756	\$389,184	\$511,511	1.2	1.5	\$58,428	\$180,755
CZ08-2	LADWP	216,724	0	43.1	\$330,756	\$221,839	\$511,511	0.7	1.5	(\$108,917)	\$180,755
CZ09	SCE	219,563	0	44.2	\$330,756	\$387,728	\$506,929	1.2	1.5	\$56,972	\$176,173
CZ09-2	LADWP	219,563	0	44.2	\$330,756	\$226,303	\$506,929	0.7	1.5	(\$104,453)	\$176,173
CZ10	SDG&E	216,700	0	43.5	\$330,756	\$638,040	\$486,644	1.9	1.5	\$307,284	\$155,888
CZ10-2	SCE	216,700	0	43.5	\$330,756	\$394,633	\$486,644	1.2	1.5	\$63,877	\$155,888
CZ11	PG&E	211,129	0	41.9	\$330,756	\$670,932	\$481,298	2.0	1.5	\$340,177	\$150,543
CZ12	PG&E	211,386	0	41.9	\$330,756	\$652,465	\$482,826	2.0	1.5	\$321,709	\$152,070
CZ12-2	SMUD	211,386	0	41.9	\$330,756	\$344,668	\$482,826	1.0	1.5	\$13,913	\$152,070
CZ13	PG&E	208,045	0	41.5	\$330,756	\$651,191	\$473,280	2.0	1.4	\$320,435	\$142,524
CZ14	SDG&E	241,502	0	47.7	\$330,756	\$672,601	\$569,454	2.0	1.7	\$341,846	\$238,698
CZ14-2	SCE	241,502	0	47.7	\$330,756	\$401,450	\$569,454	1.2	1.7	\$70,694	\$238,698
CZ15	SCE	229,062	0	44.8	\$330,756	\$377,827	\$521,963	1.1	1.6	\$47,071	\$191,208
CZ16	PG&E	228,825	0	45.9	\$330,756	\$706,201	\$496,190	2.1	1.5	\$375,445	\$165,434
CZ16-2	LADWP	228,825	0	45.9	\$330,756	\$222,802	\$496,190	0.7	1.5	(\$107,953)	\$165,434



Figure 58. Cost Effectiveness for Medium Office– All-Electric + 3kW PV

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Incremental Package Cost	Lifecycle Energy Cost Savings	Lifecycle TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
All-Electric + 3kW PV											
CZ01	PG&E	-49,716	4967	10.9	(\$80,523)	(\$84,765)	(\$49,972)	0.9	1.6	(\$4,242)	\$30,551
CZ02	PG&E	-44,899	3868	6.0	(\$66,965)	(\$83,115)	(\$30,928)	0.8	2.2	(\$16,150)	\$36,037
CZ03	PG&E	-31,226	3142	6.5	(\$75,600)	(\$39,441)	(\$19,617)	1.9	3.9	\$36,159	\$55,983
CZ04	PG&E	-43,772	3759	5.7	(\$62,282)	(\$70,999)	(\$29,496)	0.9	2.1	(\$8,717)	\$32,786
CZ04-2	CPAU	-43,772	3759	5.7	(\$62,282)	(\$8,050)	(\$29,496)	7.7	2.1	\$54,232	\$32,786
CZ05	PG&E	-35,504	3240	5.5	(\$77,773)	(\$42,559)	(\$29,162)	1.8	2.7	\$35,214	\$48,611
CZ06	SCE	-21,321	2117	4.0	(\$69,422)	\$35,862	(\$9,641)	>1	7.2	\$105,284	\$59,781
CZ06-2	LADWP	-21,321	2117	4.0	(\$69,422)	\$32,936	(\$9,641)	>1	7.2	\$102,358	\$59,781
CZ07	SDG&E	-7,943	950	1.9	(\$63,595)	\$64,781	(\$382)	>1	166.6	\$128,376	\$63,214
CZ08	SCE	-10,854	1219	2.5	(\$62,043)	\$28,651	(\$1,289)	>1	48.1	\$90,694	\$60,755
CZ08-2	LADWP	-10,854	1219	2.5	(\$62,043)	\$25,122	(\$1,289)	>1	48.1	\$87,165	\$60,755
CZ09	SCE	-14,878	1605	3.3	(\$56,372)	\$31,542	(\$3,246)	>1	17.4	\$87,913	\$53,126
CZ09-2	LADWP	-14,878	1605	3.3	(\$56,372)	\$28,145	(\$3,246)	>1	17.4	\$84,517	\$53,126
CZ10	SDG&E	-22,588	2053	3.1	(\$41,171)	\$59,752	(\$12,553)	>1	3.3	\$100,924	\$28,619
CZ10-2	SCE	-22,588	2053	3.1	(\$41,171)	\$32,039	(\$12,553)	>1	3.3	\$73,211	\$28,619
CZ11	PG&E	-35,455	3062	4.5	(\$57,257)	(\$53,776)	(\$22,194)	1.1	2.6	\$3,481	\$35,063
CZ12	PG&E	-38,704	3327	5.0	(\$61,613)	(\$66,808)	(\$24,819)	0.9	2.5	(\$5,195)	\$36,794
CZ12-2	SMUD	-38,704	3327	5.0	(\$61,613)	\$2,897	(\$24,819)	>1	2.5	\$64,510	\$36,794
CZ13	PG&E	-35,016	3063	4.7	(\$55,996)	(\$52,159)	(\$22,146)	1.1	2.5	\$3,836	\$33,849
CZ14	SDG&E	-38,945	3266	4.5	(\$58,426)	\$24,867	(\$25,821)	>1	2.3	\$83,293	\$32,605
CZ14-2	SCE	-38,945	3266	4.5	(\$58,426)	\$15,338	(\$25,821)	>1	2.3	\$73,764	\$32,605
CZ15	SCE	-14,818	1537	2.8	(\$29,445)	\$22,852	(\$3,914)	>1	7.5	\$52,298	\$25,532
CZ16	PG&E	-88,966	6185	6.6	(\$57,366)	(\$193,368)	(\$139,989)	0.3	0.4	(\$136,002)	(\$82,623)
CZ16-2	LADWP	-88,966	6185	6.6	(\$57,366)	\$36,354	(\$139,989)	>1	0.4	\$93,720	(\$82,623)



Figure 59. Cost Effectiveness for Medium Office – All-Electric + 3kW PV + 5 kWh Battery

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Incremental Package Cost	Lifecycle Energy Cost Savings	-\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
All-Electric + 3kW PV + 5 kWh Battery											
CZ01	PG&E	-49,716	4967	10.9	(\$78,897)	(\$84,765)	(\$49,972)	0.9	1.6	(\$5,868)	\$28,925
CZ02	PG&E	-44,899	3868	6.0	(\$78,897)	(\$83,115)	(\$30,928)	0.9	2.6	(\$4,218)	\$47,969
CZ03	PG&E	-31,226	3142	6.5	(\$78,897)	(\$39,441)	(\$19,617)	2.0	4.0	\$39,456	\$59,280
CZ04	PG&E	-43,772	3759	5.7	(\$78,897)	(\$70,999)	(\$29,496)	1.1	2.7	\$7,898	\$49,400
CZ04-2	CPAU	-43,772	3759	5.7	(\$78,897)	(\$8,050)	(\$29,496)	9.8	2.7	\$70,847	\$49,400
CZ05	PG&E	-35,504	3240	5.5	(\$78,897)	(\$42,559)	(\$29,162)	1.9	2.7	\$36,338	\$49,735
CZ06	SCE	-21,321	2117	4.0	(\$78,897)	\$35,862	(\$9,641)	>1	8.2	\$114,759	\$69,256
CZ06-2	LADWP	-21,321	2117	4.0	(\$78,897)	\$32,936	(\$9,641)	>1	8.2	\$111,833	\$69,256
CZ07	SDG&E	-7,943	950	1.9	(\$78,897)	\$64,781	(\$382)	>1	206.6	\$143,678	\$78,515
CZ08	SCE	-10,854	1219	2.5	(\$78,897)	\$28,651	(\$1,289)	>1	61.2	\$107,548	\$77,608
CZ08-2	LADWP	-10,854	1219	2.5	(\$78,897)	\$25,122	(\$1,289)	>1	61.2	\$104,019	\$77,608
CZ09	SCE	-14,878	1605	3.3	(\$78,897)	\$31,542	(\$3,246)	>1	24.3	\$110,439	\$75,651
CZ09-2	LADWP	-14,878	1605	3.3	(\$78,897)	\$28,145	(\$3,246)	>1	24.3	\$107,042	\$75,651
CZ10	SDG&E	-22,588	2053	3.1	(\$78,897)	\$59,752	(\$12,553)	>1	6.3	\$138,649	\$66,344
CZ10-2	SCE	-22,588	2053	3.1	(\$78,897)	\$32,039	(\$12,553)	>1	6.3	\$110,936	\$66,344
CZ11	PG&E	-35,455	3062	4.5	(\$78,897)	(\$53,776)	(\$22,194)	1.5	3.6	\$25,121	\$56,703
CZ12	PG&E	-38,704	3327	5.0	(\$78,897)	(\$66,808)	(\$24,819)	1.2	3.2	\$12,089	\$54,078
CZ12-2	SMUD	-38,704	3327	5.0	(\$78,897)	\$2,897	(\$24,819)	>1	3.2	\$81,794	\$54,078
CZ13	PG&E	-35,016	3063	4.7	(\$78,897)	(\$52,159)	(\$22,146)	1.5	3.6	\$26,738	\$56,751
CZ14	SDG&E	-38,945	3266	4.5	(\$78,897)	\$24,867	(\$25,821)	>1	3.1	\$103,764	\$53,076
CZ14-2	SCE	-38,945	3266	4.5	(\$78,897)	\$15,338	(\$25,821)	>1	3.1	\$94,235	\$53,076
CZ15	SCE	-14,818	1537	2.8	(\$78,897)	\$22,852	(\$3,914)	>1	20.2	\$101,749	\$74,983
CZ16	PG&E	-88,966	6185	6.6	(\$78,897)	(\$193,368)	(\$139,989)	0.4	0.6	(\$114,472)	(\$61,092)
CZ16-2	LADWP	-88,966	6185	6.6	(\$78,897)	\$36,354	(\$139,989)	>1	0.6	\$115,250	(\$61,092)



Figure 60. Cost Effectiveness for Medium Office – All-Electric + 135kW PV

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Incremental Package Cost	Lifecycle Energy Cost Savings	Lifecycle TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
All-Electric + 135kW PV											
CZ01	PG&E	123,683	4967	44.5	\$163,217	\$405,731	\$321,979	2.5	2.0	\$242,514	\$158,762
CZ02	PG&E	165,627	3868	46.6	\$176,775	\$562,528	\$430,276	3.2	2.4	\$385,753	\$253,501
CZ03	PG&E	173,831	3142	46.3	\$168,140	\$575,864	\$420,205	3.4	2.5	\$407,725	\$252,066
CZ04	PG&E	178,706	3759	48.7	\$181,458	\$601,431	\$456,861	3.3	2.5	\$419,973	\$275,403
CZ04-2	CPAU	178,706	3759	48.7	\$181,458	\$517,526	\$456,861	2.9	2.5	\$336,069	\$275,403
CZ05	PG&E	185,664	3240	48.6	\$165,967	\$664,842	\$446,600	4.0	2.7	\$498,875	\$280,633
CZ06	SCE	192,214	2117	45.3	\$174,317	\$423,657	\$471,944	2.4	2.7	\$249,340	\$297,626
CZ06-2	LADWP	192,214	2117	45.3	\$174,317	\$259,270	\$471,944	1.5	2.7	\$84,953	\$297,626
CZ07	SDG&E	210,282	950	44.3	\$180,145	\$669,979	\$485,260	3.7	2.7	\$489,834	\$305,115
CZ08	SCE	201,491	1219	43.5	\$181,696	\$407,277	\$497,622	2.2	2.7	\$225,580	\$315,925
CZ08-2	LADWP	201,491	1219	43.5	\$181,696	\$240,657	\$497,622	1.3	2.7	\$58,960	\$315,925
CZ09	SCE	200,242	1605	45.6	\$187,368	\$408,922	\$491,322	2.2	2.6	\$221,554	\$303,953
CZ09-2	LADWP	200,242	1605	45.6	\$187,368	\$248,452	\$491,322	1.3	2.6	\$61,084	\$303,953
CZ10	SDG&E	189,734	2053	44.7	\$202,568	\$667,551	\$462,111	3.3	2.3	\$464,982	\$259,543
CZ10-2	SCE	189,734	2053	44.7	\$202,568	\$412,659	\$462,111	2.0	2.3	\$210,091	\$259,543
CZ11	PG&E	171,399	3062	44.5	\$186,483	\$597,807	\$446,074	3.2	2.4	\$411,324	\$259,592
CZ12	PG&E	168,413	3327	45.0	\$182,127	\$571,758	\$442,638	3.1	2.4	\$389,632	\$260,511
CZ12-2	SMUD	168,413	3327	45.0	\$182,127	\$343,602	\$442,638	1.9	2.4	\$161,475	\$260,511
CZ13	PG&E	168,817	3063	44.3	\$187,744	\$581,964	\$430,324	3.1	2.3	\$394,220	\$242,580
CZ14	SDG&E	197,643	3266	50.1	\$185,314	\$667,762	\$527,930	3.6	2.8	\$482,449	\$342,616
CZ14-2	SCE	197,643	3266	50.1	\$185,314	\$408,424	\$527,930	2.2	2.8	\$223,110	\$342,616
CZ15	SCE	209,539	1537	45.7	\$214,294	\$390,267	\$504,638	1.8	2.4	\$175,972	\$290,343
CZ16	PG&E	135,255	6185	50.4	\$186,374	\$470,199	\$338,637	2.5	1.8	\$283,825	\$152,263
CZ16-2	LADWP	135,255	6185	50.4	\$186,374	\$250,807	\$338,637	1.3	1.8	\$64,433	\$152,263



Figure 61. Cost Effectiveness for Medium Office – All-Electric + 135kW PV + 50 kWh Battery

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Incremental Package Cost	Lifecycle Energy Cost Savings	Lifecycle TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
All-Electric + 135kW PV + 50 kWh Battery											
CZ01	PG&E	123,280	4967	45.4	\$191,117	\$404,994	\$323,077	2.1	1.7	\$213,877	\$131,960
CZ02	PG&E	165,200	3868	47.7	\$204,675	\$561,747	\$431,469	2.7	2.1	\$357,072	\$226,795
CZ03	PG&E	173,384	3142	47.4	\$196,040	\$575,043	\$422,019	2.9	2.2	\$379,003	\$225,979
CZ04	PG&E	178,259	3759	49.8	\$209,358	\$600,621	\$461,634	2.9	2.2	\$391,263	\$252,276
CZ04-2	CPAU	178,259	3759	49.8	\$209,358	\$516,495	\$461,634	2.5	2.2	\$307,137	\$252,276
CZ05	PG&E	185,229	3240	49.7	\$193,867	\$664,046	\$447,793	3.4	2.3	\$470,179	\$253,926
CZ06	SCE	191,767	2117	46.5	\$202,217	\$423,369	\$473,519	2.1	2.3	\$221,152	\$271,301
CZ06-2	LADWP	191,767	2117	46.5	\$202,217	\$259,033	\$473,519	1.3	2.3	\$56,816	\$271,301
CZ07	SDG&E	209,848	950	45.4	\$208,045	\$675,307	\$486,787	3.2	2.3	\$467,262	\$278,743
CZ08	SCE	201,047	1219	44.7	\$209,596	\$407,027	\$498,910	1.9	2.4	\$197,430	\$289,314
CZ08-2	LADWP	201,047	1219	44.7	\$209,596	\$240,432	\$498,910	1.1	2.4	\$30,835	\$289,314
CZ09	SCE	199,802	1605	46.6	\$215,268	\$408,676	\$492,515	1.9	2.3	\$193,408	\$277,246
CZ09-2	LADWP	199,802	1605	46.6	\$215,268	\$248,242	\$492,515	1.2	2.3	\$32,974	\$277,246
CZ10	SDG&E	189,293	2053	45.7	\$230,468	\$672,867	\$463,352	2.9	2.0	\$442,399	\$232,884
CZ10-2	SCE	189,293	2053	45.7	\$230,468	\$412,412	\$463,352	1.8	2.0	\$181,944	\$232,884
CZ11	PG&E	170,987	3062	45.5	\$214,383	\$597,062	\$448,509	2.8	2.1	\$382,680	\$234,126
CZ12	PG&E	167,995	3327	46.0	\$210,027	\$571,002	\$447,411	2.7	2.1	\$360,975	\$237,384
CZ12-2	SMUD	167,995	3327	46.0	\$210,027	\$343,043	\$447,411	1.6	2.1	\$133,017	\$237,384
CZ13	PG&E	168,408	3063	45.3	\$215,644	\$581,225	\$440,920	2.7	2.0	\$365,580	\$225,275
CZ14	SDG&E	197,188	3266	51.2	\$213,214	\$680,893	\$531,080	3.2	2.5	\$467,679	\$317,866
CZ14-2	SCE	197,188	3266	51.2	\$213,214	\$408,166	\$531,080	1.9	2.5	\$194,952	\$317,866
CZ15	SCE	209,148	1537	46.6	\$242,194	\$390,000	\$506,499	1.6	2.1	\$147,806	\$264,305
CZ16	PG&E	134,809	6185	51.4	\$214,274	\$469,378	\$341,978	2.2	1.6	\$255,105	\$127,704
CZ16-2	LADWP	134,809	6185	51.4	\$214,274	\$250,580	\$341,978	1.2	1.6	\$36,306	\$127,704



6.7.2 Cost Effectiveness Results – Medium Retail

Figure 62 through Figure 69 contain the cost-effectiveness findings for the Medium Retail packages. Notable findings for each package include:

- ◆ **Mixed-Fuel + 3 kW PV:** Packages are cost effective and achieve savings for all climate zones using the On-Bill and TDV approaches.
- ◆ **Mixed-Fuel + 3 kW PV + 5 kWh Battery:** The packages are less cost effective as compared to the 3 kW PV only package and not cost effective for LADWP and SMUD service area.
- ◆ **Mixed-Fuel + PV only:** Packages achieve positive energy cost savings and are cost effective using the On-Bill approach for all climate zones except for LADWP territory (CZs 6, 8, 9 and 16). Packages achieve positive savings and are cost effective using the TDV approach for all climate zones.
- ◆ **Mixed Fuel + PV + 5 kWh Battery:** Adding battery slightly reduces On-Bill B/C ratios but is still cost effective for all climate zones except for LADWP territory. Packages achieve savings and cost effective using the TDV approach for all climate zones.
- ◆ **All-Electric + 3 kW PV:** Packages are cost effective using the On-Bill and TDV approach for all climate zones except for CZ16 under PG&E service.
- ◆ **All-Electric + 3 kW PV + 5 kWh Battery:** Similar to minimal PV only package, adding battery is cost effective as well using the On-Bill and TDV approach for all climate zones except for CZ16 under PG&E service.
- ◆ **All-Electric + PV only:** Packages are cost effective and achieve savings in all climate zones for both the On-Bill and TDV approaches
- ◆ **All-Electric + PV + 50 kWh Battery:** Adding battery slightly reduces B/C ratios for both the On-Bill and TDV approaches. Packages are not cost effective for all climate zones except CZ6, CZ8 and CZ9 under LADWP service area.



Figure 62. Cost Effectiveness for Medium Retail – Mixed-Fuel + 3kW PV

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Incremental Package Cost	Lifecycle Energy Cost Savings	Lifecycle TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Mixed Fuel + 3kW PV											
CZ01	PG&E	3,941	0	0.76	\$5,566	\$12,616	\$8,460	2.3	1.5	\$7,050	\$2,894
CZ02	PG&E	4,685	0	0.91	\$5,566	\$17,635	\$10,262	3.2	1.8	\$12,069	\$4,696
CZ03	PG&E	4,733	0	0.92	\$5,566	\$15,146	\$10,152	2.7	1.8	\$9,580	\$4,586
CZ04	PG&E	4,834	0	0.94	\$5,566	\$18,519	\$10,614	3.3	1.9	\$12,953	\$5,048
CZ04-2	CPAU	4,834	0	0.94	\$5,566	\$11,507	\$10,614	2.1	1.9	\$5,941	\$5,048
CZ05	PG&E	4,910	0	0.95	\$5,566	\$15,641	\$10,548	2.8	1.9	\$10,075	\$4,982
CZ06	SCE	4,769	0	0.93	\$5,566	\$11,374	\$10,724	2.0	1.9	\$5,808	\$5,158
CZ06-2	LA	4,769	0	0.93	\$5,566	\$7,069	\$10,724	1.3	1.9	\$1,503	\$5,158
CZ07	SDG&E	4,960	0	0.96	\$5,566	\$22,452	\$11,031	4.0	2.0	\$16,886	\$5,465
CZ08	SCE	4,826	0	0.93	\$5,566	\$11,838	\$11,339	2.1	2.0	\$6,272	\$5,773
CZ08-2	LA	4,826	0	0.93	\$5,566	\$7,342	\$11,339	1.3	2.0	\$1,776	\$5,773
CZ09	SCE	4,889	0	0.96	\$5,566	\$11,187	\$11,229	2.0	2.0	\$5,621	\$5,663
CZ09-2	LA	4,889	0	0.96	\$5,566	\$6,728	\$11,229	1.2	2.0	\$1,162	\$5,663
CZ10	SDG&E	4,948	0	0.97	\$5,566	\$20,999	\$10,987	3.8	2.0	\$15,433	\$5,421
CZ10-2	SCE	4,948	0	0.97	\$5,566	\$11,384	\$10,987	2.0	2.0	\$5,818	\$5,421
CZ11	PG&E	4,718	0	0.91	\$5,566	\$15,381	\$10,680	2.8	1.9	\$9,815	\$5,114
CZ12	PG&E	4,707	0	0.91	\$5,566	\$16,442	\$10,614	3.0	1.9	\$10,876	\$5,048
CZ12-2	SMUD	4,707	0	0.91	\$5,566	\$8,247	\$10,614	1.5	1.9	\$2,681	\$5,048
CZ13	PG&E	4,750	0	0.92	\$5,566	\$16,638	\$10,592	3.0	1.9	\$11,072	\$5,026
CZ14	SDG&E	5,258	0	1.01	\$5,566	\$19,576	\$12,218	3.5	2.2	\$14,010	\$6,652
CZ14-2	SCE	5,258	0	1.01	\$5,566	\$10,227	\$12,218	1.8	2.2	\$4,661	\$6,652
CZ15	SCE	4,997	0	0.96	\$5,566	\$10,476	\$11,339	1.9	2.0	\$4,910	\$5,773
CZ16	PG&E	5,336	0	1.04	\$5,566	\$20,418	\$11,361	3.7	2.0	\$14,852	\$5,795
CZ16-2	LA	5,336	0	1.04	\$5,566	\$6,987	\$11,361	1.3	2.0	\$1,421	\$5,795



Figure 63. Cost Effectiveness for Medium Retail – Mixed Fuel + 3kW PV + 5 kWh Battery

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Incremental Package Cost	Lifecycle Energy Cost Savings	-\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Mixed Fuel + 3kW PV + 5 kWh Battery											
CZ01	PG&E	3,941	0	0.76	\$9,520	\$12,616	\$8,460	1.3	0.9	\$3,096	(\$1,060)
CZ02	PG&E	4,685	0	0.91	\$9,520	\$17,635	\$10,262	1.9	1.1	\$8,115	\$742
CZ03	PG&E	4,733	0	0.92	\$9,520	\$15,146	\$10,152	1.6	1.1	\$5,626	\$632
CZ04	PG&E	4,834	0	0.94	\$9,520	\$18,519	\$10,614	1.9	1.1	\$8,999	\$1,094
CZ04-2	CPAU	4,834	0	0.94	\$9,520	\$11,507	\$10,614	1.2	1.1	\$1,987	\$1,094
CZ05	PG&E	4,910	0	0.95	\$9,520	\$15,641	\$10,548	1.6	1.1	\$6,120	\$1,028
CZ05-2	SCG	4,910	0	0.95	\$9,520	\$15,641	\$10,548	1.6	1.1	\$6,120	\$1,028
CZ06	SCE	4,769	0	0.93	\$9,520	\$11,374	\$10,724	1.2	1.1	\$1,854	\$1,204
CZ06-2	LA	4,769	0	0.93	\$9,520	\$7,069	\$10,724	0.7	1.1	(\$2,452)	\$1,204
CZ07	SDG&E	4,960	0	0.96	\$9,520	\$22,452	\$11,031	2.4	1.2	\$12,932	\$1,511
CZ08	SCE	4,826	0	0.93	\$9,520	\$11,838	\$11,339	1.2	1.2	\$2,317	\$1,819
CZ08-2	LA	4,826	0	0.93	\$9,520	\$7,342	\$11,339	0.8	1.2	(\$2,178)	\$1,819
CZ09	SCE	4,889	0	0.96	\$9,520	\$11,187	\$11,229	1.2	1.2	\$1,667	\$1,709
CZ09-2	LA	4,889	0	0.96	\$9,520	\$6,728	\$11,229	0.7	1.2	(\$2,792)	\$1,709
CZ10	SDG&E	4,948	0	0.97	\$9,520	\$20,999	\$10,987	2.2	1.2	\$11,479	\$1,467
CZ10-2	SCE	4,948	0	0.97	\$9,520	\$11,384	\$10,987	1.2	1.2	\$1,863	\$1,467
CZ11	PG&E	4,718	0	0.91	\$9,520	\$15,381	\$10,680	1.6	1.1	\$5,861	\$1,160
CZ12	PG&E	4,707	0	0.91	\$9,520	\$16,442	\$10,614	1.7	1.1	\$6,922	\$1,094
CZ12-2	SMUD	4,707	0	0.91	\$9,520	\$8,247	\$10,614	0.9	1.1	(\$1,273)	\$1,094
CZ13	PG&E	4,750	0	0.92	\$9,520	\$16,638	\$10,592	1.7	1.1	\$7,117	\$1,072
CZ14	SDG&E	5,258	0	1.01	\$9,520	\$19,576	\$12,218	2.1	1.3	\$10,056	\$2,698
CZ14-2	SCE	5,258	0	1.01	\$9,520	\$10,227	\$12,218	1.1	1.3	\$707	\$2,698
CZ15	SCE	4,997	0	0.96	\$9,520	\$10,476	\$11,339	1.1	1.2	\$956	\$1,819
CZ16	PG&E	5,336	0	1.04	\$9,520	\$20,418	\$11,361	2.1	1.2	\$10,898	\$1,841
CZ16-2	LA	5,336	0	1.04	\$9,520	\$6,987	\$11,361	0.7	1.2	(\$2,533)	\$1,841



Figure 64. Cost Effectiveness for Medium Retail – Mixed-Fuel + 110kW PV

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Incremental Package Cost	Lifecycle Energy Cost Savings	Lifecycle TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Mixed Fuel + 110kW PV											
CZ01	PG&E	144,499	0	27.97	\$201,904	\$454,462	\$309,935	2.3	1.5	\$252,558	\$108,031
CZ02	PG&E	171,790	0	33.31	\$201,904	\$477,584	\$376,300	2.4	1.9	\$275,681	\$174,396
CZ03	PG&E	173,534	0	33.55	\$201,904	\$538,530	\$372,146	2.7	1.8	\$336,626	\$170,243
CZ04	PG&E	177,229	0	34.42	\$201,904	\$489,934	\$389,067	2.4	1.9	\$288,030	\$187,163
CZ04-2	CPAU	177,229	0	34.42	\$201,904	\$418,173	\$389,067	2.1	1.9	\$216,269	\$187,163
CZ05	PG&E	180,044	0	34.84	\$201,904	\$556,787	\$386,958	2.8	1.9	\$354,883	\$185,054
CZ06	SCE	174,855	0	33.92	\$201,904	\$288,188	\$393,198	1.4	1.9	\$86,284	\$191,295
CZ06-2	LA	174,855	0	33.92	\$201,904	\$165,538	\$393,198	0.8	1.9	(\$36,366)	\$191,295
CZ07	SDG&E	181,854	0	35.32	\$201,904	\$373,974	\$404,713	1.9	2.0	\$172,070	\$202,809
CZ08	SCE	176,954	0	34.23	\$201,904	\$284,481	\$415,789	1.4	2.1	\$82,577	\$213,885
CZ08-2	LA	176,954	0	34.23	\$201,904	\$161,366	\$415,789	0.8	2.1	(\$40,538)	\$213,885
CZ09	SCE	179,267	0	35.18	\$201,904	\$289,050	\$412,097	1.4	2.0	\$87,146	\$210,193
CZ09-2	LA	179,267	0	35.18	\$201,904	\$168,822	\$412,097	0.8	2.0	(\$33,082)	\$210,193
CZ10	SDG&E	181,443	0	35.41	\$201,904	\$410,310	\$402,999	2.0	2.0	\$208,406	\$201,095
CZ10-2	SCE	181,443	0	35.41	\$201,904	\$291,236	\$402,999	1.4	2.0	\$89,332	\$201,095
CZ11	PG&E	172,983	0	33.46	\$201,904	\$464,776	\$391,550	2.3	1.9	\$262,872	\$189,646
CZ12	PG&E	172,597	0	33.33	\$201,904	\$467,870	\$389,573	2.3	1.9	\$265,966	\$187,669
CZ12-2	SMUD	172,597	0	33.33	\$201,904	\$267,086	\$389,573	1.3	1.9	\$65,182	\$187,669
CZ13	PG&E	174,151	0	33.81	\$201,904	\$478,857	\$387,968	2.4	1.9	\$276,953	\$186,065
CZ14	SDG&E	192,789	0	36.97	\$201,904	\$396,181	\$448,268	2.0	2.2	\$194,277	\$246,364
CZ14-2	SCE	192,789	0	36.97	\$201,904	\$288,782	\$448,268	1.4	2.2	\$86,878	\$246,364
CZ15	SCE	183,214	0	35.12	\$201,904	\$277,867	\$415,789	1.4	2.1	\$75,963	\$213,885
CZ16	PG&E	195,665	0	37.97	\$201,904	\$522,352	\$416,558	2.6	2.1	\$320,448	\$214,654
CZ16-2	LA	195,665	0	37.97	\$201,904	\$171,802	\$416,558	0.9	2.1	(\$30,101)	\$214,654



Figure 65. Cost Effectiveness for Medium Retail – Mixed-Fuel + 110 kW PV + 50 kWh Battery

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Incremental Package Cost	Lifecycle Energy Cost Savings	Lifecycle TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Mixed Fuel + 110kW PV + 50 kWh Battery											
CZ01	PG&E	143,423	0	29.48	\$229,804	\$452,119	\$324,373	2.0	1.4	\$222,315	\$94,569
CZ02	PG&E	170,542	0	35.14	\$229,804	\$486,704	\$398,363	2.1	1.7	\$256,900	\$168,559
CZ03	PG&E	172,266	0	35.66	\$229,804	\$535,974	\$395,374	2.3	1.7	\$306,170	\$165,570
CZ04	PG&E	175,940	0	36.32	\$229,804	\$525,788	\$422,579	2.3	1.8	\$295,984	\$192,775
CZ04-2	CPAU	175,940	0	36.32	\$229,804	\$416,019	\$422,579	1.8	1.8	\$186,216	\$192,775
CZ05	PG&E	178,728	0	36.91	\$229,804	\$554,968	\$409,086	2.4	1.8	\$325,164	\$179,283
CZ06	SCE	173,567	0	35.99	\$229,804	\$290,599	\$412,690	1.3	1.8	\$60,795	\$182,886
CZ06-2	LA	173,567	0	35.99	\$229,804	\$169,786	\$412,690	0.7	1.8	(\$60,018)	\$182,886
CZ07	SDG&E	180,508	0	37.61	\$229,804	\$425,793	\$427,040	1.9	1.9	\$195,989	\$197,236
CZ08	SCE	175,616	0	36.29	\$229,804	\$296,318	\$434,687	1.3	1.9	\$66,514	\$204,883
CZ08-2	LA	175,616	0	36.29	\$229,804	\$170,489	\$434,687	0.7	1.9	(\$59,315)	\$204,883
CZ09	SCE	177,966	0	36.74	\$229,804	\$300,540	\$421,195	1.3	1.8	\$70,736	\$191,391
CZ09-2	LA	177,966	0	36.74	\$229,804	\$178,852	\$421,195	0.8	1.8	(\$50,952)	\$191,391
CZ10	SDG&E	180,248	0	36.91	\$229,804	\$459,486	\$410,537	2.0	1.8	\$229,683	\$180,733
CZ10-2	SCE	180,248	0	36.91	\$229,804	\$301,219	\$410,537	1.3	1.8	\$71,415	\$180,733
CZ11	PG&E	171,779	0	34.85	\$229,804	\$490,245	\$417,679	2.1	1.8	\$260,442	\$187,875
CZ12	PG&E	171,392	0	34.77	\$229,804	\$497,363	\$417,371	2.2	1.8	\$267,559	\$187,567
CZ12-2	SMUD	171,392	0	34.77	\$229,804	\$273,783	\$417,371	1.2	1.8	\$43,979	\$187,567
CZ13	PG&E	173,052	0	34.97	\$229,804	\$488,196	\$397,791	2.1	1.7	\$258,392	\$167,987
CZ14	SDG&E	191,703	0	38.31	\$229,804	\$420,241	\$452,641	1.8	2.0	\$190,437	\$222,837
CZ14-2	SCE	191,703	0	38.31	\$229,804	\$294,010	\$452,641	1.3	2.0	\$64,206	\$222,837
CZ15	SCE	182,299	0	36.01	\$229,804	\$279,036	\$416,382	1.2	1.8	\$49,232	\$186,578
CZ16	PG&E	194,293	0	40.00	\$229,804	\$535,137	\$432,951	2.3	1.9	\$305,333	\$203,147
CZ16-2	LA	194,293	0	40.00	\$229,804	\$175,573	\$432,951	0.8	1.9	(\$54,231)	\$203,147



Figure 66. Cost Effectiveness for Medium Retail – All-Electric + 3kW PV

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Incremental Package Cost	Lifecycle Energy Cost Savings	Lifecycle TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
All-Electric + 3kW PV											
CZ01	PG&E	-25,214	3893	14.61	(\$16,318)	\$4,288	(\$5,450)	>1	3.0	\$20,606	\$10,868
CZ02	PG&E	-17,101	2448	8.40	(\$20,734)	\$859	\$5,779	>1	>1	\$21,593	\$26,513
CZ03	PG&E	-9,851	1868	7.18	(\$17,381)	\$15,418	\$8,702	>1	>1	\$32,799	\$26,083
CZ04	PG&E	-9,353	1706	6.24	(\$16,166)	\$9,110	\$10,394	>1	>1	\$25,276	\$26,560
CZ04-2	CPAU	-9,353	1706	6.24	(\$16,166)	\$24,000	\$10,394	>1	>1	\$40,166	\$26,560
CZ05	PG&E	-9,423	1746	6.42	(\$18,776)	\$14,076	\$6,351	>1	>1	\$32,852	\$25,127
CZ06	SCE	-2,759	1002	4.24	(\$15,032)	\$29,710	\$12,592	>1	>1	\$44,741	\$27,623
CZ06-2	LA	-2,759	1002	4.24	(\$15,032)	\$26,292	\$12,592	>1	>1	\$41,324	\$27,623
CZ07	SDG&E	1,148	522	2.72	(\$17,032)	\$76,810	\$12,350	>1	>1	\$93,842	\$29,382
CZ08	SCE	-979	793	3.64	(\$20,192)	\$28,576	\$13,185	>1	>1	\$48,768	\$33,377
CZ08-2	LA	-979	793	3.64	(\$20,192)	\$24,475	\$13,185	>1	>1	\$44,667	\$33,377
CZ09	SCE	-2,352	970	4.28	(\$25,383)	\$29,776	\$13,207	>1	>1	\$55,159	\$38,590
CZ09-2	LA	-2,352	970	4.28	(\$25,383)	\$25,823	\$13,207	>1	>1	\$51,207	\$38,590
CZ10	SDG&E	-5,388	1262	4.95	(\$20,541)	\$75,458	\$11,493	>1	>1	\$95,999	\$32,034
CZ10-2	SCE	-5,388	1262	4.95	(\$20,541)	\$32,394	\$11,493	>1	>1	\$52,936	\$32,034
CZ11	PG&E	-14,533	2415	8.86	(\$25,471)	\$7,618	\$13,295	>1	>1	\$33,090	\$38,766
CZ12	PG&E	-14,764	2309	8.19	(\$25,774)	\$2,210	\$10,152	>1	>1	\$27,984	\$35,926
CZ12-2	SMUD	-14,764	2309	8.19	(\$25,774)	\$21,215	\$10,152	>1	>1	\$46,988	\$35,926
CZ13	PG&E	-12,069	1983	7.08	(\$21,428)	\$5,647	\$8,570	>1	>1	\$27,075	\$29,998
CZ14	SDG&E	-7,950	1672	6.45	(\$19,926)	\$60,412	\$16,679	>1	>1	\$80,338	\$36,605
CZ14-2	SCE	-7,950	1672	6.45	(\$19,926)	\$28,631	\$16,679	>1	>1	\$48,557	\$36,605
CZ15	SCE	2,534	518	3.10	(\$22,813)	\$27,271	\$17,162	>1	>1	\$50,084	\$39,976
CZ16	PG&E	-36,081	4304	14.26	(\$19,041)	(\$30,111)	(\$41,181)	0.6	0.5	(\$11,070)	(\$22,140)
CZ16-2	LA	-36,081	4304	14.26	(\$19,041)	\$45,706	(\$41,181)	>1	0.5	\$64,747	(\$22,140)



Figure 67. Cost Effectiveness for Medium Retail – All-Electric + 3kW PV + 5 kWh Battery

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Incremental Package Cost	Lifecycle Energy Cost Savings	-\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
All-Electric + 3kW PV + 5 kWh Battery											
CZ01	PG&E	-25,214	3893	14.61	(\$14,692)	\$4,288	(\$5,450)	>1	2.7	\$18,980	\$9,242
CZ02	PG&E	-17,101	2448	8.40	(\$14,692)	\$859	\$5,779	>1	>1	\$15,551	\$20,472
CZ03	PG&E	-9,851	1868	7.18	(\$14,692)	\$15,418	\$8,702	>1	>1	\$30,110	\$23,394
CZ04	PG&E	-9,353	1706	6.24	(\$14,692)	\$9,110	\$10,394	>1	>1	\$23,802	\$25,086
CZ04-2	CPAU	-9,353	1706	6.24	(\$14,692)	\$24,000	\$10,394	>1	>1	\$38,693	\$25,086
CZ05	PG&E	-9,423	1746	6.42	(\$14,692)	\$14,076	\$6,351	>1	>1	\$28,768	\$21,043
CZ06	SCE	-2,759	1002	4.24	(\$14,692)	\$29,710	\$12,592	>1	>1	\$44,402	\$27,284
CZ06-2	LA	-2,759	1002	4.24	(\$14,692)	\$26,292	\$12,592	>1	>1	\$40,984	\$27,284
CZ07	SDG&E	1,148	522	2.72	(\$14,692)	\$76,810	\$12,350	>1	>1	\$91,502	\$27,042
CZ08	SCE	-979	793	3.64	(\$14,692)	\$28,576	\$13,185	>1	>1	\$43,268	\$27,877
CZ08-2	LA	-979	793	3.64	(\$14,692)	\$24,475	\$13,185	>1	>1	\$39,167	\$27,877
CZ09	SCE	-2,352	970	4.28	(\$14,692)	\$29,776	\$13,207	>1	>1	\$44,468	\$27,899
CZ09-2	LA	-2,352	970	4.28	(\$14,692)	\$25,823	\$13,207	>1	>1	\$40,516	\$27,899
CZ10	SDG&E	-5,388	1262	4.95	(\$14,692)	\$75,458	\$11,493	>1	>1	\$90,150	\$26,185
CZ10-2	SCE	-5,388	1262	4.95	(\$14,692)	\$32,394	\$11,493	>1	>1	\$47,086	\$26,185
CZ11	PG&E	-14,533	2415	8.86	(\$14,692)	\$7,618	\$13,295	>1	>1	\$22,310	\$27,987
CZ12	PG&E	-14,764	2309	8.19	(\$14,692)	\$2,210	\$10,152	>1	>1	\$16,902	\$24,845
CZ12-2	SMUD	-14,764	2309	8.19	(\$14,692)	\$21,215	\$10,152	>1	>1	\$35,907	\$24,845
CZ13	PG&E	-12,069	1983	7.08	(\$14,692)	\$5,647	\$8,570	>1	>1	\$20,339	\$23,262
CZ14	SDG&E	-7,950	1672	6.45	(\$14,692)	\$60,412	\$16,679	>1	>1	\$75,104	\$31,371
CZ14-2	SCE	-7,950	1672	6.45	(\$14,692)	\$28,631	\$16,679	>1	>1	\$43,323	\$31,371
CZ15	SCE	2,534	518	3.10	(\$14,692)	\$27,271	\$17,162	>1	>1	\$41,963	\$31,855
CZ16	PG&E	-36,081	4304	14.26	(\$14,692)	(\$30,111)	(\$41,181)	0.5	0.4	(\$15,419)	(\$26,489)
CZ16-2	LA	-36,081	4304	14.26	(\$14,692)	\$45,706	(\$41,181)	>1	0.4	\$60,398	(\$26,489)



Figure 68. Cost Effectiveness for Medium Retail – All-Electric + 110kW PV

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Incremental Package Cost	Lifecycle Energy Cost Savings	Lifecycle TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
All-Electric + 110kW PV											
CZ01	PG&E	115,344	3893	41.82	\$143,932	\$454,277	\$296,025	3.2	2.1	\$310,345	\$152,093
CZ02	PG&E	150,004	2448	40.80	\$139,516	\$470,236	\$371,817	3.4	2.7	\$330,720	\$232,301
CZ03	PG&E	158,951	1868	39.82	\$142,869	\$544,095	\$370,696	3.8	2.6	\$401,226	\$227,827
CZ04	PG&E	163,043	1706	39.73	\$144,084	\$488,619	\$388,847	3.4	2.7	\$344,534	\$244,763
CZ04-2	CPAU	163,043	1706	39.73	\$144,084	\$432,905	\$388,847	3.0	2.7	\$288,821	\$244,763
CZ05	PG&E	165,711	1746	40.30	\$141,473	\$565,525	\$382,760	4.0	2.7	\$424,051	\$241,287
CZ06	SCE	167,328	1002	37.24	\$145,218	\$306,670	\$395,066	2.1	2.7	\$161,452	\$249,848
CZ06-2	LA	167,328	1002	37.24	\$145,218	\$184,797	\$395,066	1.3	2.7	\$39,579	\$249,848
CZ07	SDG&E	178,042	522	37.07	\$143,218	\$428,332	\$406,032	3.0	2.8	\$285,114	\$262,814
CZ08	SCE	171,149	793	36.94	\$140,058	\$301,219	\$417,635	2.2	3.0	\$161,161	\$277,577
CZ08-2	LA	171,149	793	36.94	\$140,058	\$178,419	\$417,635	1.3	3.0	\$38,361	\$277,577
CZ09	SCE	172,027	970	38.50	\$134,867	\$307,640	\$414,075	2.3	3.1	\$172,773	\$279,208
CZ09-2	LA	172,027	970	38.50	\$134,867	\$187,813	\$414,075	1.4	3.1	\$52,946	\$279,208
CZ10	SDG&E	171,107	1262	39.40	\$139,708	\$463,692	\$403,505	3.3	2.9	\$323,984	\$263,796
CZ10-2	SCE	171,107	1262	39.40	\$139,708	\$311,464	\$403,505	2.2	2.9	\$171,755	\$263,796
CZ11	PG&E	153,732	2415	41.41	\$134,778	\$467,356	\$394,165	3.5	2.9	\$332,578	\$259,387
CZ12	PG&E	153,126	2309	40.61	\$134,476	\$467,106	\$389,111	3.5	2.9	\$332,630	\$254,635
CZ12-2	SMUD	153,126	2309	40.61	\$134,476	\$283,343	\$389,111	2.1	2.9	\$148,867	\$254,635
CZ13	PG&E	157,332	1983	39.97	\$138,822	\$477,831	\$385,947	3.4	2.8	\$339,008	\$247,124
CZ14	SDG&E	179,582	1672	42.42	\$140,324	\$437,575	\$452,729	3.1	3.2	\$297,251	\$312,405
CZ14-2	SCE	179,582	1672	42.42	\$140,324	\$309,064	\$452,729	2.2	3.2	\$168,740	\$312,405
CZ15	SCE	180,751	518	37.26	\$137,436	\$294,877	\$421,612	2.1	3.1	\$157,440	\$284,176
CZ16	PG&E	154,248	4304	51.20	\$141,209	\$473,892	\$364,016	3.4	2.6	\$332,682	\$222,807
CZ16-2	LA	154,248	4304	51.20	\$141,209	\$211,677	\$364,016	1.5	2.6	\$70,467	\$222,807



Figure 69. Cost Effectiveness for Medium Retail – All-Electric + 110kW PV + 50 kWh Battery

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Incremental Package Cost	Lifecycle Energy Cost Savings	Lifecycle TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
All-Electric + 90kW PV + 50 kWh Battery											
CZ01	PG&E	114,356	3893	43.52	\$171,832	\$451,043	\$310,265	2.6	1.8	\$279,211	\$138,433
CZ02	PG&E	148,793	2448	42.89	\$167,416	\$475,081	\$394,099	2.8	2.4	\$307,664	\$226,683
CZ03	PG&E	157,707	1868	42.12	\$170,769	\$541,418	\$394,034	3.2	2.3	\$370,649	\$223,265
CZ04	PG&E	161,769	1706	41.82	\$171,984	\$523,603	\$422,535	3.0	2.5	\$351,618	\$250,551
CZ04-2	CPAU	161,769	1706	41.82	\$171,984	\$430,567	\$422,535	2.5	2.5	\$258,582	\$250,551
CZ05	PG&E	164,408	1746	42.68	\$169,373	\$561,966	\$405,087	3.3	2.4	\$392,592	\$235,714
CZ06	SCE	166,052	1002	39.48	\$173,118	\$306,697	\$414,756	1.8	2.4	\$133,579	\$241,638
CZ06-2	LA	166,052	1002	39.48	\$173,118	\$187,941	\$414,756	1.1	2.4	\$14,823	\$241,638
CZ07	SDG&E	176,705	522	39.47	\$171,118	\$479,038	\$428,490	2.8	2.5	\$307,920	\$257,372
CZ08	SCE	169,825	793	39.14	\$167,958	\$312,602	\$436,709	1.9	2.6	\$144,645	\$268,751
CZ08-2	LA	169,825	793	39.14	\$167,958	\$187,142	\$436,709	1.1	2.6	\$19,185	\$268,751
CZ09	SCE	170,747	970	40.23	\$162,767	\$318,113	\$423,370	2.0	2.6	\$155,346	\$260,604
CZ09-2	LA	170,747	970	40.23	\$162,767	\$197,006	\$423,370	1.2	2.6	\$34,240	\$260,604
CZ10	SDG&E	169,935	1262	41.08	\$167,608	\$503,504	\$411,284	3.0	2.5	\$335,896	\$243,675
CZ10-2	SCE	169,935	1262	41.08	\$167,608	\$317,927	\$411,284	1.9	2.5	\$150,319	\$243,675
CZ11	PG&E	152,559	2415	42.99	\$162,678	\$491,775	\$420,667	3.0	2.6	\$329,096	\$257,989
CZ12	PG&E	151,956	2309	42.21	\$162,376	\$494,703	\$417,063	3.0	2.6	\$332,327	\$254,687
CZ12-2	SMUD	151,956	2309	42.21	\$162,376	\$288,950	\$417,063	1.8	2.6	\$126,573	\$254,687
CZ13	PG&E	156,271	1983	41.25	\$166,722	\$485,422	\$395,770	2.9	2.4	\$318,699	\$229,047
CZ14	SDG&E	178,505	1672	43.94	\$168,224	\$452,456	\$457,387	2.7	2.7	\$284,232	\$289,163
CZ14-2	SCE	178,505	1672	43.94	\$168,224	\$311,520	\$457,387	1.9	2.7	\$143,296	\$289,163
CZ15	SCE	179,840	518	38.23	\$165,336	\$296,004	\$422,293	1.8	2.6	\$130,668	\$256,957
CZ16	PG&E	152,965	4304	53.53	\$169,109	\$483,205	\$378,299	2.9	2.2	\$314,096	\$209,190
CZ16-2	LA	152,965	4304	53.53	\$169,109	\$215,341	\$378,299	1.3	2.2	\$46,231	\$209,190



6.7.3 Cost Effectiveness Results – Small Hotel

Figure 70 through Figure 77 contain the cost-effectiveness findings for the Small Hotel packages. Notable findings for each package include:

- ◆ **Mixed-Fuel + 3 kW PV:** Packages are cost effective and achieve savings for all climate zones for both the On-Bill and TDV approaches.
- ◆ **Mixed-Fuel + 3 kW PV + 5 kWh Battery:** The packages are less cost effective as compared to the previous minimal PV only package and not cost effective for LADWP and SMUD service area. The addition of battery reduces the cost effectiveness of packages.
- ◆ **Mixed-Fuel + PV only:** Packages are cost effective and achieve savings for the On-Bill approach for all climate zones except for LADWP territory. Packages are cost effective and achieve savings for the TDV approach for all climate zones.
- ◆ **Mixed-Fuel + PV + 50 kWh Battery:** Adding battery slightly reduces On-Bill B/C ratios. Packages are not cost effective for LADWP territory, SMUD territory as well as for climate zones 6,8,9 under PG&E service area.
- ◆ **All-Electric + 3 kW PV:** All packages are cost effective using the On-Bill approach. All packages are cost effective using the TDV approach but do not achieve positive energy cost savings.
- ◆ **All-Electric + 3 kW PV + 5 kWh Battery:** Similar to minimal PV only package, all packages are cost effective using the On-Bill approach. All packages are cost effective using the TDV approach but do not achieve positive energy cost savings.
- ◆ **All-Electric + PV only:** All packages are cost effective for both On-Bill and TDV approaches. Packages achieve on-bill savings for all climate zones.
- ◆ **All-Electric + PV + 50 kWh Battery:** Adding battery slightly reduces On-Bill B/C ratios but is still cost effective for all climate zones.



Figure 70. Cost Effectiveness for Small Hotel – Mixed Fuel + 3kW PV

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Incremental Package Cost	Lifecycle Energy Cost Savings	Lifecycle \$-TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Mixed Fuel + 3kW PV											
CZ01	PG&E	3,941	0	0.8	\$5,566	\$12,616	\$8,326	2.3	1.5	\$7,050	\$2,760
CZ02	PG&E	4,785	0	0.9	\$5,566	\$12,639	\$10,332	2.3	1.9	\$7,073	\$4,766
CZ03	PG&E	4,733	0	0.9	\$5,566	\$15,146	\$9,991	2.7	1.8	\$9,580	\$4,425
CZ04	PG&E	4,834	0	1.0	\$5,566	\$13,266	\$10,445	2.4	1.9	\$7,700	\$4,879
CZ04-2	CPAU	4,834	0	1.0	\$5,566	\$11,507	\$10,445	2.1	1.9	\$5,941	\$4,879
CZ05	PG&E	5,027	0	1.0	\$5,566	\$16,048	\$10,634	2.9	1.9	\$10,482	\$5,068
CZ06	SCE	4,769	0	0.9	\$5,566	\$10,276	\$10,559	1.8	1.9	\$4,710	\$4,993
CZ06-2	LA	4,769	0	0.9	\$5,566	\$6,307	\$10,559	1.1	1.9	\$741	\$4,993
CZ07	SDG&E	4,960	0	1.0	\$5,566	\$14,576	\$10,861	2.6	2.0	\$9,010	\$5,295
CZ08	SCE	4,824	0	0.9	\$5,566	\$10,837	\$11,202	1.9	2.0	\$5,271	\$5,636
CZ08-2	LA	4,824	0	0.9	\$5,566	\$6,505	\$11,202	1.2	2.0	\$939	\$5,636
CZ09	SCE	4,779	0	0.9	\$5,566	\$10,298	\$10,824	1.9	1.9	\$4,732	\$5,258
CZ09-2	LA	4,779	0	0.9	\$5,566	\$6,201	\$10,824	1.1	1.9	\$635	\$5,258
CZ10	SDG&E	4,905	0	1.0	\$5,566	\$16,302	\$10,710	2.9	1.9	\$10,736	\$5,144
CZ10-2	SCE	4,905	0	1.0	\$5,566	\$9,468	\$10,710	1.7	1.9	\$3,902	\$5,144
CZ11	PG&E	4,701	0	0.9	\$5,566	\$14,193	\$10,483	2.6	1.9	\$8,627	\$4,917
CZ12	PG&E	4,770	0	0.9	\$5,566	\$15,262	\$10,596	2.7	1.9	\$9,696	\$5,030
CZ12-2	SMUD	4,770	0	0.9	\$5,566	\$7,848	\$10,596	1.4	1.9	\$2,282	\$5,030
CZ13	PG&E	4,633	0	0.9	\$5,566	\$14,674	\$10,105	2.6	1.8	\$9,108	\$4,539
CZ14	SDG&E	5,377	0	1.1	\$5,566	\$16,615	\$12,375	3.0	2.2	\$11,049	\$6,809
CZ14-2	SCE	5,377	0	1.1	\$5,566	\$10,021	\$12,375	1.8	2.2	\$4,455	\$6,809
CZ15	SCE	4,997	0	1.0	\$5,566	\$9,542	\$11,164	1.7	2.0	\$3,976	\$5,598
CZ16	PG&E	5,240	0	1.0	\$5,566	\$14,961	\$10,975	2.7	2.0	\$9,395	\$5,409
CZ16-2	LA	5,240	0	1.0	\$5,566	\$5,670	\$10,975	1.0	2.0	\$104	\$5,409



Figure 71. Cost Effectiveness for Small Hotel – Mixed Fuel + 3kW PV + 5 kWh Battery

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Incremental Package Cost	Lifecycle Energy Cost Savings	-\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Mixed Fuel + 3kW PV + 5kWh Battery											
CZ01	PG&E	3,941	0	0.8	\$9,520	\$12,616	\$8,326	1.3	0.9	\$3,096	(\$1,194)
CZ02	PG&E	4,785	0	0.9	\$9,520	\$12,639	\$10,332	1.3	1.1	\$3,119	\$811
CZ03	PG&E	4,733	0	0.9	\$9,520	\$15,146	\$9,991	1.6	1.0	\$5,626	\$471
CZ04	PG&E	4,834	0	1.0	\$9,520	\$13,266	\$10,445	1.4	1.1	\$3,746	\$925
CZ04-2	CPAU	4,834	0	1.0	\$9,520	\$11,507	\$10,445	1.2	1.1	\$1,987	\$925
CZ05	PG&E	5,027	0	1.0	\$9,520	\$16,048	\$10,634	1.7	1.1	\$6,528	\$1,114
CZ05-2	SCG	5,027	0	1.0	\$9,520	\$16,048	\$10,634	1.7	1.1	\$6,528	\$1,114
CZ06	SCE	4,769	0	0.9	\$9,520	\$10,276	\$10,559	1.1	1.1	\$756	\$1,039
CZ06-2	LA	4,769	0	0.9	\$9,520	\$6,307	\$10,559	0.7	1.1	(\$3,213)	\$1,039
CZ07	SDG&E	4,960	0	1.0	\$9,520	\$14,576	\$10,861	1.5	1.1	\$5,056	\$1,341
CZ08	SCE	4,824	0	0.9	\$9,520	\$10,837	\$11,202	1.1	1.2	\$1,317	\$1,682
CZ08-2	LA	4,824	0	0.9	\$9,520	\$6,505	\$11,202	0.7	1.2	(\$3,015)	\$1,682
CZ09	SCE	4,779	0	0.9	\$9,520	\$10,298	\$10,824	1.1	1.1	\$778	\$1,303
CZ09-2	LA	4,779	0	0.9	\$9,520	\$6,201	\$10,824	0.7	1.1	(\$3,319)	\$1,303
CZ10	SDG&E	4,905	0	1.0	\$9,520	\$16,302	\$10,710	1.7	1.1	\$6,782	\$1,190
CZ10-2	SCE	4,905	0	1.0	\$9,520	\$9,468	\$10,710	0.99	1.1	(\$52)	\$1,190
CZ11	PG&E	4,701	0	0.9	\$9,520	\$14,193	\$10,483	1.5	1.1	\$4,673	\$963
CZ12	PG&E	4,770	0	0.9	\$9,520	\$15,262	\$10,596	1.6	1.1	\$5,742	\$1,076
CZ12-2	SMUD	4,770	0	0.9	\$9,520	\$7,848	\$10,596	0.8	1.1	(\$1,672)	\$1,076
CZ13	PG&E	4,633	0	0.9	\$9,520	\$14,674	\$10,105	1.5	1.1	\$5,154	\$584
CZ14	SDG&E	5,377	0	1.1	\$9,520	\$16,615	\$12,375	1.7	1.3	\$7,095	\$2,855
CZ14-2	SCE	5,377	0	1.1	\$9,520	\$10,021	\$12,375	1.1	1.3	\$501	\$2,855
CZ15	SCE	4,997	0	1.0	\$9,520	\$9,542	\$11,164	1.0	1.2	\$22	\$1,644
CZ16	PG&E	5,240	0	1.0	\$9,520	\$14,961	\$10,975	1.6	1.2	\$5,441	\$1,455
CZ16-2	LA	5,240	0	1.0	\$9,520	\$5,670	\$10,975	0.6	1.2	(\$3,851)	\$1,455



Figure 72. Cost Effectiveness for Small Hotel - Mixed Fuel +80kW PV

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Incremental Package Cost	Lifecycle Energy Cost Savings	Lifecycle TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Mixed Fuel + 80kW PV											
CZ01	PG&E	105,090	0	20.6	\$179,470	\$336,440	\$221,883	1.9	1.2	\$156,970	\$42,413
CZ02	PG&E	127,592	0	25.0	\$179,470	\$320,009	\$275,130	1.8	1.5	\$140,539	\$95,660
CZ03	PG&E	126,206	0	24.8	\$179,470	\$403,900	\$266,426	2.3	1.5	\$224,430	\$86,956
CZ04	PG&E	128,894	0	25.4	\$179,470	\$322,782	\$278,536	1.8	1.6	\$143,312	\$99,066
CZ04-2	CPAU	128,894	0	25.4	\$179,470	\$306,862	\$278,536	1.7	1.6	\$127,392	\$99,066
CZ05	PG&E	134,041	0	26.5	\$179,470	\$427,935	\$283,834	2.4	1.6	\$248,465	\$104,364
CZ06	SCE	127,168	0	25.0	\$179,470	\$200,425	\$281,488	1.1	1.6	\$20,955	\$102,018
CZ06-2	LA	127,168	0	25.0	\$179,470	\$119,357	\$281,488	0.7	1.6	(\$60,113)	\$102,018
CZ07	SDG&E	132,258	0	26.1	\$179,470	\$247,646	\$289,700	1.4	1.6	\$68,176	\$110,230
CZ08	SCE	128,641	0	25.3	\$179,470	\$207,993	\$298,594	1.2	1.7	\$28,523	\$119,124
CZ08-2	LA	128,641	0	25.3	\$179,470	\$122,591	\$298,594	0.7	1.7	(\$56,879)	\$119,124
CZ09	SCE	127,447	0	25.3	\$179,470	\$211,567	\$288,830	1.2	1.6	\$32,096	\$109,360
CZ09-2	LA	127,447	0	25.3	\$179,470	\$123,486	\$288,830	0.7	1.6	(\$55,984)	\$109,360
CZ10	SDG&E	130,792	0	25.8	\$179,470	\$274,832	\$285,386	1.5	1.6	\$95,361	\$105,916
CZ10-2	SCE	130,792	0	25.8	\$179,470	\$206,865	\$285,386	1.2	1.6	\$27,395	\$105,916
CZ11	PG&E	125,366	0	24.6	\$179,470	\$316,781	\$279,331	1.8	1.6	\$137,311	\$99,861
CZ12	PG&E	127,203	0	25.0	\$179,470	\$406,977	\$282,358	2.3	1.6	\$227,507	\$102,888
CZ12-2	SMUD	127,203	0	25.0	\$179,470	\$198,254	\$282,358	1.1	1.6	\$18,784	\$102,888
CZ13	PG&E	123,535	0	24.4	\$179,470	\$317,261	\$269,908	1.8	1.5	\$137,791	\$90,437
CZ14	SDG&E	143,387	0	28.1	\$179,470	\$309,521	\$330,345	1.7	1.8	\$130,051	\$150,875
CZ14-2	SCE	143,387	0	28.1	\$179,470	\$225,083	\$330,345	1.3	1.8	\$45,612	\$150,875
CZ15	SCE	133,246	0	25.9	\$179,470	\$207,277	\$297,648	1.2	1.7	\$27,807	\$118,177
CZ16	PG&E	139,738	0	27.3	\$179,470	\$341,724	\$292,728	1.9	1.6	\$162,254	\$113,258
CZ16-2	LA	139,738	0	27.3	\$179,470	\$114,215	\$292,728	0.6	1.6	(\$65,255)	\$113,258



Figure 73. Cost Effectiveness for Small Hotel – Mixed Fuel + 80kW PV + 50 kWh Battery

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Incremental Package Cost	Lifecycle Energy Cost Savings	Lifecycle TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Mixed Fuel + 80kW PV + 50kWh Battery											
CZ01	PG&E	104,026	0	23.2	\$207,370	\$332,596	\$237,740	1.6	1.1	\$125,226	\$30,370
CZ02	PG&E	126,332	0	28.1	\$207,370	\$336,179	\$296,058	1.6	1.4	\$128,809	\$88,688
CZ03	PG&E	124,934	0	28.0	\$207,370	\$399,220	\$289,360	1.9	1.4	\$191,850	\$81,990
CZ04	PG&E	127,602	0	28.5	\$207,370	\$332,161	\$308,887	1.6	1.5	\$124,790	\$101,517
CZ04-2	CPAU	127,602	0	28.5	\$207,370	\$303,828	\$308,887	1.5	1.5	\$96,458	\$101,517
CZ05	PG&E	132,725	0	29.8	\$207,370	\$423,129	\$303,627	2.0	1.5	\$215,758	\$96,257
CZ06	SCE	125,880	0	28.4	\$207,370	\$193,814	\$297,950	0.9	1.4	(\$13,556)	\$90,580
CZ06-2	LA	125,880	0	28.4	\$207,370	\$123,083	\$297,950	0.6	1.4	(\$84,287)	\$90,580
CZ07	SDG&E	130,940	0	29.5	\$207,370	\$274,313	\$309,682	1.3	1.5	\$66,943	\$102,312
CZ08	SCE	127,332	0	28.5	\$207,370	\$199,786	\$312,899	1.0	1.5	(\$7,584)	\$105,529
CZ08-2	LA	127,332	0	28.5	\$207,370	\$124,651	\$312,899	0.6	1.5	(\$82,719)	\$105,529
CZ09	SCE	126,232	0	28.2	\$207,370	\$206,706	\$292,804	1.0	1.4	(\$664)	\$85,433
CZ09-2	LA	126,232	0	28.2	\$207,370	\$126,710	\$292,804	0.6	1.4	(\$80,660)	\$85,433
CZ10	SDG&E	129,683	0	28.4	\$207,370	\$292,202	\$287,278	1.4	1.4	\$84,832	\$79,908
CZ10-2	SCE	129,683	0	28.4	\$207,370	\$206,171	\$287,278	1.0	1.4	(\$1,199)	\$79,908
CZ11	PG&E	124,337	0	26.9	\$207,370	\$315,330	\$283,683	1.5	1.4	\$107,960	\$76,313
CZ12	PG&E	126,013	0	27.8	\$207,370	\$403,127	\$297,118	1.9	1.4	\$195,757	\$89,748
CZ12-2	SMUD	126,013	0	27.8	\$207,370	\$198,007	\$297,118	1.0	1.4	(\$9,363)	\$89,748
CZ13	PG&E	122,591	0	26.5	\$207,370	\$315,541	\$280,996	1.5	1.4	\$108,171	\$73,626
CZ14	SDG&E	142,257	0	30.7	\$207,370	\$317,565	\$334,697	1.5	1.6	\$110,195	\$127,327
CZ14-2	SCE	142,257	0	30.7	\$207,370	\$224,195	\$334,697	1.1	1.6	\$16,824	\$127,327
CZ15	SCE	132,418	0	27.8	\$207,370	\$208,044	\$299,199	1.0	1.4	\$674	\$91,829
CZ16	PG&E	138,402	0	30.7	\$207,370	\$358,582	\$315,699	1.7	1.5	\$151,212	\$108,329
CZ16-2	LA	138,402	0	30.7	\$207,370	\$118,770	\$315,699	0.6	1.5	(\$88,600)	\$108,329



Figure 74. Cost Effectiveness for Small Hotel – All-Electric + 3kW PV

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Incremental Package Cost*	Lifecycle Energy Cost Savings	Lifecycle TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
All-Electric + 3kW PV											
CZ01	PG&E	-155,861	16917	54.7	(\$1,265,139)	(\$568,892)	(\$106,835)	2.2	11.8	\$696,246	\$1,158,304
CZ02	PG&E	-113,954	12677	40.9	(\$1,266,111)	(\$229,433)	(\$41,288)	5.5	30.7	\$1,036,679	\$1,224,823
CZ03	PG&E	-105,862	12322	41.4	(\$1,268,383)	(\$309,874)	(\$41,175)	4.1	30.8	\$958,510	\$1,227,208
CZ04	PG&E	-108,570	11927	37.5	(\$1,268,218)	(\$208,239)	(\$42,689)	6.1	29.7	\$1,059,980	\$1,225,530
CZ04-2	CPAU	-108,570	11927	37.5	(\$1,268,218)	(\$6,261)	(\$42,689)	202.6	29.7	\$1,261,958	\$1,225,530
CZ05	PG&E	-103,579	11960	39.3	(\$1,268,272)	(\$332,879)	(\$44,051)	3.8	28.8	\$935,393	\$1,224,221
CZ06	SCE	-73,524	8912	30.3	(\$1,268,413)	\$48,898	(\$17,484)	>1	72.5	\$1,317,311	\$1,250,929
CZ06-2	LA	-64,859	8188	29.0	(\$1,266,760)	(\$120,842)	(\$12,337)	10.5	102.7	\$1,145,918	\$1,254,423
CZ07	SDG&E	-67,090	8353	29.2	(\$1,264,731)	(\$43,964)	(\$11,618)	28.8	108.9	\$1,220,767	\$1,253,113
CZ08	SCE	-67,090	8353	29.2	(\$1,264,731)	\$48,736	(\$11,618)	>1	108.9	\$1,313,467	\$1,253,113
CZ08-2	LA	-67,483	8402	29.3	(\$1,266,529)	(\$35,547)	(\$11,126)	35.6	113.8	\$1,230,982	\$1,255,403
CZ09	SCE	-67,483	8402	29.3	(\$1,266,529)	\$52,410	(\$11,126)	>1	113.8	\$1,318,939	\$1,255,403
CZ09-2	LA	-75,157	8418	27.2	(\$1,263,531)	(\$156,973)	(\$25,469)	8.0	49.6	\$1,106,558	\$1,238,061
CZ10	SDG&E	-75,157	8418	27.2	(\$1,263,531)	(\$54,711)	(\$25,469)	23.1	49.6	\$1,208,820	\$1,238,061
CZ10-2	SCE	-94,783	10252	31.9	(\$1,264,340)	(\$169,847)	(\$38,904)	7.4	32.5	\$1,094,493	\$1,225,436
CZ11	PG&E	-94,702	10403	33.0	(\$1,265,779)	(\$324,908)	(\$34,968)	3.9	36.2	\$940,872	\$1,230,811
CZ12	PG&E	-94,297	10403	33.1	(\$1,265,779)	\$13,603	(\$33,757)	>1	37.5	\$1,279,382	\$1,232,022
CZ12-2	SMUD	-92,196	10029	31.5	(\$1,264,152)	(\$168,358)	(\$40,229)	7.5	31.4	\$1,095,794	\$1,223,923
CZ13	PG&E	-96,021	10056	30.7	(\$1,264,510)	(\$308,542)	(\$44,202)	4.1	28.6	\$955,969	\$1,220,308
CZ14	SDG&E	-96,021	10056	30.7	(\$1,264,510)	(\$110,730)	(\$44,202)	11.4	28.6	\$1,153,780	\$1,220,308
CZ14-2	SCE	-44,856	5579	19.0	(\$1,262,631)	\$8,996	(\$10,256)	>1	123.1	\$1,271,627	\$1,252,375
CZ15	SCE	-211,468	17599	42.9	(\$1,268,907)	(\$625,671)	(\$228,203)	2.0	5.6	\$643,236	\$1,040,704
CZ16	PG&E	-211,468	17599	42.9	(\$1,268,907)	\$37,142	(\$228,203)	>1	5.6	\$1,306,049	\$1,040,704
CZ16-2	LA	-155,861	16917	54.7	(\$1,265,139)	(\$568,892)	(\$106,835)	2.2	11.8	\$696,246	\$1,158,304



Figure 75. Cost Effectiveness for Small Hotel – All-Electric + 3kW PV + 5 kWh Battery

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Incremental Package Cost	Lifecycle Energy Cost Savings	-\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
All-Electric + 3kW PV + 5kWh Battery											
CZ01	PG&E	-155,861	16917	54.7	(\$1,288,428)	(\$568,892)	(\$106,835)	2.3	12.1	\$719,536	\$1,181,593
CZ02	PG&E	-113,954	12677	40.9	(\$1,288,428)	(\$229,433)	(\$41,288)	5.6	31.2	\$1,058,996	\$1,247,140
CZ03	PG&E	-105,862	12322	41.4	(\$1,288,428)	(\$309,874)	(\$41,175)	4.2	31.3	\$978,554	\$1,247,253
CZ04	PG&E	-108,570	11927	37.5	(\$1,288,428)	(\$208,239)	(\$42,689)	6.2	30.2	\$1,080,190	\$1,245,740
CZ04-2	CPAU	-108,570	11927	37.5	(\$1,288,428)	(\$6,261)	(\$42,689)	205.8	30.2	\$1,282,167	\$1,245,740
CZ05	PG&E	-103,579	11960	39.3	(\$1,288,428)	(\$332,879)	(\$44,051)	3.9	29.2	\$955,549	\$1,244,377
CZ06	SCE	-73,524	8912	30.3	(\$1,288,428)	(\$52,341)	(\$17,484)	24.6	73.7	\$1,236,087	\$1,270,944
CZ06-2	LA	-73,524	8912	30.3	(\$1,288,428)	\$48,898	(\$17,484)	>1	73.7	\$1,337,326	\$1,270,944
CZ07	SDG&E	-64,859	8188	29.0	(\$1,288,428)	(\$120,842)	(\$12,337)	10.7	104.4	\$1,167,586	\$1,276,091
CZ08	SCE	-67,090	8353	29.2	(\$1,288,428)	(\$43,964)	(\$11,618)	29.3	110.9	\$1,244,464	\$1,276,810
CZ08-2	LA	-67,090	8353	29.2	(\$1,288,428)	\$48,736	(\$11,618)	>1	110.9	\$1,337,164	\$1,276,810
CZ09	SCE	-67,483	8402	29.3	(\$1,288,428)	(\$35,547)	(\$11,126)	36.2	115.8	\$1,252,881	\$1,277,302
CZ09-2	LA	-67,483	8402	29.3	(\$1,288,428)	\$52,410	(\$11,126)	>1	115.8	\$1,340,838	\$1,277,302
CZ10	SDG&E	-75,157	8418	27.2	(\$1,288,428)	(\$156,973)	(\$25,469)	8.2	50.6	\$1,131,455	\$1,262,959
CZ10-2	SCE	-75,157	8418	27.2	(\$1,288,428)	(\$54,711)	(\$25,469)	23.5	50.6	\$1,233,718	\$1,262,959
CZ11	PG&E	-94,783	10252	31.9	(\$1,288,428)	(\$169,847)	(\$38,904)	7.6	33.1	\$1,118,582	\$1,249,524
CZ12	PG&E	-94,702	10403	33.0	(\$1,288,428)	(\$324,908)	(\$34,968)	4.0	36.8	\$963,520	\$1,253,460
CZ12-2	SMUD	-94,297	10403	33.1	(\$1,288,428)	\$13,603	(\$33,757)	>1	38.2	\$1,302,031	\$1,254,671
CZ13	PG&E	-92,196	10029	31.5	(\$1,288,428)	(\$168,358)	(\$40,229)	7.7	32.0	\$1,120,071	\$1,248,199
CZ14	SDG&E	-96,021	10056	30.7	(\$1,288,428)	(\$308,542)	(\$44,202)	4.2	29.1	\$979,887	\$1,244,226
CZ14-2	SCE	-96,021	10056	30.7	(\$1,288,428)	(\$110,730)	(\$44,202)	11.6	29.1	\$1,177,698	\$1,244,226
CZ15	SCE	-44,856	5579	19.0	(\$1,288,428)	\$8,996	(\$10,256)	>1	125.6	\$1,297,425	\$1,278,172
CZ16	PG&E	-211,468	17599	42.9	(\$1,288,428)	(\$625,671)	(\$228,203)	2.1	5.6	\$662,757	\$1,060,225
CZ16-2	LA	-211,468	17599	42.9	(\$1,288,428)	\$37,142	(\$228,203)	>1	5.6	\$1,325,570	\$1,060,225



Figure 76. Cost Effectiveness for Small Hotel – All-Electric + 80kW PV

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Incremental Package Cost	Lifecycle Energy Cost Savings	-\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
All-Electric + 80kW PV											
CZ01	PG&E	-54,712	16917	74.6	(\$1,123,442)	(\$240,170)	\$106,722	4.7	>1	\$883,272	\$1,230,164
CZ02	PG&E	8,853	12677	65.0	(\$1,124,415)	\$128,649	\$223,510	>1	>1	\$1,253,063	\$1,347,925
CZ03	PG&E	15,612	12322	65.3	(\$1,126,687)	\$44,532	\$215,260	>1	>1	\$1,171,219	\$1,341,947
CZ04	PG&E	15,490	11927	62.0	(\$1,126,522)	\$145,778	\$225,402	>1	>1	\$1,272,300	\$1,351,924
CZ04-2	CPAU	15,490	11927	62.0	(\$1,126,522)	\$289,094	\$225,402	>1	>1	\$1,415,616	\$1,351,924
CZ05	PG&E	25,436	11960	64.8	(\$1,126,575)	\$56,019	\$229,149	>1	>1	\$1,182,594	\$1,355,724
CZ06	SCE	48,875	8912	54.4	(\$1,126,716)	\$163,343	\$253,445	>1	>1	\$1,290,060	\$1,380,161
CZ06-2	LA	62,439	8188	54.1	(\$1,125,064)	\$115,822	\$266,502	>1	>1	\$1,240,886	\$1,391,565
CZ07	SDG&E	56,727	8353	53.5	(\$1,123,034)	\$147,987	\$275,773	>1	>1	\$1,271,022	\$1,398,808
CZ08	SCE	56,727	8353	53.5	(\$1,123,034)	\$163,971	\$275,773	>1	>1	\$1,287,005	\$1,398,808
CZ08-2	LA	55,185	8402	53.7	(\$1,124,832)	\$155,101	\$266,880	>1	>1	\$1,279,933	\$1,391,712
CZ09	SCE	55,185	8402	53.7	(\$1,124,832)	\$169,010	\$266,880	>1	>1	\$1,293,843	\$1,391,712
CZ09-2	LA	50,731	8418	52.0	(\$1,121,834)	\$113,936	\$249,207	>1	>1	\$1,235,770	\$1,371,041
CZ10	SDG&E	50,731	8418	52.0	(\$1,121,834)	\$138,265	\$249,207	>1	>1	\$1,260,099	\$1,371,041
CZ10-2	SCE	25,882	10252	55.6	(\$1,122,643)	\$162,626	\$229,944	>1	>1	\$1,285,269	\$1,352,587
CZ11	PG&E	27,731	10403	57.1	(\$1,124,083)	\$12,954	\$236,794	>1	>1	\$1,137,037	\$1,360,876
CZ12	PG&E	28,136	10403	57.2	(\$1,124,083)	\$206,756	\$238,005	>1	>1	\$1,330,839	\$1,362,087
CZ12-2	SMUD	26,706	10029	55.0	(\$1,122,455)	\$165,991	\$219,574	>1	>1	\$1,288,446	\$1,342,030
CZ13	PG&E	41,989	10056	57.8	(\$1,122,814)	\$22,333	\$273,768	>1	>1	\$1,145,147	\$1,396,582
CZ14	SDG&E	41,989	10056	57.8	(\$1,122,814)	\$120,943	\$273,768	>1	>1	\$1,243,757	\$1,396,582
CZ14-2	SCE	83,393	5579	44.0	(\$1,120,934)	\$210,511	\$276,228	>1	>1	\$1,331,445	\$1,397,162
CZ15	SCE	-76,971	17599	69.2	(\$1,127,210)	(\$199,308)	\$53,550	5.7	>1	\$927,902	\$1,180,760
CZ16	PG&E	-76,971	17599	69.2	(\$1,127,210)	\$172,787	\$53,550	>1	>1	\$1,299,997	\$1,180,760
CZ16-2	LA	-54,712	16917	74.6	(\$1,123,442)	(\$240,170)	\$106,722	4.7	>1	\$883,272	\$1,230,164



Figure 77. Cost Effectiveness for Small Hotel – All-Electric + 80kW PV + 50 kWh Battery

CZ	IOU territory	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Incremental Package Cost	Lifecycle Energy Cost Savings	-\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
All-Electric + 80kW PV + 50kWh Battery											
CZ01	PG&E	-55,323	16917	75.7	(\$1,095,542)	(\$238,351)	\$118,605	4.6	>1	\$857,191	\$1,214,147
CZ02	PG&E	7,849	12677	67.4	(\$1,096,515)	\$129,794	\$239,632	>1	>1	\$1,226,309	\$1,336,146
CZ03	PG&E	14,594	12322	67.7	(\$1,098,787)	\$43,166	\$235,280	>1	>1	\$1,141,953	\$1,334,067
CZ04	PG&E	14,459	11927	64.4	(\$1,098,622)	\$148,698	\$249,244	>1	>1	\$1,247,320	\$1,347,866
CZ04-2	CPAU	14,459	11927	64.4	(\$1,098,622)	\$286,573	\$249,244	>1	>1	\$1,385,195	\$1,347,866
CZ05	PG&E	24,292	11960	67.6	(\$1,098,675)	\$53,719	\$244,514	>1	>1	\$1,152,394	\$1,343,189
CZ06	SCE	47,762	8912	57.2	(\$1,098,816)	\$165,763	\$267,221	>1	>1	\$1,264,579	\$1,366,037
CZ06-2	LA	61,252	8188	57.1	(\$1,097,164)	\$138,060	\$283,797	>1	>1	\$1,235,223	\$1,380,960
CZ07	SDG&E	55,588	8353	56.2	(\$1,095,134)	\$138,718	\$286,483	>1	>1	\$1,233,852	\$1,381,618
CZ08	SCE	55,588	8353	56.2	(\$1,095,134)	\$165,932	\$286,483	>1	>1	\$1,261,066	\$1,381,618
CZ08-2	LA	54,162	8402	56.1	(\$1,096,932)	\$149,615	\$269,453	>1	>1	\$1,246,548	\$1,366,386
CZ09	SCE	54,162	8402	56.1	(\$1,096,932)	\$171,168	\$269,453	>1	>1	\$1,268,101	\$1,366,386
CZ09-2	LA	49,832	8418	54.1	(\$1,093,934)	\$120,627	\$250,720	>1	>1	\$1,214,561	\$1,344,654
CZ10	SDG&E	49,832	8418	54.1	(\$1,093,934)	\$136,144	\$250,720	>1	>1	\$1,230,078	\$1,344,654
CZ10-2	SCE	25,148	10252	57.3	(\$1,094,743)	\$160,744	\$233,842	>1	>1	\$1,255,487	\$1,328,585
CZ11	PG&E	26,813	10403	59.2	(\$1,096,183)	\$10,314	\$247,504	>1	>1	\$1,106,497	\$1,343,686
CZ12	PG&E	27,217	10403	59.3	(\$1,096,183)	\$206,749	\$248,790	>1	>1	\$1,302,931	\$1,344,973
CZ12-2	SMUD	26,027	10029	56.5	(\$1,094,555)	\$164,506	\$229,300	>1	>1	\$1,259,061	\$1,323,856
CZ13	PG&E	41,123	10056	59.7	(\$1,094,914)	\$25,707	\$276,947	>1	>1	\$1,120,621	\$1,371,860
CZ14	SDG&E	41,123	10056	59.7	(\$1,094,914)	\$119,382	\$276,947	>1	>1	\$1,214,296	\$1,371,860
CZ14-2	SCE	82,697	5579	45.5	(\$1,093,034)	\$209,837	\$277,287	>1	>1	\$1,302,871	\$1,370,321
CZ15	SCE	-77,815	17599	71.1	(\$1,099,310)	(\$193,758)	\$65,850	5.7	>1	\$905,552	\$1,165,160
CZ16	PG&E	-77,815	17599	71.1	(\$1,099,310)	\$175,872	\$65,850	>1	>1	\$1,275,182	\$1,165,160
CZ16-2	LA	-55,323	16917	75.7	(\$1,095,542)	(\$238,351)	\$118,605	4.6	>1	\$857,191	\$1,214,147



6.8 List of Relevant Efficiency Measures Explored

The Reach Code Team started with a potential list of energy efficiency measures proposed for 2022 Title 24 codes and standards enhancement measures, as well as measures from the 2018 International Green Construction Code, which is based on ASHRAE Standard 189.1-2017. The team also developed new measures based on their experience. This original list was over 100 measures long. The measures were filtered based on applicability to the prototypes in this study, ability to model in simulation software, previously demonstrated energy savings potential, and market readiness. The list of 28 measures below represent the list of efficiency measures that meet these criteria and were investigated to some degree. The column to the far right indicates whether the measure was ultimately included in analysis or not.

Figure 78. List of Relevant Efficiency Measures Explored

Building Component	Measure Name	Measure Description	Notes	Include?
Water Heating	Drain water Heat Recovery	Add drain water heat recovery in hotel prototype	Requires calculations outside of modeling software.	Y
Envelope	High performance fenestration	Improved fenestration SHGC (reduce to 0.22).		Y
Envelope	High SHGC for cold climates	Raise prescriptive fenestration SHGC (to 0.45) in cold climates where additional heat is beneficial.		Y
Envelope	Allowable fenestration by orientation	Limit amount of fenestration as a function of orientation		Y
Envelope	High Thermal Mass Buildings	Increase building thermal mass. Thermal mass slows the change in internal temperature of buildings with respect to the outdoor temperature, allowing the peak cooling load during summer to be pushed to the evening, resulting in lower overall cooling loads.	Initial energy modeling results showed marginal cooling savings, negative heating savings.	N
Envelope	Opaque Insulation	Increases the insulation requirement for opaque envelopes (i.e., roof and above-grade wall).	Initial energy modeling results showed marginal energy savings at significant costs which would not meet c/e criteria.	N
Envelope	Triple pane windows	U-factor of 0.20 for all windows	Initial energy modeling results showed only marginal energy savings and, in some cases, increased energy use.	N



Building Component	Measure Name	Measure Description	Notes	Include?
Envelope	Duct Leakage Testing	Expand duct leakage testing requirements based on ASHRAE Standard 215-2018: Method of Test to Determine Leakage of Operating HVAC Air Distribution Systems (ANSI Approved).	More research needs to be done on current duct leakage and how it can be addressed.	N
Envelope	Fenestration area	Reduce maximum allowable fenestration area to 30%.	Instead of this measure, analyzed measure which looked at limiting fenestration based on wall orientation.	N
Envelope	Skinny triple pane windows	U-factor of 0.20 for all windows, with no changes to existing framing or building structure.	Market not ready. No commercially-available products for commercial buildings.	N
Envelope	Permanent projections	Detailed prescriptive requirements for shading based on ASHRAE 189. PF >0.50 for first story and >0.25 for other floors. Many exceptions. Corresponding SHGC multipliers to be used.	Title 24 already allows owner to trade off SHGC with permanent projections. Also, adding requirements for permanent projections would raise concerns.	N
Envelope	Reduced infiltration	Reduce infiltration rates by improving building sealing.	Infiltration rates are a fixed ACM input and cannot be changed. A workaround attempt would not be precise, and the practicality of implementation by developers is low given the modeling capabilities and the fact that in-field verification is challenging. Benefits would predominantly be for air quality rather than energy.	N



Building Component	Measure Name	Measure Description	Notes	Include?
HVAC	Heat recovery ventilation	For the hotel, recover and transfer heat from exhausted air to ventilation air.	<p>For small hotels, the ventilation requirement could be met by various approaches, and the most common ones are:</p> <ul style="list-style-type: none"> a. Exhaust only system, and ventilation is met by infiltration or window operation. b. Through a Z-duct that connects the zone AC unit's intake to an outside air intake louver. c. Centralized ventilation system (DOAS) <p>The prototype developed for the small hotel is using Type 2 above. The major consideration is that currently, HRV + PTACs cannot be modeled at each guest room, only at the rooftop system. Option 1 would require the same type of HRV implementation as Option 2. Option 3 may be pursuable, but would require a significant redesign of the system, with questionable impacts. Previous studies have found heat recovery as cost effective in California only in buildings with high loads or high air exchange rates, given the relatively mild climate.</p>	N
HVAC	Require Economizers in Smaller Capacity Systems	Lower the capacity trigger for air economizers. Previous studies have shown cost effectiveness for systems as low as 3 tons.		Y
HVAC	Reduce VAV minimum flow limit	Current T24 and 90.1 requirements limit VAV minimum flow rates to no more than 20% of maximum flow. Proposal based on ASHRAE Guideline 36 which includes sequences that remove technical barriers that previously existed. Also, most new DDC controllers are now capable of lower limits. The new limit may be as low as the required ventilation rate. A non-energy benefit of this measure is a reduction in over-cooling, thus improving comfort.		Y



Building Component	Measure Name	Measure Description	Notes	Include?
HVAC	Building Automation System (BAS) improvements	With adoption of ASHRAE Guideline 36 (GDL-36), there is now a national consensus standard for the description of high-performance sequences of operation. This measure will update BAS control requirements to improve usability and enforcement and to increase energy efficiency. BAS control requirement language will be improved either by adoption of similar language to GDL-36, or reference to GDL-36. Specific T24 BAS control topics that will be addressed include at a minimum: DCV, demand-based reset of SAT, demand-based reset of SP, dual-maximum zone sequences, and zone groups for scheduling.	In order to realize any savings in the difference, we would need a very detailed energy model with space-by-space load/occupant diversity, etc. We would also need more modeling capability than is currently available in CBECC-Com.	N
HVAC	Fault Detection Devices (FDD)	Expand FDD requirements to a wider range of AHU faults beyond the economizer. Fault requirements will be based on NIST field research, which has consequently been integrated into ASHRAE Guideline 36 Best in Class Sequences of Operations. Costs are solely to develop the sequences, which is likely minimal, and much of the hardware required for economizer FDD is also used to detect other faults.	Market not ready.	N
HVAC	Small circulator pumps ECM, trim to flow rate	Circulator pumps for industry and commercial.	Hot water pump energy use is small already (<1% building electricity usage) so not much savings potential. More savings for CHW pumps. Modeling limitations as well.	N
HVAC	High Performance Ducts to Reduce Static Pressure	Revise requirements for duct sizing to reduce static pressure.	Preliminary energy modeling results showed only marginal energy savings compared to measure cost.	N
HVAC	Parallel fan-powered boxes	Use of parallel fan-powered boxes	Unable to model PFPB with variable speed fans in modeling software.	N
Lighting	Daylight Dimming Plus OFF	Automatic daylight dimming controls requirements include the OFF step.		Y
Lighting	Occupant Sensing in Open Plan Offices	Take the PAF without allowing for increased design wattage		Y
Lighting	Institutional tuning	Take the PAF without allowing for increased design wattage		Y



Building Component	Measure Name	Measure Description	Notes	Include?
Lighting	Reduced Interior Lighting Power Density	Reduced interior LPD values.		Y
Lighting	Shift from general to task illumination	Low levels of general illumination with task and accent lighting added to locations where higher light levels are required. The shift from general to task illumination measure is based on the assumption that proper lighting of a desk surface with high efficacy lighting can allow for the significant reduction of ambient general lighting.	This is a tough measure to require as the LPDs decrease.	N
Lighting	Future-proof lighting controls	Fill any holes in the current code that could lead to the situations where TLEDS or LED fixtures that are not dimmable or upgradable in the future, or any other issues with code that make it hard to transition to ALCS/IoT lighting in the future	Major lighting controls already covered in other measures being considered	N
Lighting	Integrated control of lighting and HVAC systems	Formalize the definition of "lighting and HVAC control integration" by defining the level of data sharing required between systems and the mechanism needed to share such data. The highest savings potential would likely be generated from VAV HVAC systems by closing the damper in unoccupied zones based on the occupancy sensor information from the lighting systems.	Not market ready enough.	N
Other	NR Plug Load Controls	Energy savings opportunities for plug loads, which may include: energy efficient equipment, equipment power management, occupancy sensor control, and occupant awareness programs. The proposal could be extending controlled receptacles requirements in Section 130.5(d) to more occupancy types. It would also consider circuit-level controls.	Office equipment now all have their own standby power modes that use very little power, making plug load controls very difficult to be cost-effective.	N



6.9 Additional Rates Analysis - Healdsburg

After the final version of the report was released, the Reach Code Team provided additional cost effectiveness analysis in Climate Zone 2 using City of Healdsburg electric utility rates and PG&E gas rates. All aspects of the methodology remain the same, and the results for each package and prototype are aggregated below in Figure 79 through Figure 81. Results generally indicate:

- ◆ Mixed fuel prototypes achieve positive compliance margins for EE packages and are cost effective.
- ◆ All-electric prototypes achieve slightly lower compliance margins than mixed fuel for EE packages and are cost effective.
- ◆ All PV and PV+Battery packages are cost effective both using an on-bill and TDV approach.



Figure 79. Healdsburg Utility Rates Analysis – Medium Office, All Packages Cost Effectiveness Summary

Prototype	Package	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Compliance Margin (%)	Incremental Package Cost	Lifecycle Energy Cost Savings	\$-TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Medium Office	Mixed Fuel + EE	40,985	-505	8.1	17%	\$66,649	\$89,645	\$99,181	1.3	1.5	\$22,996	\$32,532
	Mixed Fuel + EE + PVB	255,787	-505	50.6	17%	\$359,648	\$510,922	\$573,033	1.4	1.6	\$151,274	\$213,385
	Mixed Fuel + HE	3,795	550	4.3	4%	\$68,937	\$24,204	\$24,676	0.4	0.4	-\$44,733	-\$44,261
	All-Electric	-49,684	3,868	5.0	-7%	-\$73,695	-\$7,042	-\$41,429	10.5	1.8	\$66,653	\$32,266
	All-Electric + EE	-11,811	3,868	15.2	10%	-\$7,046	\$83,285	\$58,563	>1	>1	\$90,331	\$65,609
	All-Electric + EE + PVB	203,026	3,868	57.8	10%	\$285,953	\$511,954	\$532,273	1.8	1.9	\$226,001	\$246,320
	All-Electric + HE	-45,916	3,868	6.1	-5%	-\$22,722	\$6,983	-\$26,394	>1	0.9	\$29,705	-\$3,672
	Mixed Fuel + 3kW	4,785	0	0.9	n/a	\$5,566	\$10,430	\$10,500	1.9	1.9	\$4,864	\$4,934
	Mixed Fuel + 3kW + 5kWh	4,785	0	0.9	n/a	\$8,356	\$10,430	\$10,500	1.2	1.3	\$2,074	\$2,144
	Mixed Fuel + 135kW	215,311	0	41.5	n/a	\$250,470	\$424,452	\$471,705	1.7	1.9	\$173,982	\$221,235
	Mixed Fuel + 135kW + 50kWh	214,861	0	42.6	n/a	\$278,370	\$423,721	\$472,898	1.5	1.7	\$145,351	\$194,528
	All-Electric + 3kW	-44,899	3,868	6.0	n/a	-\$68,129	\$3,299	-\$30,928	>1	2.2	\$71,429	\$37,201
	All-Electric + 3kW + 5kWh	-44,899	3,868	6.0	n/a	-\$65,339	\$3,299	-\$30,928	>1	2.1	\$68,639	\$34,411
	All-Electric + 135kW	165,627	3,868	46.6	n/a	\$176,775	\$424,146	\$430,276	2.4	2.4	\$247,371	\$253,501
	All-Electric + 135kW + 50kWh	165,200	3,868	47.7	n/a	\$204,675	\$423,466	\$431,469	2.1	2.1	\$218,792	\$226,795
	All-Electric + 80kW + 50kWh	40,985	-505	8.1	17%	\$66,649	\$89,645	\$99,181	1.3	1.5	\$22,996	\$32,532



Figure 80. Healdsburg Utility Rates Analysis – Medium Retail, All Packages Cost Effectiveness Summary

Prototype	Package	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Compliance Margin (%)	Incremental Package Cost	Lifecycle Energy Cost Savings	\$-TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Medium Retail	Mixed Fuel + EE	18,885	613	8.7	13%	\$5,569	\$49,546	\$59,135	8.9	10.6	\$43,977	\$53,566
	Mixed Fuel + EE + PVB	189,400	613	43.8	13%	\$249,475	\$376,219	\$465,474	1.5	1.9	\$126,744	\$215,999
	Mixed Fuel + HE	2,288	229	2.0	3%	\$9,726	\$13,143	\$13,998	1.4	1.4	\$3,417	\$4,273
	All-Electric	-21,786	2,448	7.5	-1%	-\$27,464	\$9,228	-\$4,483	>1	6.1	\$36,692	\$22,981
	All-Electric + EE	2,843	2,448	14.6	13%	-\$21,895	\$61,918	\$56,893	>1	>1	\$83,813	\$78,788
	All-Electric + EE + PVB	173,387	2,448	49.9	13%	\$222,012	\$391,257	\$463,431	1.8	2.1	\$169,245	\$241,419
	All-Electric + HE	-16,989	2,448	8.9	3%	-\$4,211	\$23,567	\$11,251	>1	>1	\$27,779	\$15,463
	Mixed Fuel + 3kW	4,685	0	0.9	n/a	\$5,566	\$10,256	\$10,262	1.8	1.8	\$4,690	\$4,696
	Mixed Fuel + 3kW + 5kWh	4,685	0	0.9	n/a	\$8,356	\$10,256	\$10,262	1.2	1.2	\$1,900	\$1,906
	Mixed Fuel + 110kW	171,790	0	33.3	n/a	\$204,087	\$316,293	\$376,300	1.5	1.8	\$112,206	\$172,213
	Mixed Fuel + 110kW + 50kWh	170,542	0	35.1	n/a	\$231,987	\$320,349	\$398,363	1.4	1.7	\$88,363	\$166,376
	All-Electric + 3kW	-17,101	2,448	8.4	n/a	-\$21,898	\$19,523	\$5,779	>1	>1	\$41,421	\$27,677
	All-Electric + 3kW + 5kWh	-17,101	2,448	8.4	n/a	-\$19,108	\$19,523	\$5,779	>1	>1	\$38,631	\$24,887
	All-Electric + 110kW	150,004	2,448	40.8	n/a	\$176,623	\$332,213	\$371,817	1.9	2.1	\$155,591	\$195,194
	All-Electric + 110kW + 50kWh	148,793	2,448	42.9	n/a	\$204,523	\$335,043	\$394,099	1.6	1.9	\$130,520	\$189,577



Figure 81. Healdsburg Utility Rates Analysis - Small Hotel, All Packages Cost Effectiveness Summary

Prototype	Package	Elec Savings (kWh)	Gas Savings (therms)	GHG savings (tons)	Compliance Margin (%)	Incremental Package Cost	Lifecycle Energy Cost Savings	-\$TDV Savings	B/C Ratio (On-bill)	B/C Ratio (TDV)	NPV (On-bill)	NPV (TDV)
Small Hotel	Mixed Fuel + EE	3,802	976	3.9	7%	\$20,971	\$22,829	\$29,353	1.1	1.4	\$1,857	\$8,381
	Mixed Fuel + EE + PVB	130,144	976	31.1	7%	\$205,967	\$254,577	\$336,575	1.2	1.6	\$48,610	\$130,608
	Mixed Fuel + HE	981	402	2.7	3%	\$23,092	\$12,291	\$11,808	0.5	0.5	-\$10,801	-\$11,284
	All-Electric	-	12,677	40.0	-12%	-\$1,297,757	-\$24,318	-\$51,620	53.4	25.1	\$1,273,439	\$1,246,137
	All-Electric + EE	-88,410	12,677	45.9	5%	-\$1,265,064	\$45,918	\$20,860	>1	>1	\$1,310,982	\$1,285,924
	All-Electric + EE + PVB	38,115	12,677	73.5	5%	-\$1,080,068	\$296,233	\$317,296	>1	>1	\$1,376,301	\$1,397,365
	All-Electric + HE	-	12,677	41.2	-11%	-\$1,283,243	-\$83,994	-\$44,505	15.3	28.8	\$1,199,249	\$1,238,738
	Mixed Fuel + 3kW	4,785	0	0.9	n/a	\$5,566	\$8,927	\$10,332	1.6	1.9	\$3,361	\$4,766
	Mixed Fuel + 3kW + 5kWh	4,785	0	0.9	n/a	\$8,356	\$8,927	\$10,332	1.1	1.2	\$571	\$1,976
	Mixed Fuel + 80kW	127,592	0	25.0	n/a	\$148,427	\$229,794	\$275,130	1.5	1.9	\$81,367	\$126,703
	Mixed Fuel + 80kW + 50kWh	126,332	0	28.1	n/a	\$176,327	\$236,570	\$296,058	1.3	1.7	\$60,243	\$119,731
	All-Electric + 3kW	-	12,677	40.9	n/a	-\$1,292,191	-\$14,447	-\$41,288	89.4	31.3	\$1,277,744	\$1,250,902
	All-Electric + 3kW + 5kWh	-	12,677	40.9	n/a	-\$1,289,401	-\$14,447	-\$41,288	89.3	31.2	\$1,274,954	\$1,248,112
	All-Electric + 80kW	8,853	12,677	65.0	n/a	-\$1,149,330	\$222,070	\$223,510	>1	>1	\$1,371,400	\$1,372,840
	All-Electric + 80kW + 50kWh	7,849	12,677	67.4	n/a	-\$1,121,430	\$223,812	\$239,632	>1	>1	\$1,345,241	\$1,361,062





Robert S. Kenney
Vice President
State and Regulatory Affairs

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September 23, 2019

VIA EMAIL TO: Sarah Moore, Sustainability Program Manager
smoore@cityofberkeley.info

Mr. Timothy Burroughs
Director, Planning and Development Department
City of Berkeley
1947 Center Street, 6th Floor
Berkeley, CA 94704

Dear Mr. Burroughs:

Pacific Gas and Electric Company (PG&E) is proud to provide electric and natural gas service to the City of Berkeley. And we are committed to helping customers and the community achieve their energy goals. As part of this commitment, PG&E welcomes the opportunity to support the City of Berkeley's efforts to promote efficient, all-electric new construction, when it is cost-effective.

PG&E strongly supports California's climate and clean air goals. We recognize that achieving these goals requires a range of approaches and tools, including increasing the use of energy-efficient electric appliances in buildings when cost-effective. PG&E welcomes the opportunity to avoid investments in new gas assets that might later prove underutilized as local governments and the state work together to realize long-term decarbonization objectives. With all this in mind, PG&E supports local government policies that promote all-electric new construction when cost effective.

PG&E recognizes the need for a multi-faceted approach to address climate change, including electrification, as well as opportunities to decarbonize the gas system with renewable natural gas and hydrogen. As electrification policies are implemented and as large scale renewable gas options develop, PG&E will continue to ensure the safe and reliable operation of the existing gas system to continue supporting the customers that depend on it.

PG&E appreciates the partnership with the City of Berkeley during its policy development process, which allows us to prepare for the future and continue providing the best service possible to customers. PG&E remains ready to engage with our customers, local government, businesses, and community members to meet their needs safely, reliably, affordably, and with clean energy.

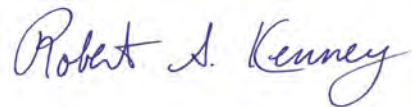
PG&E looks forward to continuing to work with the City of Berkeley to accomplish its policy goals.

September 23, 2019

Page 2 of 2

Thank you, and have a safe day.

Sincerely,

A handwritten signature in blue ink that reads "Robert S. Kenney". The signature is written in a cursive style with a large, stylized 'R' and 'K'.

Robert S. Kenney
Vice President

cc: Berkeley Mayor Jesses Arreguin and Councilmembers
Alex Roshal, Chief Building Official and Building and Safety Division Manager
Billi Romain, Office of Energy and Sustainable Development Manager
Anna Brooks, Sr. Manager, Public Affairs, PG&E [anna.brooks@pge.com]
Darin Cline, Sr. Manager, Government Relations, PG&E [Darin.Cline@pge.com]

**NOTICE OF PUBLIC HEARING
BERKELEY CITY COUNCIL**

Adoption of Berkeley Building Codes

The Department of Planning is proposing that City Council adopt the second reading of an ordinance an Ordinance repealing and reenacting the Berkeley Building, Residential, Electrical, Mechanical, Plumbing, Energy and Green Building Standards Codes in BMC Chapters 19.28, 19.29, 19.30, 19.32, 19.34, 19.36 and 19.37, and adopting related procedural and stricter provisions.

The hearing will be held on December 3, 2019 at 6:00 p.m. in the School District Board Room, 1231 Addison Street

A copy of the agenda material for this hearing will be available on the City’s website at www.CityofBerkeley.info as of **November 21, 2019**.

For further information, please contact Alex Roshal, Chief Building Official, Manager of Building and Safety Division, Planning and Development Department, 510-981-7445

Written comments should be mailed or delivered directly to the City Clerk, 2180 Milvia Street, Berkeley, CA 94704, in order to ensure delivery to all Councilmembers and inclusion in the agenda packet.

Communications to the Berkeley City Council are public record and will become part of the City’s electronic records, which are accessible through the City’s website. **Please note: e-mail addresses, names, addresses, and other contact information are not required, but if included in any communication to the City Council, will become part of the public record.** If you do not want your e-mail address or any other contact information to be made public, you may deliver communications via U.S. Postal Service or in person to the City Clerk. If you do not want your contact information included in the public record, please do not include that information in your communication. Please contact the City Clerk at 981-6900 or clerk@cityofberkeley.info for further information.

Published: The Berkeley Voice – November 15 and November 22, 2019.
Public hearing required per California Government Code section 50022.3

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I hereby certify that the Notice for this Public Hearing of the Berkeley City Council was posted at the display case located near the walkway in front of the Maudelle Shirek Building, 2134 Martin Luther King Jr. Way, as well as on the City’s website, on November 21, 2019.

\_\_\_\_\_  
Mark Numainville, City Clerk





Office of the City Manager

21

PUBLIC HEARING

December 3, 2019

To: Honorable Mayor and Members of the City Council

From: Dee Williams-Ridley, City Manager

Submitted by: Phillip L. Harrington, Director, Department of Public Works

Subject: Milvia Bikeway Project Conceptual Design

RECOMMENDATION

Conduct a public hearing and upon conclusion, adopt a Resolution approving the conceptual design of the Milvia Bikeway Project, including installation of a protected bikeway and the removal or modification of traffic lanes and on-street parking, and specified changes from two-way to one-way traffic operations, as necessary, and directing the City Manager to direct staff to proceed with the detailed engineering design of the project.

FISCAL IMPACTS OF RECOMMENDATION

The recommendation has no fiscal impacts.

CURRENT SITUATION AND ITS EFFECTS

The Milvia Bikeway project proposes to improve safety and access for people walking, biking, and driving on Milvia Street between Hearst Avenue and Blake Street. Project objectives are to improve safety for everyone traveling along Milvia Street; provide a more comfortable bicycling and walking experience for people of all ages and abilities; improve connectivity and accessibility to encourage bicycling and walking trips; and maintain and support the economic vitality of the corridor. To achieve these goals, the project proposes to build a protected bikeway – a bicycle lane physically protected from motor vehicle traffic – that includes customer parking for downtown businesses, and improvements to commercial and passenger loading and pedestrian crossing safety.

*Traffic, Parking, and Commercial and Passenger Loading Zones*

The preferred design alternative changes certain blocks from two-way vehicle traffic to one-way vehicle traffic, to make space for a continuous protected bikeway on either side of the street, while retaining parking in key locations. Milvia Street would be one-way southbound for drivers between University Avenue and Center Street and between Channing Way and Dwight Way; and one-way northbound for drivers between University and Hearst Avenues. The project proposes a southbound fire lane between Berkeley Way and University Avenue to preserve emergency access and circulation for Berkeley Fire Department Station Number 2, located on Berkeley Way between Milvia Street and Shattuck Avenue. Vehicle traffic would remain two-way between Dwight Way

and Blake Street to preserve emergency access to and circulation around Sutter Urgent Care and Alta Bates Summit Medical Center, for Berkeley Fire Department Station Number 5, located on Shattuck Avenue between Carleton Street and Derby Street. Vehicle traffic between Center Street and Channing Way would remain unchanged. According to a traffic study performed by engineering firm Fehr and Peers, one-way southbound traffic on Milvia between University Avenue and Center Street would cause drivers currently travelling northbound on Milvia to divert to Martin Luther King Jr. Way and Shattuck Avenue. As a result, drivers would experience increased delay on the northbound approach to the intersection of Martin Luther King Jr. Way and University Avenue. To address this increased delay, the project proposes to lengthen the northbound left turn lane at the intersection of Martin Luther King Jr. Way and University Avenue and to monitor the post-project operations for future traffic changes as necessary. Similarly, traffic diversion resulting from changes from two-way to one-way northbound vehicle operations on Milvia will result in additional delay for drivers travelling southbound on Shattuck Avenue approaching the intersection of University Avenue and Shattuck Avenue. City traffic engineering staff anticipate that improvements as part of the Shattuck Reconfiguration Project may address this. If not, signal retiming will be considered at this intersection.

The proposed project would remove approximately 66 of 135 existing parking spaces along Milvia Street, and relocate yellow commercial loading zones, white passenger loading zones, and blue zone disabled parking spaces. These zones and spaces will remain on Milvia Street or will be moved to adjacent side street locations, around the corner from the existing location whenever possible. Public Works Transportation Division staff have worked closely with the City's Disability Services Coordinator and consulted with the Berkeley Commission on Disability to develop a conceptual design that ensures continued parking accessibility as part of the new bikeway design. City staff have also consulted with the Downtown Business Association and local merchants to better understand merchants' needs for commercial loading and customer parking. While overall parking supply on Milvia Street is reduced, the proposed design improves commercial loading and increases customer parking in crucial areas such as on the west side of the block between University Avenue and Addison Street. Additionally, completion of the 720 space Center Street Garage in 2018 increased parking supply in the area by 280 spaces. City staff have worked with Berkeley High School and the Safe Routes to School program to better understand the circulation needs around the school campus. As a result, the design includes a new passenger boarding island along the Milvia Street frontage of Berkeley High School, to alleviate the existing conflicts between the bike lane and student pick-up/drop-off activities in the morning and afternoon.

### Public Engagement

In 2015, the City partnered with Bike East Bay to present a day-long protected bikeway demonstration using temporary traffic control materials on Milvia Street between Center Street and Allston Way. Since then, City staff and consultants have conducted three

“pop-up” tabling events in September 2018; two Public Open Houses, in January 2019 and in October 2019; met with the Downtown Business Association and local merchant stakeholders in October 2019; reviewed the design with the Berkeley Fire Department; and presented the project to the Berkeley Commission on Disability. On October 17, 2019, City staff presented the conceptual design to the Berkeley Transportation Commission, which voted unanimously to recommended approval of the conceptual design by the Berkeley City Council.

Per the requirements of the California Environmental Quality Act, as revised by Assembly Bill 2245, a traffic study and public hearing must be held to consider impacts of the proposed bikeway prior to removal of traffic lanes. Staff anticipates that the Milvia Bikeway Project will next return to the Berkeley City Council for authorization of the award of the detailed engineering design contract in the first half of 2020, and for the authorization of the construction contract in early 2021.

#### Milvia Bikeway Project Timeline

- Conceptual Design, Preliminary Engineering, Public Outreach, and Environmental Review      June 2018 to December 2019
- Detailed Engineering Design      January 2020 to October 2020
- Advertise project & award construction contract      November 2020 to April 2021
- Construction      May 2021 to January 2022

#### BACKGROUND

Milvia Street through Downtown Berkeley has the highest volume of people riding bicycles as well as the highest number of bicycle-involved collisions of any bikeway street in Berkeley. During the busy bicycling month of September, over 500 people on bicycles pass through the intersection of Milvia and Channing during the 2-hour PM peak period.<sup>1</sup> Preliminary Vision Zero crash data analysis shows that Milvia Street through Downtown Berkeley is a High Injury Street for people riding bicycles. The 2017 Berkeley Bicycle Plan calls for installation of a protected bikeway on Milvia Street between Hearst Avenue and Blake Street. The Milvia Bikeway Project is a Strategic Plan Priority Project, advancing our goals to provide state-of-the-art, well-maintained infrastructure, amenities, and facilities, as well as addressing climate change and protecting the environment.

#### Project Budget

The Milvia Bikeway Project has an estimated total cost of \$3,360,000. Funds for the completed preliminary engineering conceptual design and environmental phase of the project were provided by a grant from the Alameda County Transportation Commission

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<sup>1</sup> City of Berkeley Annual Bicycle Counts, 2000-2018; California Highway Patrol Statewide Integrated Traffic Records System (SWITRS); 2008-2018

(Fund 307 \$350,000) and from the Alameda County Measure BB Bicycle and Pedestrian Program (Fund 135 \$45,000). Funds for the upcoming detailed engineering design and construction phases of the project are provided by a California Affordable Housing and Sustainable Communities (AHSC) Infrastructure pass-through grant via BRIDGE Housing in connection with the Berkeley Way HOPE Center project (Resolution NO. 68,730-N.S.; Revenue Contract #4190005; \$2,815,000) and from the Alameda County Measure BB Bicycle and Pedestrian Program (Fund 135 \$150,000). A breakdown of these funds follows.

Project Funding – Completed Phase

|                                              |                  |
|----------------------------------------------|------------------|
| Preliminary Engineering & Conceptual Design, |                  |
| Environmental Clearance                      | \$395,000        |
| <b>Total Funding for Completed Phase</b>     | <b>\$395,000</b> |

Project Funding – Remaining Phases

|                                           |                    |
|-------------------------------------------|--------------------|
| Detailed Engineering Design               | \$ 360,000         |
| Construction                              | \$2,344,500        |
| Contingency (10% of Construction Cost)    | \$ 260,500         |
| <b>Total Funding for Remaining Phases</b> | <b>\$2,965,000</b> |

ENVIRONMENTAL SUSTAINABILITY

Installation of a protected bikeway on Milvia Street is anticipated to increase the number of bicyclists, which is consistent with the 2009 Berkeley Climate Action Plan Policy 5.a that calls for expanding and improving Berkeley’s bicycle and pedestrian infrastructure. The Plan sets targets of reducing transportation emissions 33% below year 2000 levels by 2020, and 80% below year 2000 levels by 2050. The Plan further states that transportation modes such as public transit, walking, and bicycling must become the primary means of fulfilling the City’s mobility needs in order to meet these targets.

RATIONALE FOR RECOMMENDATION

This project will close a gap in the City’s Low-Stress Bikeway Network by creating a protected bikeway on the City’s busiest bikeway street. Demand for bicycle travel in this area is extremely high due to the proximity of the University of California campus, Berkeley City College, Berkeley High School, and downtown businesses, employers, and transit services. Approval of the conceptual design will keep the project on schedule for detailed engineering design and advertising for construction bids in 2020, followed by construction of the project in 2021. In order to draw down \$13,517,642 in State Affordable Housing and Sustainable Communities funding for the Berkeley Way affordable housing project at 2012 Berkeley Way, the Milvia Bikeway Project Conceptual Design must be approved by the City Council in early December 2019. This would allow both projects to move forward.



ALTERNATIVE ACTIONS CONSIDERED

Council could opt not to approve the conceptual design for the project at this time, and instead defer the item to a future Council agenda. This decision would delay the subsequent detailed engineering design and construction phases of the project. Project delays would endanger the delivery of not only this project, but also the Berkeley Way HOPE project, as both projects are funded by the same AHSC grant.

CONTACT PERSON

Farid Javandel, Transportation Manager, Public Works (510) 981-7010

Beth Thomas, Principal Planner, Public Works (510) 981-7068

Eric Anderson, Senior Planner, Public Works (510) 981-7062

Attachments:

- 1: Resolution
- 2: Public Hearing Notice
- 3: Milvia Bikeway Project Conceptual Design

RESOLUTION NO. ##,###-N.S.

MILVIA BIKEWAY PROJECT CONCEPTUAL DESIGN

WHEREAS, there is a gap in the City of Berkeley low-stress bikeway network on Milvia Street between Hearst Avenue and Blake Street; and

WHEREAS, the City of Berkeley Bicycle Plan recommends installation of a protected bikeway on the segment of Milvia Street between Hearst Avenue and Blake Street; and

WHEREAS, Milvia Street through Downtown Berkeley has the highest volume of people riding bicycles as well as the highest number of bicycle-involved collisions of any bikeway street in Berkeley; and

WHEREAS, promoting bicycling as a form of transportation supports the goals of the Berkeley Climate Action Plan and Berkeley Strategic Plan; and

WHEREAS, bicycling is an environmentally beneficial form of transportation that may also lead to improved public health outcomes; and

WHEREAS, preliminary Vision Zero crash data analysis shows that Milvia Street through Downtown Berkeley is a High-Injury Street for people riding bicycles; and

WHEREAS, the Milvia Bikeway Project has an estimated total cost of \$3,360,000, comprised of a preliminary engineering, conceptual design and environmental phase in 2019; a detailed engineering design phase in 2020; and a construction phase in 2021; and

WHEREAS, approval of the Milvia Bikeway Project allows the City of Berkeley to remain on track to receive nearly \$20 million in State funding for transit and affordable housing;

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that the City Manager is authorized to direct staff to proceed with the detailed engineering design of the Milvia Bikeway Project, based on the preliminary engineering and conceptual design of the project, including installation of a protected bikeway and the removal of traffic lanes and on-street parking, and changes from two-way to one-way traffic operations, as necessary.

## NOTICE OF PUBLIC HEARING BERKELEY CITY COUNCIL

### MILVIA BIKEWAY CONCEPTUAL DESIGN

The Department of Public Works is proposing to complete detailed engineering design of a protected bikeway, including the removal of traffic lanes and on-street parking, and changes from two-way to one-way traffic operations, where necessary.

The hearing will be held on **December 3, 2019** at 6:00 p.m. in the School District Board Room, 1231 Addison Street.

A copy of the agenda material for this hearing will be available on the City's website at [www.CityofBerkeley.info](http://www.CityofBerkeley.info) as of **November 21, 2019**.

For further information, please contact Farid Javandel, Transportation Division Manager, at 510-981-7061.

Written comments should be mailed or delivered directly to the City Clerk, 2180 Milvia Street, Berkeley, CA 94704, in order to ensure delivery to all Councilmembers and inclusion in the agenda packet.

Communications to the Berkeley City Council are public record and will become part of the City's electronic records, which are accessible through the City's website. **Please note: e-mail addresses, names, addresses, and other contact information are not required, but if included in any communication to the City Council, will become part of the public record.** If you do not want your e-mail address or any other contact information to be made public, you may deliver communications via U.S. Postal Service or in person to the City Clerk. If you do not want your contact information included in the public record, please do not include that information in your communication. Please contact the City Clerk at 981-6900 or [clerk@cityofberkeley.info](mailto:clerk@cityofberkeley.info) for further information.

**Published:** November 22, 2019

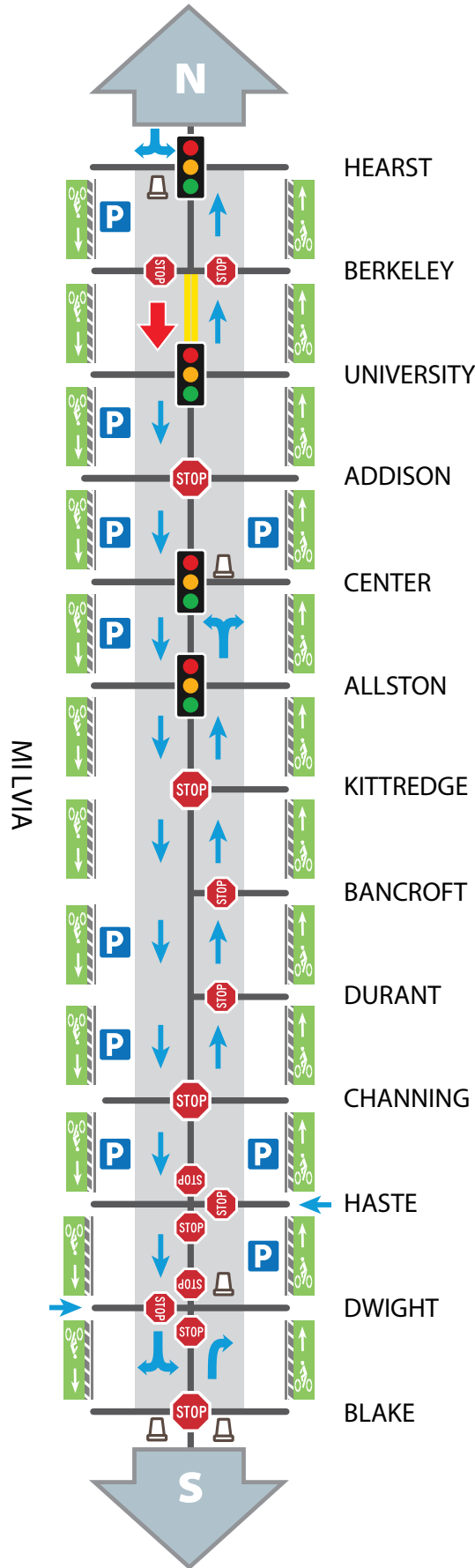
Public Resources Code Section 21080.20.5 requires the holding of a public hearing in areas affected by the restriping of streets and highways for bicycle lanes in order to hear and respond to public comments. Publication of the notice shall be no fewer times than required by Section 6061 of the Government Code, by the public agency in a newspaper of general circulation in the area affected by the proposed project. If more than one area will be affected, the notice shall be published in the newspaper of largest circulation from among the newspapers of general circulation in those areas. Section 6061 of the Government Code requires the publication of the notice one time.

December 3, 2019








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I hereby certify that the Notice for this Public Hearing of the Berkeley City Council was posted at the display case located near the walkway in front of the Maudelle Shirek Building, 2134 Martin Luther King Jr. Way, as well as on the City's website, on November 21, 2019.

Mark Numainville, City Clerk

Milvia Bikeway Project Conceptual Design



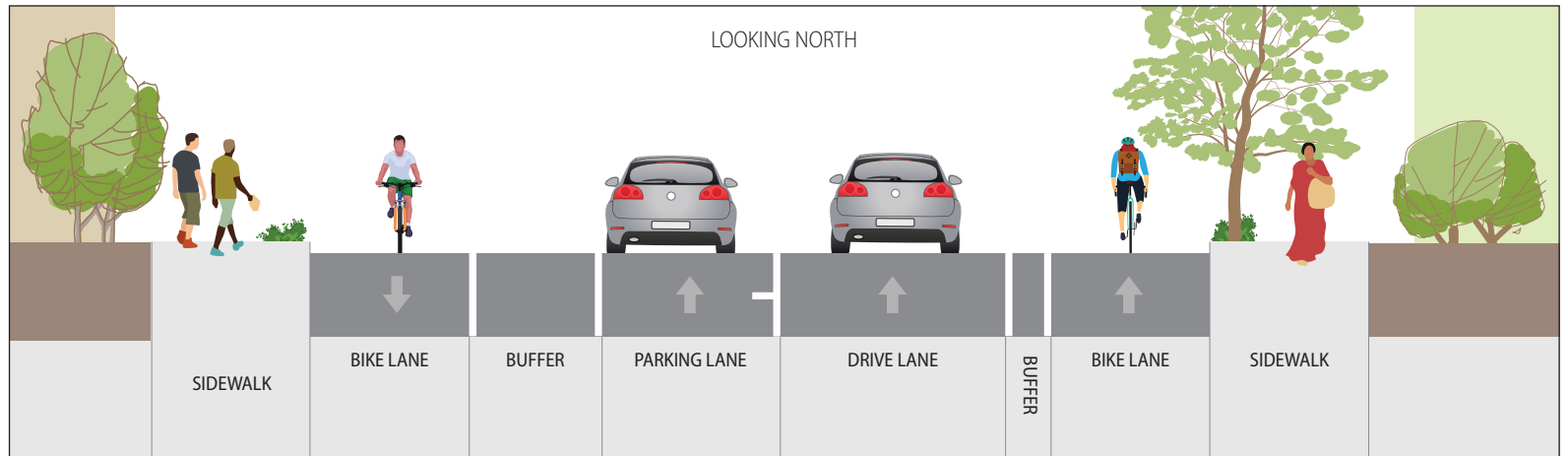
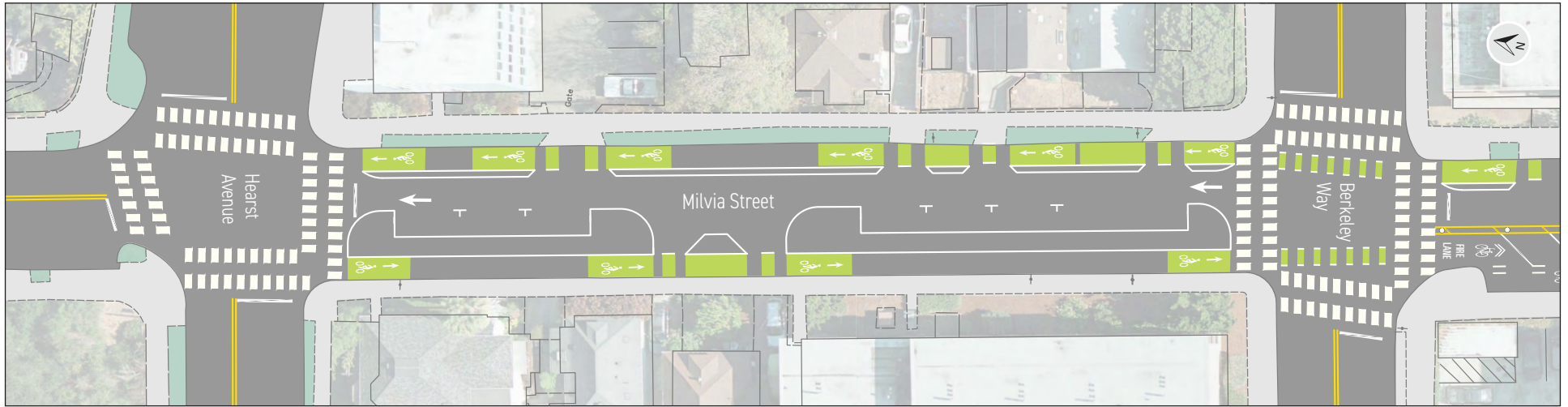
LEGEND

-  Protected Bikeway
-  On-street Parking
-  Traffic Diversion
-  Stop Sign
-  Traffic Signal
-  Vehicle Traffic Flow
-  Fire Lane

Milvia Bikeway Project Conceptual Design

Hearst Avenue to Berkeley Way:

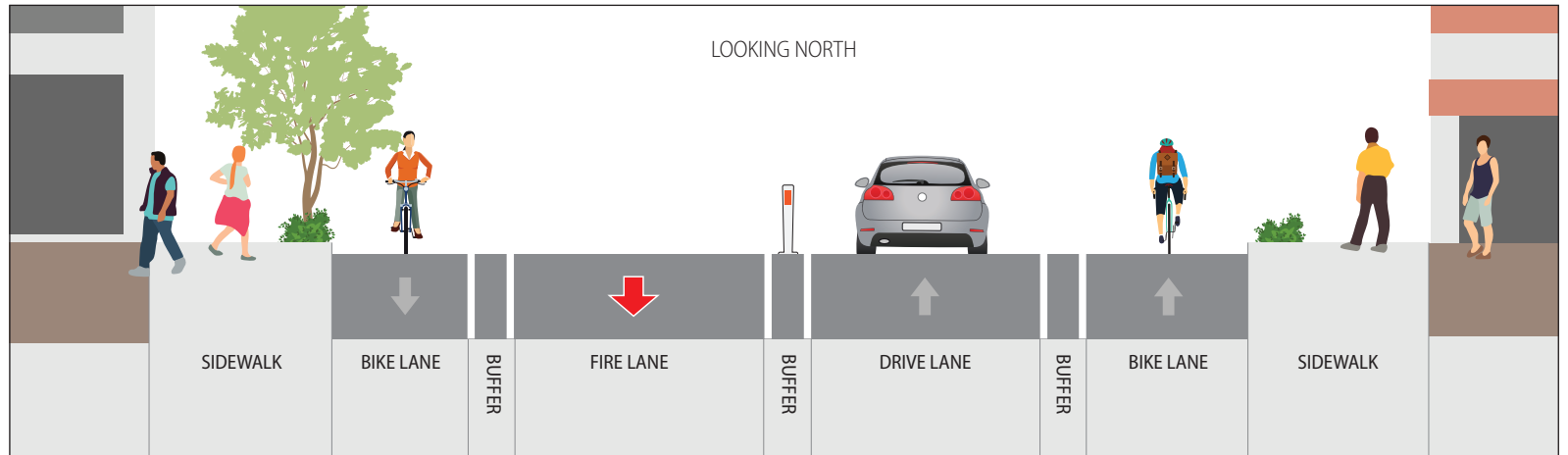
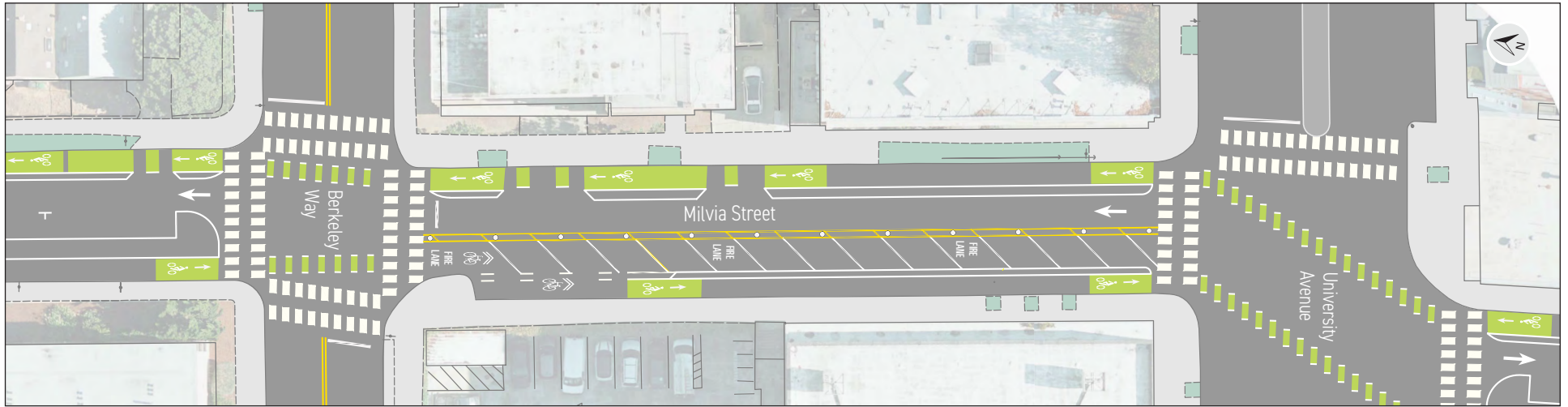
One-Way Cycle Tracks with One-Way Vehicle Traffic (Northbound)



Milvia Bikeway Project Conceptual Design

Berkeley Way to University Avenue:

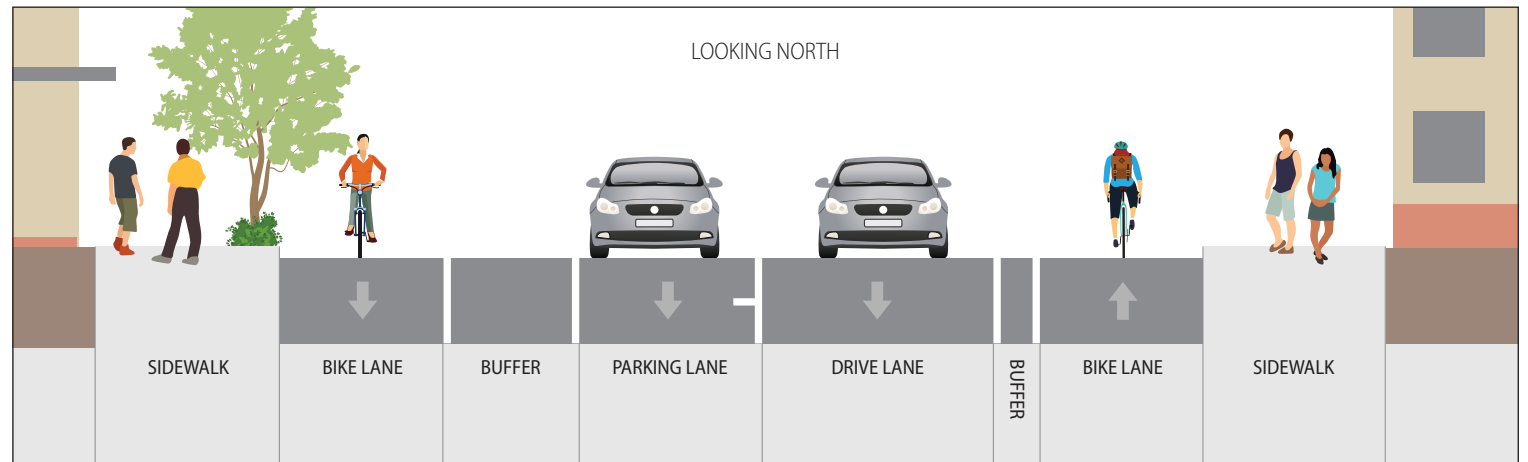
One-Way Cycle Tracks with One-Way Vehicle Traffic (Northbound)



Milvia Bikeway Project Conceptual Design

University Avenue to Addison Street:

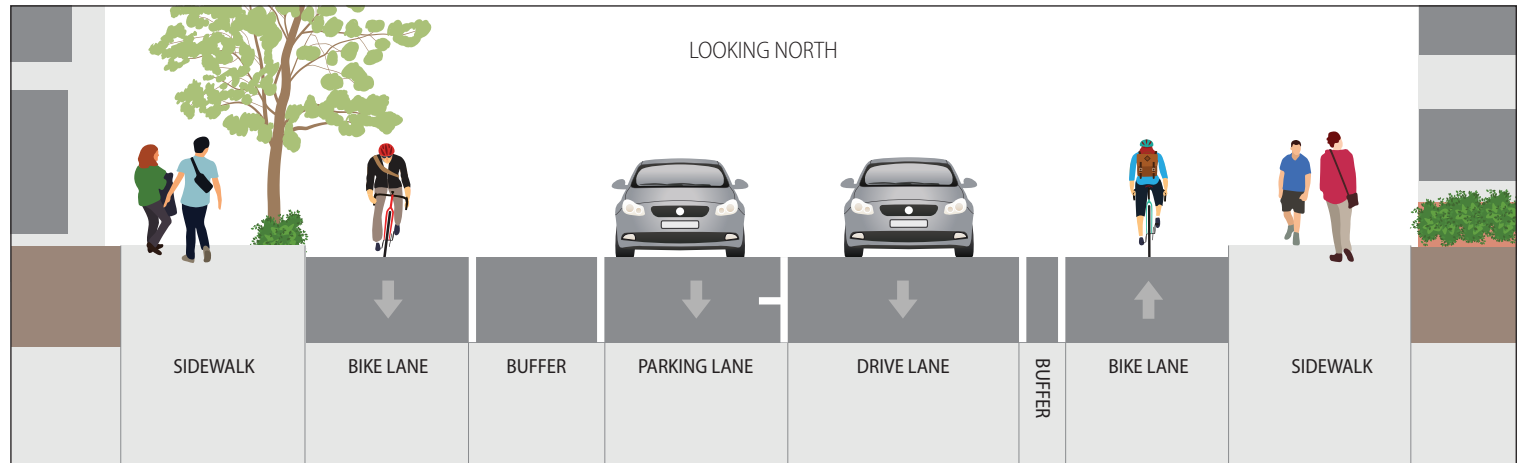
One-Way Cycle Tracks with One-Way Vehicle Traffic (Southbound)



Milvia Bikeway Project Conceptual Design

Addison Street to Center Street:

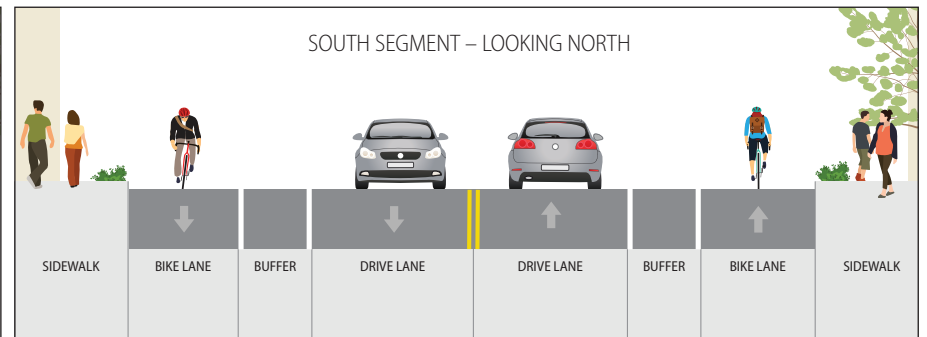
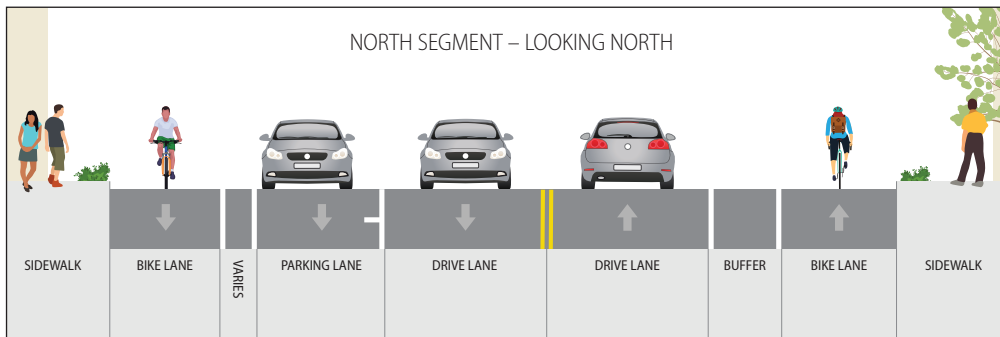
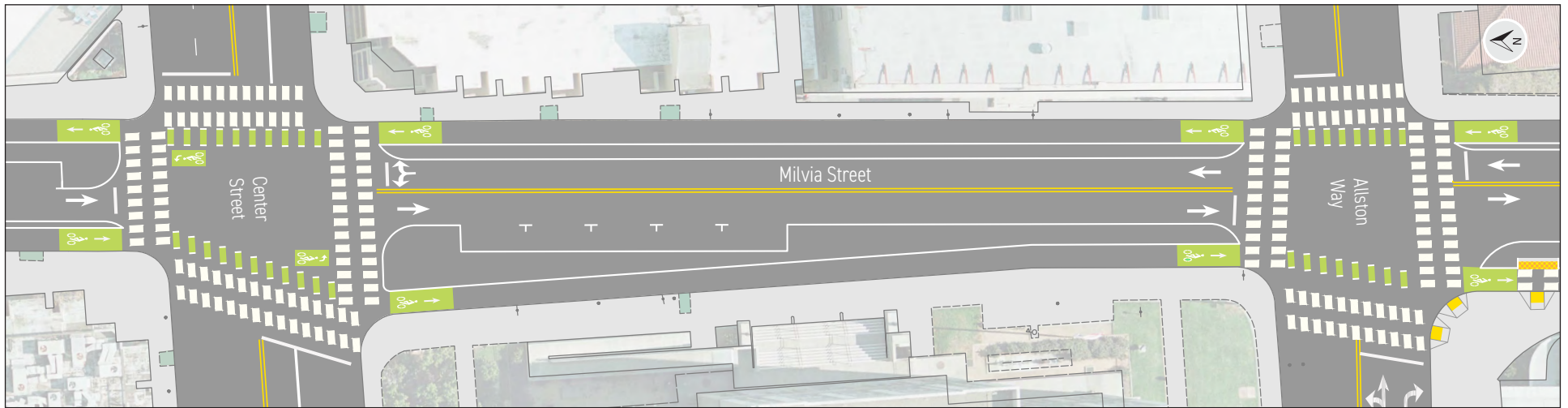
One-Way Cycle Tracks with One-Way Vehicle Traffic (Southbound)



Milvia Bikeway Project Conceptual Design

Center Street to Allston Way:

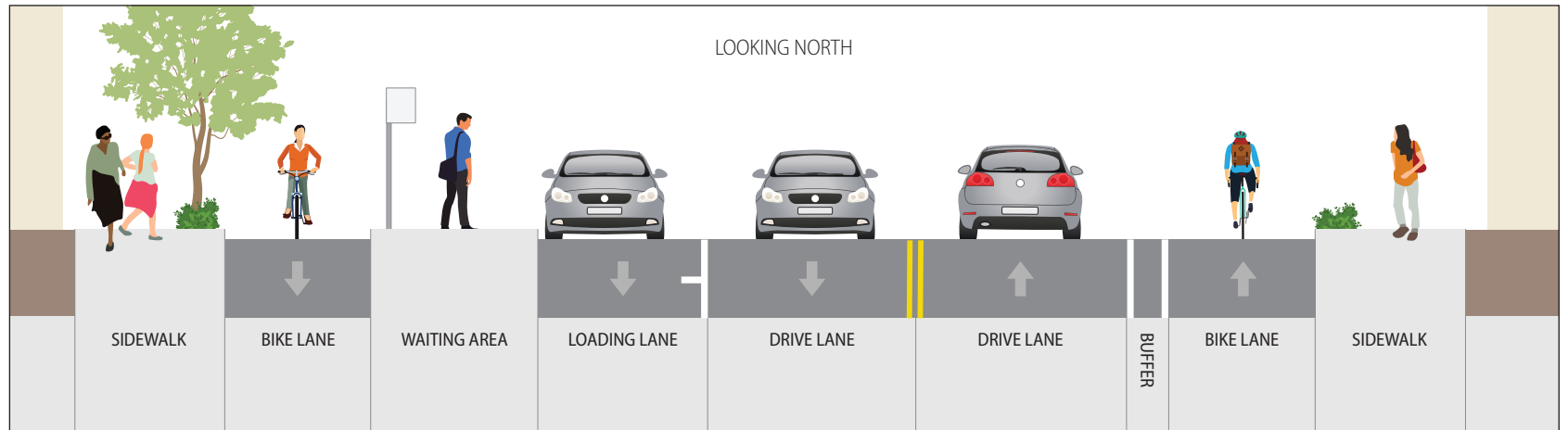
One-Way Cycle Tracks with Two-Way Vehicle Traffic



Milvia Bikeway Project Conceptual Design

Allston Way to Kittredge Street:

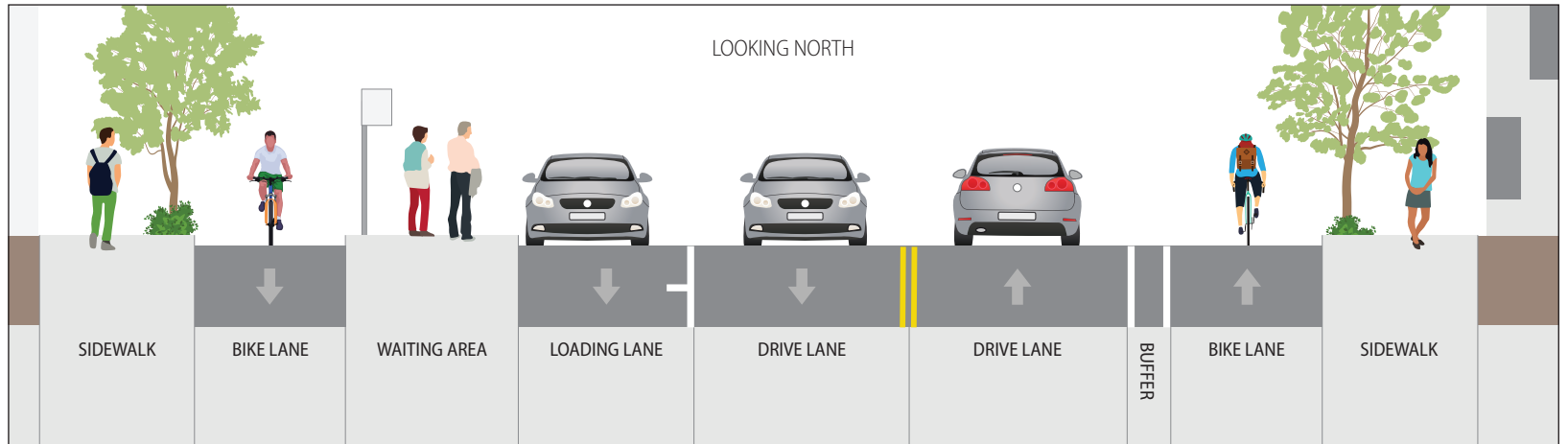
One-Way Cycle Tracks with Two-Way Vehicle Traffic



Milvia Bikeway Project Conceptual Design

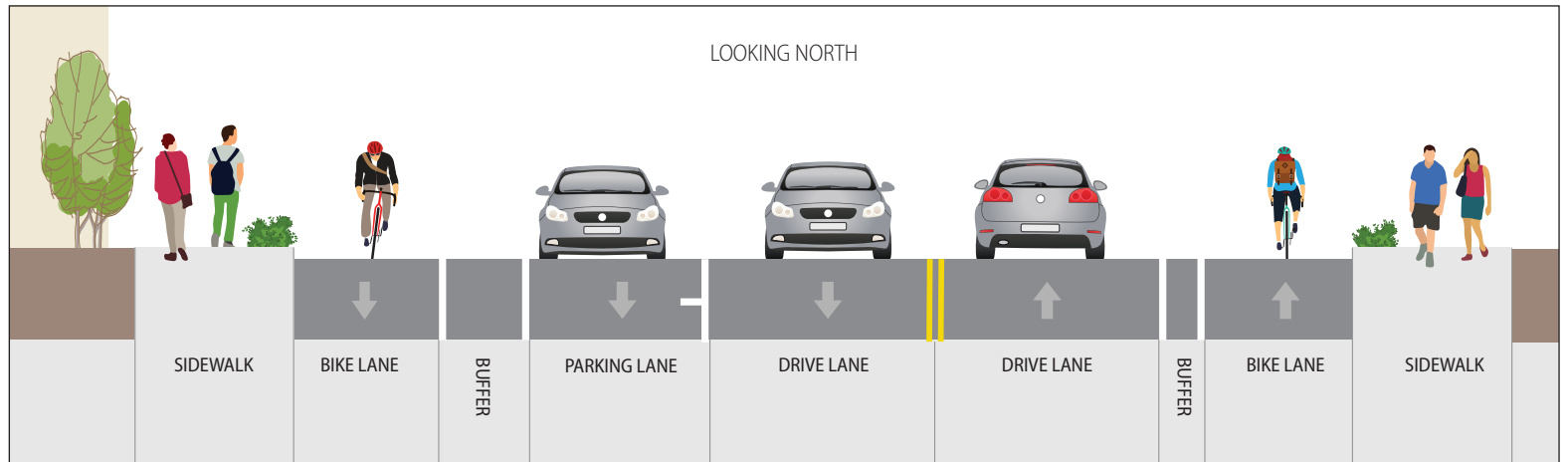
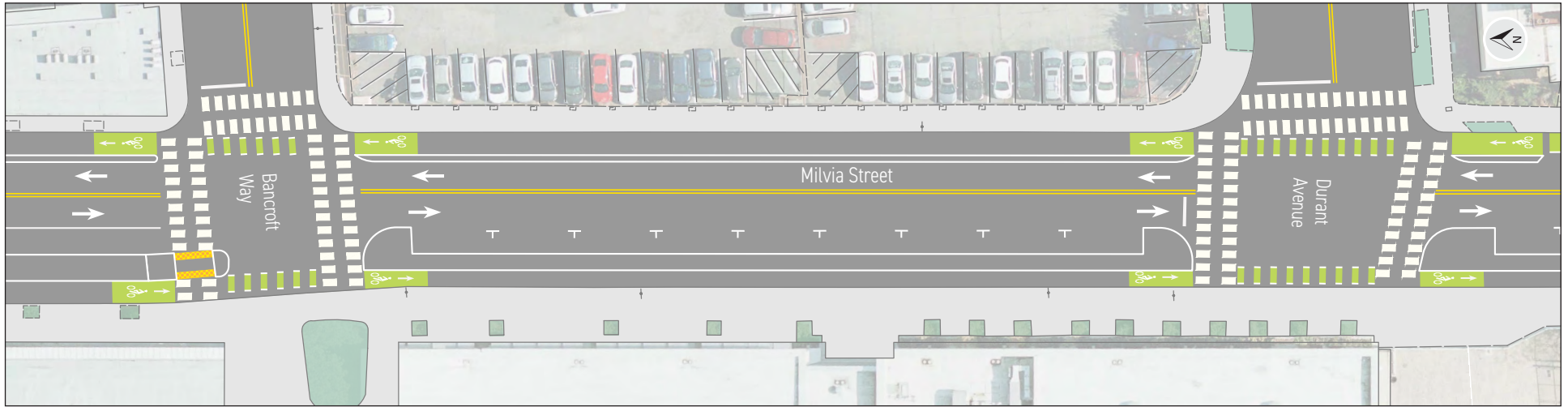
Kittredge Street to Bancroft Way:

One-Way Cycle Tracks with Two-Way Vehicle Traffic



Milvia Bikeway Project Conceptual Design

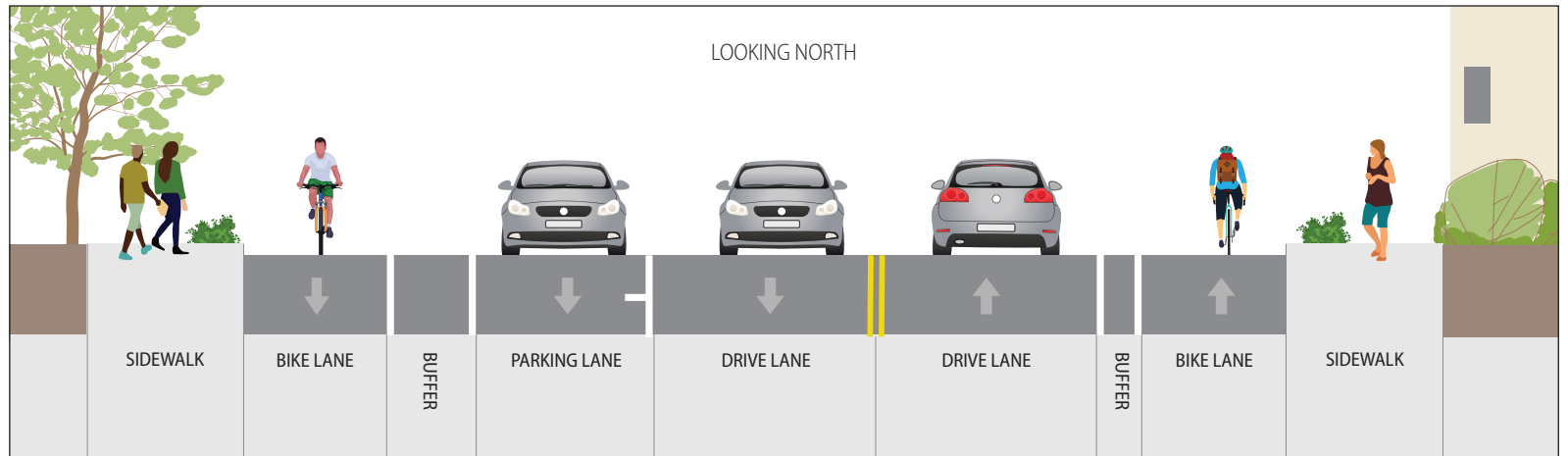
Bancroft Way to Durant Avenue: One-Way Cycle Tracks with Two-Way Vehicle Traffic



Milvia Bikeway Project Conceptual Design

Durant Avenue to Channing Way:

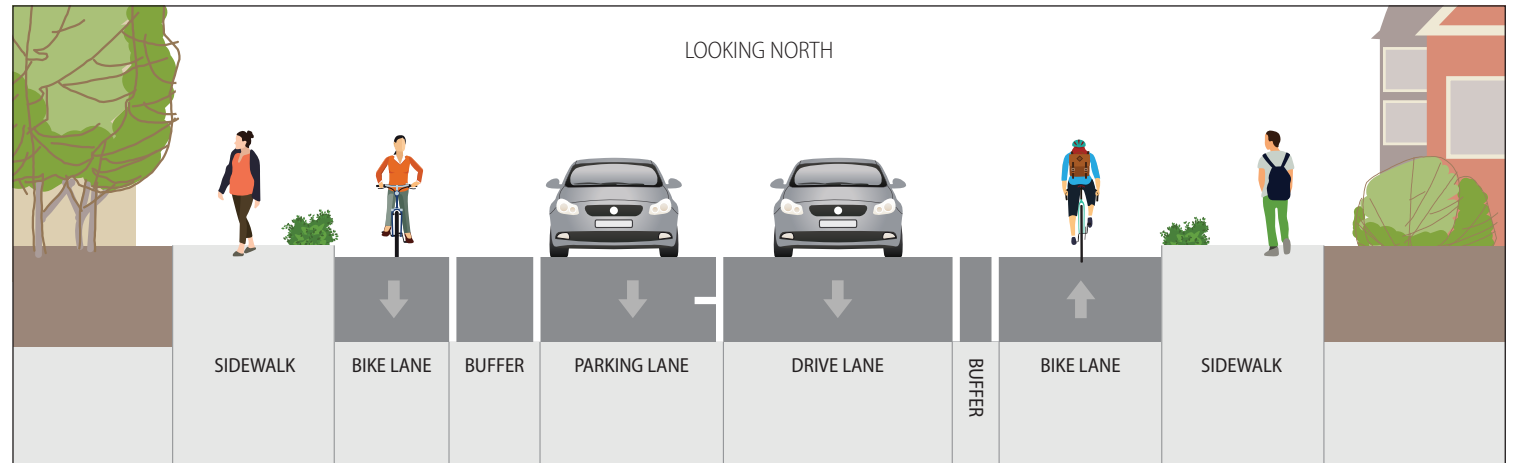
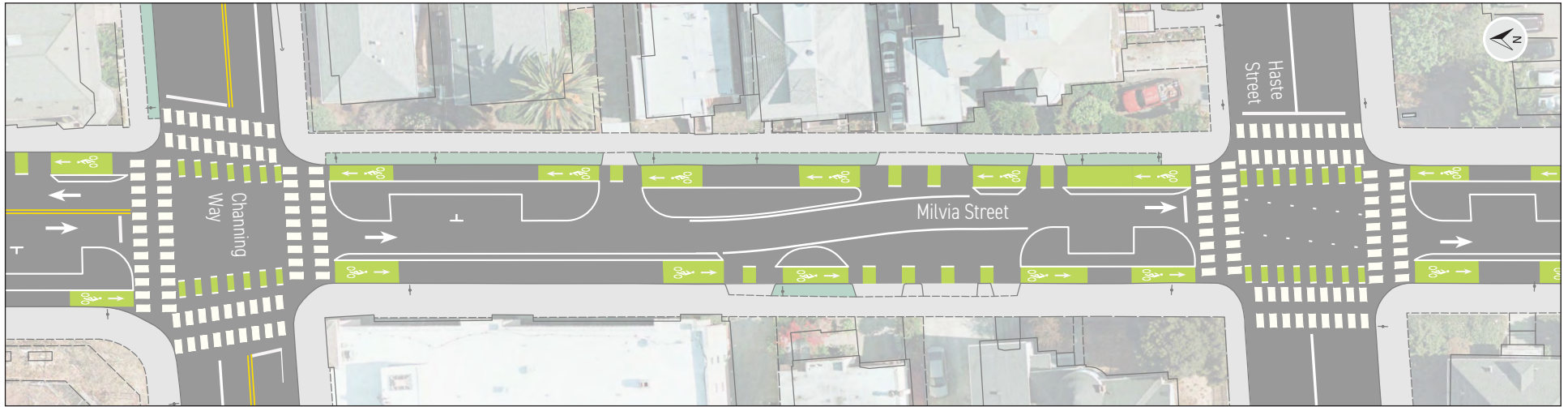
One-Way Cycle Tracks with Two-Way Vehicle Traffic



Milvia Bikeway Project Conceptual Design

Channing Way to Haste Street:

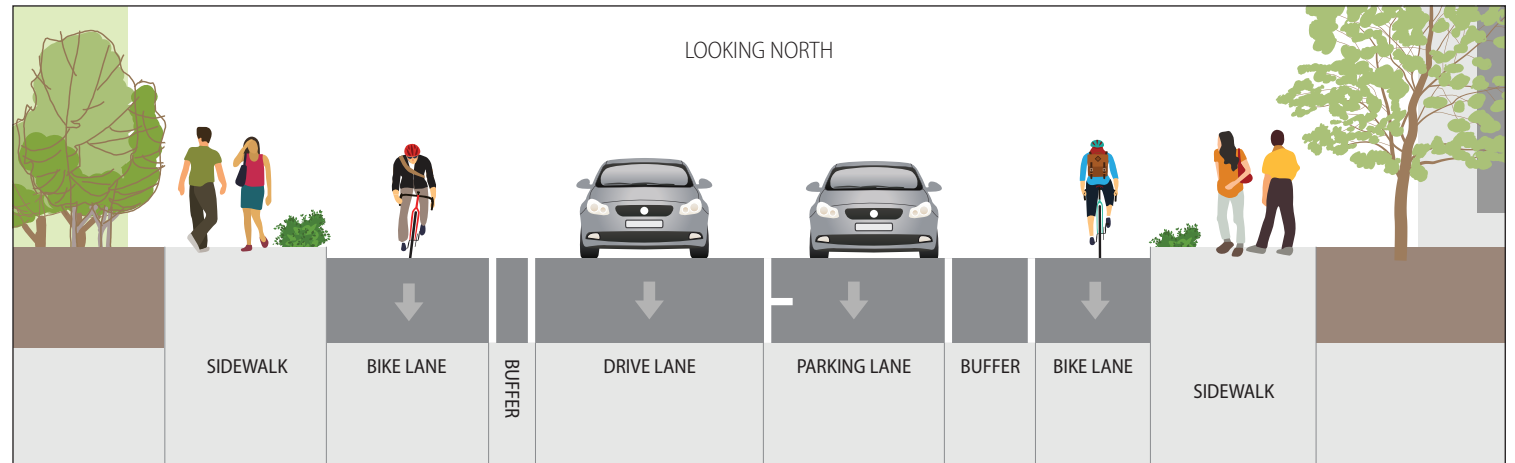
One-Way Cycle Tracks with One-Way Vehicle Traffic (Southbound)



Milvia Bikeway Project Conceptual Design

Haste Street to Dwight Way:

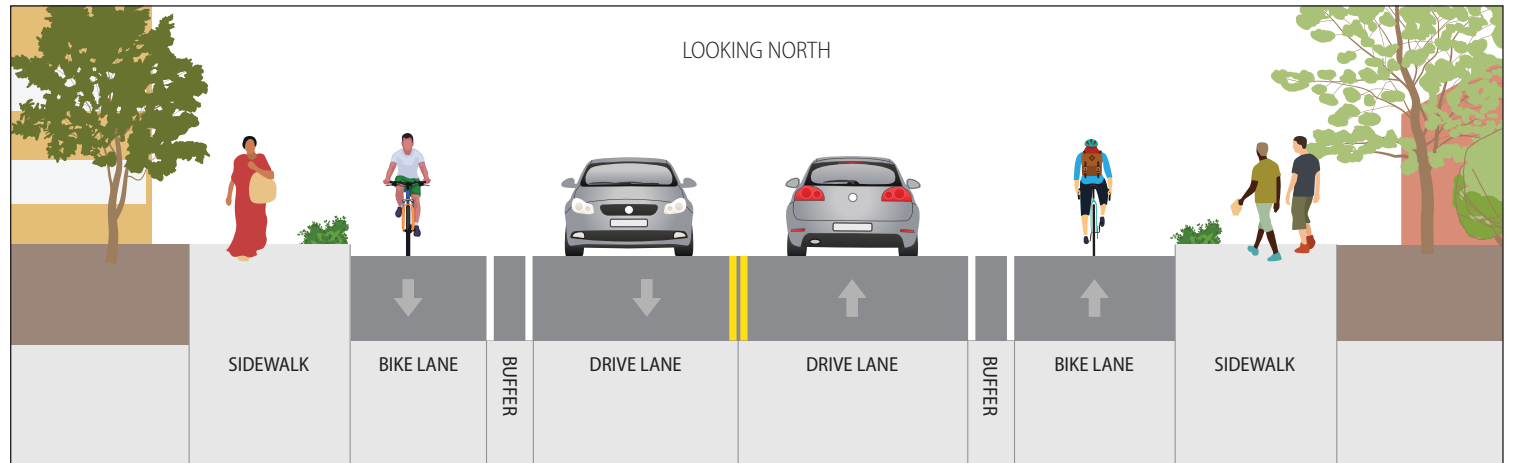
One-Way Cycle Tracks with One-Way Vehicle Traffic (Southbound)

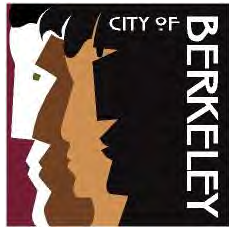


Milvia Bikeway Project Conceptual Design

Dwight Way to Blake Street:

One-Way Cycle Tracks with Two-Way Vehicle Traffic





Office of the City Manager

SUPPLEMENTAL AGENDA MATERIAL for Supplemental Packet 2

Meeting Date: November 12, 2019

Item Number: 30

Item Description: Surveillance Technology Report, Surveillance Acquisition Report, and Surveillance Use Policy for Automatic License Plate Readers, GPS Trackers, and Body Worn Cameras

Submitted by: Dee Williams-Ridley, City Manager

Attached is the originally published staff report with updated attachments. The staff report that was published did not include the surveillance technology reports. The following has been incorporated into the attachments:

- Surveillance Technology Report for Body Worn Cameras incorporated into Attachment 2.
- Surveillance Technology Report for Global Positioning System Tracking Devices incorporated into Attachment 3.
- Surveillance Technology Report for Automated License Plate Readers incorporated into Attachment 4.



Office of the City Manager

ACTION CALENDAR
November 12, 2019

To: Honorable Mayor and Members of the City Council

From: Dee Williams-Ridley, City Manager

Submitted by: Andrew Greenwood, Chief of Police
David White, Deputy City Manager

Subject: Surveillance Technology Report, Surveillance Acquisition Report, and Surveillance Use Policy for Automatic License Plate Readers, GPS Trackers, and Body Worn Cameras

RECOMMENDATION

Adopt a Resolution accepting the Surveillance Technology Report, Surveillance Acquisition Report, and Surveillance Use Policy for Automatic License Plate Readers, GPS Trackers, and Body Worn Cameras submitted pursuant to Chapter 2.99 of the Berkeley Municipal Code.

FISCAL IMPACTS OF RECOMMENDATION

There are no fiscal impacts associated with adopting the attached resolution.

CURRENT SITUATION AND ITS EFFECTS

On March 27, 2018, the City Council adopted Ordinance 7,592-N.S., adding Chapter 2.99 to the Berkeley Municipal Code, which is also known as the Surveillance Technology Use and Community Safety Ordinance (“Ordinance”). The purpose of the Ordinance is to provide transparency surrounding the use of surveillance technology, as defined by Section 2.99.020 in the Ordinance, and to ensure that decisions surrounding the acquisition and use of surveillance technology consider the impacts that such technology may have on civil rights and civil liberties. Further, the Ordinance requires that the City evaluate all costs associated with the acquisition of surveillance technology and regularly report on their use.

The Ordinance imposes various reporting requirements on the City Manager and staff. The purpose of this staff report and attached resolution is to satisfy annual reporting requirements as outlined in sections 2.99.050 and 2.99.070. The attached Surveillance Technology Reports, Surveillance Acquisition Reports and Surveillance Use Policies for Automatic License Plate Readers, GPS Trackers, and Body Worn Cameras are for technologies that were acquired by the City prior to the adoption of the Ordinance.

Section 2.99.050 of the Ordinance required the City Manager to submit a Surveillance Acquisition Report and Surveillance Use Policy for each surveillance technology that has been possessed or used prior to the effective date of the Ordinance. The requirements of this section were not satisfied due to a multitude of factors, and the Police Department opted to submit the attached acquisition reports and use policies to the Police Review Commission prior to their review by the City Council. The Police Review Commission underwent an extensive engagement process and the full Commission discussed the attached use policies and reports at scheduled meetings from May to October 2019. In all cases, the Police Review Commission approved the attached acquisition reports and use policies and conveyed any concerns or suggested modifications to the Police Chief. In addition to the technologies covered by the attached resolution, City staff continues to evaluate whether or not there is any other technology that is used or possessed that is subject to the Ordinance.

Finally, Section 2.99.040 of the Ordinance allows the City Manager to borrow, acquire, or temporarily use surveillance technology in exigent circumstances without having to obtain the approval of City Council. Since the adoption of the ordinance, the City is reporting two instances in which the City Manager has made use of Section 2.99.040. In preparation for the potentially violent August 5, 2018 demonstration in downtown Berkeley, the City borrowed remote accessible cameras from the Northern California Regional Intelligence Center (NCRIC) in order to have the ability to remotely monitor intersections in real time. The cameras did not have face recognition technology. Signage was posted in the areas of the cameras, informing people that the area may be under video surveillance. Using cameras to monitor intersections is at times preferable to physically placing officers in those locations. In addition, as a mutual aid resource, the Police Department requested the Alameda County Sheriff's Office Small Unmanned Aerial System (sUAS) team as a mutual aid resource. The purpose of the request was to support the identification and apprehension of any felony suspects, should a felony occur. Following the felony vandalism of over ten City of Berkeley vehicles, the sUAS team deployed a drone, but no suspects were apprehended.

BACKGROUND

On March 27, 2018, the City Council adopted Ordinance 7,592-N.S., adding Chapter 2.99 to the Berkeley Municipal Code, which is also known as the Surveillance Technology Use and Community Safety Ordinance. The Ordinance contains various reporting requirements including the following:

- Section 2.99.050, which requires that the City Manager shall submit a Surveillance Acquisition Report and a proposed Surveillance Use Policy for each technology governed by the Ordinance that had been possessed or used by the City prior to the effective date of the Ordinance; and

- Section 2.99.070 of the Ordinance, which requires that the City Manager must submit to the City Council a Surveillance Technology Report as defined by Section 2.99.020(2) of the Ordinance at the first regular City Council meeting in November.

For each of the three technologies, the Surveillance Technology Report, Surveillance Acquisition Report and Surveillance Use Policies were prepared to satisfy the specific, section-by-section requirements of the Ordinance, and are attached to this report. It should be noted that substantial policies already existed for Body Worn Cameras and License Plate Readers. Those policies—also reviewed by the Police Review Commission for purposes of this report—are also attached. The existing policies will continue to remain in effect upon Council’s approval. Henceforth, all new Surveillance Use Policies and Surveillance Acquisition Reports will be listed in Chapter 13 of the Berkeley Police Department Policy Manual, which is being created to provide easy access to all policies relating to BMC 2.99. All BPD policies are available to the public on BPD’s website.

ENVIRONMENTAL SUSTAINABILITY

There are no identifiable environmental effects or opportunities associated with the content of this report.

RATIONALE FOR RECOMMENDATION

City Council is being asked to adopt the attached resolution for the City to be in compliance with the Ordinance.

ALTERNATIVE ACTIONS CONSIDERED

City Council could decide not to adopt the resolution or could direct staff to revise the attached policies.

CONTACT PERSON

Andrew Greenwood, Chief of Police, (510) 981-7017
David White, Deputy City Manager, (510) 981-7012

ATTACHMENTS

1. Proposed Resolution

2. Body Worn Cameras

Surveillance Technology Report: Body Worn Cameras

Policy 1300 Body Worn Camera Use Policy

Policy 1300(a) Appendix: Body Worn Camera Acquisition Report

Policy 425 Body Worn Camera Policy (Existing Policy)

3. Global Positioning System Tracking Devices

Surveillance Technology Report

Policy 1301 Global Positioning System Tracking Devices Use Policy

Policy 1301(a) Appendix: Global Positioning System Tracking Devices Acquisition Report

4. Automated License Plate Readers

Surveillance Technology Report: Automated License Plate Readers

Policy 1302 Automated License Plate Reader Use Policy

Policy 1302(a) Appendix: Automated License Plate Reader Acquisition Report

Policy 422 Automated License Plate Reader (Latest version of existing Policy)

5. Police Review Commission Memorandum Regarding Automatic License Plate Readers

i:\surveillance ordinance\city council meeting -- 11-12-19\11-12-2019_surveillance ordinance staff report and resolution (04).docx

RESOLUTION NO. ##,###-N.S.

A RESOLUTION ACCEPTING THE SURVEILLANCE TECHNOLOGY REPORT, SURVEILLANCE ACQUISITION REPORT, AND SURVEILLANCE USE POLICY FOR AUTOMATIC LICENSE PLATE READERS, GPS TRACKERS, AND BODY WORN CAMERAS

WHEREAS, on March 27, 2018, the City Council adopted Ordinance 7,592-N.S., which is known as the Surveillance Technology Use and Community Safety Ordinance (“Ordinance”); and

WHEREAS, Section 2.99.050 of the Ordinance requires that the City Manager shall submit a Surveillance Acquisition Report and a proposed Surveillance Use Policy for each piece of technology governed by the Ordinance that had been possessed or used by the City prior to the effective date of the Ordinance; and

WHEREAS, Section 2.99.070 of the Ordinance requires that the City Manager must submit to the City Council a Surveillance Technology Report as defined by Section 2.99.020(2) of the Ordinance at the first regular City Council meeting in November; and

WHEREAS, the Surveillance Acquisition Reports and Surveillance Use Policies for Automatic License Plate Readers, GPS Trackers, and Body Worn Cameras satisfy the requirements of the Ordinance.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley:

Section 1. Pursuant to Section 2.99.060, as it pertains to the use of Automatic License Plater Readers, GPS Trackers, and Body Worn Cameras, the City Council hereby finds and determines the following:

- a. The benefits of using the technologies outweigh the costs;
- b. The policies attached to this resolution safeguard civil liberties; and
- c. No feasible alternatives exist with similar utility that will have a lesser impact on civil rights or liberties.

Section 2. The City Council hereby accepts the Surveillance Technology Reports, Surveillance Acquisition Reports, and Surveillance Use Policies for Automatic License Plate Readers, GPS Trackers, and Body Worn Cameras.

ATTACHMENT 2:
BODY WORN CAMERAS

Surveillance Technology Report: Body Worn Cameras

March 1, 2018 – Sept. 30, 2019

<p>Description</p>	<p>A description of all non-privileged and non-confidential information about use of the Surveillance Technology, including but not limited to the quantity of data gathered and sharing of data, if any, with outside entities. If sharing has occurred, the report shall include general, non-privileged and non-confidential information about recipient entities, including the names of the entities and purposes for such sharing.</p> <p>Body Worn Cameras are used to capture video recordings of contacts between department personnel and the public, to provide an objective record of these events. These recording are used in support of criminal prosecutions, to limit civil liability, increase transparency and enhance professionalism and accountability in the delivery of police services to the community.</p> <p>Body Worn Camera files are shared with the Alameda County District Attorney’s office in support of prosecution for crime, and may be shared with other law enforcement agencies to support criminal investigations.</p> <p style="text-align: center;">Summary of Body Worn Camera Videos Uploaded March 1, 2018 to Sept. 30, 2019</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td>Total Number of Videos</td> <td style="text-align: right;">42,677</td> </tr> <tr> <td>Total Hours of Videos</td> <td style="text-align: right;">10,681.93</td> </tr> <tr> <td>Total GB of Videos</td> <td style="text-align: right;">20,669.11</td> </tr> </table> <p style="text-align: center;">Summary of All Evidence Created March 1, 2018 to Sept. 30, 2019</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th><u>Type</u></th> <th>Count of files</th> <th>Size (in Mb)</th> <th>GBs Storage</th> </tr> </thead> <tbody> <tr> <td>Audio</td> <td style="text-align: right;">2,315</td> <td style="text-align: right;">23,855.82</td> <td style="text-align: right;">23.86</td> </tr> <tr> <td>Document</td> <td style="text-align: right;">125</td> <td style="text-align: right;">17.56</td> <td style="text-align: right;">0.02</td> </tr> <tr> <td>Image</td> <td style="text-align: right;">64,931</td> <td style="text-align: right;">270,329.62</td> <td style="text-align: right;">270.33</td> </tr> <tr> <td>Other</td> <td style="text-align: right;">896</td> <td style="text-align: right;">118,080.19</td> <td style="text-align: right;">118.08</td> </tr> <tr> <td>Videos*</td> <td style="text-align: right;">70,670</td> <td style="text-align: right;">32,489,190.50</td> <td style="text-align: right;">32,489.19</td> </tr> <tr> <td>Grand Totals</td> <td style="text-align: right;">138,937</td> <td style="text-align: right;">32,901,473.69</td> <td style="text-align: right;">32,901.47</td> </tr> </tbody> </table> <p>* Includes all uploaded BWC videos <i>and</i> all other videos booked into the evidence management system. Other videos include iPhone videos uploaded, security camera video, copies of BWC videos (for redaction, etc.), and any other videos.</p>	Total Number of Videos	42,677	Total Hours of Videos	10,681.93	Total GB of Videos	20,669.11	<u>Type</u>	Count of files	Size (in Mb)	GBs Storage	Audio	2,315	23,855.82	23.86	Document	125	17.56	0.02	Image	64,931	270,329.62	270.33	Other	896	118,080.19	118.08	Videos*	70,670	32,489,190.50	32,489.19	Grand Totals	138,937	32,901,473.69	32,901.47
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<p>Geographic Deployment</p>	<p>Where applicable, non-privileged and non-confidential information about where the surveillance technology was deployed geographically.</p> <p>Body Worn Cameras are worn by all BPD uniformed officers city-wide at all times; BWCs are not deployed based on geographic considerations.</p>																																		
<p>Complaints</p>	<p>A summary of each complaint, if any, received by the City about the Surveillance Technology.</p> <p>There have been no complaints about the deployment and use of Body Worn Cameras.</p>																																		

<p>Audits and Violations</p>	<p>The results of any non-privileged internal audits, any information about violations or potential violations of the Surveillance Use Policy, and any actions taken in response.</p> <p>File meta-data are routinely reviewed by our BWC manager, to ensure required meta-data fields are completed. There have been no complaints with regards to violations of the Surveillance Use Policy.</p>
<p>Data Breaches</p>	<p>Non-privileged and non-confidential information about any data breaches or other unauthorized access to the data collected by the surveillance technology, including information about the scope of the breach and the actions taken in response.</p> <p>There have been no known data breaches or other unauthorized access to BWC data.</p>
<p>Effectiveness</p>	<p>Information that helps the community assess whether the Surveillance Technology has been effective in achieving its identified outcomes.</p> <p>Body Worn Cameras have proven effective in supporting criminal prosecutions, as video footage is available for all criminal prosecutions.</p> <p>Body Worn Cameras have been effective for training purposes, as footage can be reviewed in incident de-briefs.</p> <p>Body Worn Cameras have been extremely effective in support of Internal Affairs investigations and Use of Force Review.</p>
<p>Costs</p>	<p>Total annual costs for the Surveillance Technology, including personnel and other ongoing costs.</p> <p>The annual cost for the Body Worn Cameras, including cameras, replacement cameras, software, and Axon's secure digital evidence management system is approx. \$204,000 per year over a five-year, \$1,218,000 contract. The systems cost for the 19 month period of this initial report was \$385,700.</p> <p>There is one full-time employee assigned to the BWC program, an Applications Programmer Analyst II, at a cost of \$168,940 per year, including benefits.</p>

Surveillance Use Policy - Body Worn Cameras

1300.1 PURPOSE

This Surveillance Use Policy is issued in compliance with BMC 2.99, and incorporates by reference language from the Berkeley Police Department Body Worn Camera Policy #425 and adds elements as required by BMC 2.99.

The Berkeley Police Department recognizes that video recording of contacts between department personnel and the public provides an objective record of these events, and that the use of a recording system complements field personnel in the performance of their duties by providing a video record of enforcement and investigative field contacts, which can enhance criminal prosecutions, limit civil liability, increase transparency, and enhance professionalism in the delivery of police services to the community. A video recording of an event or contact also enables the delivery of timely, relevant, and appropriate training to maximize safety for both community members and BPD personnel. (Ref. policy 425.2)

1300.2 AUTHORIZED USE

This policy is not intended to describe every possible situation in which the BWC should be used. Members shall activate the BWC as required by this policy in (a)-(f) below, and may activate the BWC at any time the member believes it would be appropriate or valuable to record an incident within the limits of privacy described herein.

The BWC shall be activated in any of the following situations:

- (a) All in-person enforcement and investigative contacts including pedestrian stops and field interview (FI) situations.
- (b) Traffic stops including, but not limited to, traffic violations, stranded motorist assistance and all crime interdiction stops.
- (c) Self-initiated field contacts in which a member would normally notify the Communications Center.
- (d) Any search activity, including the service of search or arrest warrants; probation, parole, or consent searches where the member is seeking evidence of an offense, or conducting a safety sweep or community caretaking sweep of the premises. Once a location has been secured and the member is not interacting with detainees or arrestees, the member may mute their BWC when conducting a search for evidence.
- (e) Any other contact that the member determines has become adversarial after the initial contact in a situation where the member would not otherwise activate BWC recording.
- (f) Transporting any detained or arrested person and where a member facilitates entry into or out of a vehicle, or any time the member expects to have physical contact with that person.

At no time is a member expected to jeopardize his or her safety in order to activate a BWC. The BWC should be activated by members in anticipation of situations described above, and in any unanticipated, rapidly unfolding situation where activation becomes required, as soon as the member can do so safely.

Members should activate their BWC when conducting custodial interviews unless there are other recording devices being used. Members shall document and explain in their report the reason for not recording custodial interviews, should a BWC be de-activated while conducting a custodial interview or interrogation. (Ref. policy 425.7)

1300.2.1 PROHIBITED USE

Members are prohibited from using a department-issued BWC for personal use and are prohibited from making personal copies of recordings created while on duty or while acting in their official capacity.

Members are prohibited from retaining BWC recordings. Members shall not duplicate or distribute such recordings, except for department business purposes. All such recordings shall be retained at the Department.

Recordings shall not be used by any member for the purpose of embarrassment, intimidation or ridicule. (Ref. policy 425.13)

1300.3 DATA COLLECTION

BWC use is limited to enforcement and investigative activities involving members of the public. The BWC recordings will capture video and audio evidence for use in criminal investigations, administrative reviews, training, civil litigation, and other proceedings protected by confidentiality laws and department policy. Improper use or release of BWC recordings may compromise ongoing criminal and administrative investigations or violate the privacy rights of those recorded and is prohibited. (Ref. policy 425.3)

1300.4 DATA ACCESS

Members are authorized to review their own BWC video files at any time in furtherance of official business. Such official business includes, but is not limited to, preparing written reports, prior to or while providing testimony in a case or being deposed. Members may review recordings as an evidentiary resource, except as stated in subsection 1300.4.1 below. Members shall not retain personal copies of recordings. Members shall not use the fact that a recording was made as a reason to write a less detailed report. (Ref. policy 425.17)

1300.4.1 OFFICER INVOLVED INCIDENTS RESULTING IN GRAVE BODILY INJURY OR DEATH

- (a) In the event of a critical incident that results in grave bodily injury or death, including an officer-involved shooting or an in-custody death, the BWC of the involved member(s) shall be taken from him or her and secured by a supervisor, commander, or appropriate investigator, as necessary. The involved member(s) shall not access or obtain their footage of the incident until such time as the criminal investigator(s) have reviewed the video files.

It will be the responsibility of the investigation team's supervisor to coordinate with the involved member's supervisor to obtain footage of the incident on behalf of the member.

- (b) Personnel uploading secured BWC video files shall not view the files unless authorized.
- (c) No member involved in a critical incident may view any video recordings prior to an interview by the appropriate criminal investigative unit, and receiving command approval.
- (d) Prior to the conclusion of the criminal interview process, the involved member and/ or the member's representative will have an opportunity to review the member's recording(s). The involved member may choose to provide additional information to supplement his or her statement by providing a supplemental statement or separate supplemental document. In no case shall a member alter a report made prior to reviewing the recording.
- (e) The Department acknowledges that recordings taken during critical incidents obtained from BWCs do not necessarily reflect the full extent of the nature of the event or the experience, analysis, training, threat assessment or state of mind of the individual officers(s) in a given incident. Moreover, the recordings, especially video, have limitations and may depict events differently than the events recalled by the involved officer. Specifically, it is understood that the recording device will capture information that may not have been heard and/or observed by the involved officer and that officers may see and hear events that are not captured by the camera.

Officers who are involved in any critical incident where video recordings exist depicting the involved officer, either as a subject officer or witness, shall be provided the following admonishment to the initial interview or submission of the initial written report:

"In this case, there is video evidence that you will have an opportunity to view. Video evidence has limitations and may depict the events differently than you recall, and may not depict all of the events as seen or heard by you. Video has a limited field of view and may not capture events normally seen by the human eye. The "frame rate" of video may limit the camera's ability to capture movements normally seen by the human eye. Lighting as seen on the video may be different than what is seen by the human eye. Videos are a two-dimensional medium and may not capture depth, distance or positional orientation as well as the human eye. Remember, the video evidence is intended to assist your memory and ensure that your statement explains your state of mind at the time of the incident." (Ref. policy 425.17.1)

1300.4.2 SUPERVISORY REVIEW

With the exception of section 1300.4.1 above, supervisors are authorized to review relevant recordings any time they are reviewing and approving case reports from their subordinates. (Ref. policy 425.17.2)

1300.4.3 INVESTIGATORY REVIEW

Supervisors are authorized to review relevant recordings any time they are investigating alleged misconduct or reports of meritorious conduct, or whenever such recordings support review of the member's performance. (Ref. policy 425.17.3)

- (a) Recorded files may also be reviewed:
 - 1. Upon approval by a supervisor, by any member of the Department who is participating

in conduct of an official investigation, such as a personnel complaint, an administrative investigation or a criminal investigation.

2. Pursuant to lawful process or by court or District Attorney personnel who are otherwise authorized to review evidence in a related case.
3. By personnel assigned to investigatory units who are authorized to view any BWC video file associated to their active investigations, unless otherwise prohibited by policy.
4. Upon approval by the Chief of Police, Internal Affairs investigators may review BWC video with a complainant.

(b) Investigators conducting criminal or internal investigations shall:

1. Advise the coordinator to restrict access to the BWC file in criminal or internal investigations, as necessary.
2. Review the file to determine whether the BWC file is of evidentiary value and process it in accordance with established protocols.
3. Notify the coordinator to remove the access restriction when the criminal/internal investigation is closed.

1300.4.4 TEACHING OR LEARNING TOOL

BWC files may also be reviewed by training staff regarding specific incidents where such files may serve as an internal learning or teaching tool. In the event that videos are intended to be used for training purposes, the involved officer(s) will first be consulted. If he/she objects to the use of the video, such objection shall be submitted to the person in charge of training who shall weigh the value of the video for training against the officer(s) objections and basis for the objection. Should the person in charge of training refuse to grant the request of the involved officer(s), the matter shall be heard by the Chief of Police, or his/her designee, prior to utilizing the video. (Ref. policy 425.17.4)

1300.4.5 COB CIVIL CLAIMS AND LAWSUITS

BWC recordings may be reviewed and used by City of Berkeley defense counsel for the purposes of defending the city in civil claims and lawsuits, with the authorization of the Chief of Police, or his/her designee. (Ref. policy 425.17.5)

1300.5 DATA PROTECTION

To assist with identifying and preserving data and recordings, members shall tag and download recordings in accordance with procedure, and document the existence of the recording in the related case report. Transfers must occur at the end of the member's shift, and any time the member is aware that the storage capacity of the BWC is nearing its limit. In circumstances when the officer cannot complete this task, the officer's supervisor shall immediately take custody of the BWC and be responsible for uploading the data. Officers shall tag each file with the appropriate case/incident number, provide a descriptive title, and select an appropriate category for each recording, using the Axon View app or via the Evidence.com site.

Members are prohibited from intentionally erasing, altering, reusing, modifying or tampering with original audio video recordings. (Ref. policy 425.14)

1300.6 CIVIL LIBERTIES AND RIGHTS PROTECTION:

The Berkeley Police Department is dedicated to the most efficient utilization of its resources and services in its public safety endeavors. The Berkeley Police Department recognizes the need to protect its ownership and control over shared information and to protect the privacy and civil liberties of the public, in accordance with federal and state law. The procedures described within this policy (Data Access, Data Protection, Data Retention, Public Access and Third Party Data Sharing) protect against the unauthorized use of BWC data. These policies will ensure the data is not used in a way that would violate or infringe upon anyone's civil rights and/or liberties, including but not limited to potentially disparate or adverse impacts on any communities or groups.

1300.7 DATA RETENTION

The Department shall retain all recordings for a minimum of 60 days. Incidents involving consensual contacts, and aid to citizens will be retained for six months, and cold reports will be retained for one year. Recordings of incidents involving use of force by a police officer, detentions, arrests, or recordings relevant to a formal or informal complaint shall be retained for a minimum of two years and one month. Recordings relating to court cases and personnel complaints that are being adjudicated will be manually deleted at the same time other evidence associated with the case is purged in line with the Department's evidence retention policy. Any recordings related to administrative or civil proceedings shall be maintained until such matter is fully adjudicated, at which time it shall be deleted in line with the Department's evidence retention policy, and any applicable orders from the court.

Recordings created by equipment testing or accidental activation may be deleted after 60 days. (Ref. policy 425.15)

1300.8 PUBLIC ACCESS

Access to recorded files will be granted for the purposes of review in response to a public records request, as permitted under Government Code § 6254(f) and BPD General Order R-23 (Release of Public Records and Information). General Order R-23 does not authorize release of investigative files or documents that would constitute an unwarranted invasion of privacy. Circumstances where this might arise in video include footage taken inside a home, a medical facility, the scene of a medical emergency, or where an individual recorded has a "reasonable expectation of privacy."

Access to recorded files will be granted for the purposes of review to media personnel or the general public with permission of the Chief of Police, or his/her designee, subject to General Order R-23 and privacy protections indicated in this policy. (Ref. policy 425.18)

1300.9 THIRD-PARTY DATA-SHARING

1300.9.1 CITY ATTORNEY

All recordings should be reviewed by the Custodian of Records and the City Attorney's Office prior to public release, see General Order R-23 (Release of Public Records and Information).

In the event that the Police Department or City Department intends to release or publish for any purpose video recordings where officers are captured on video or the video depicts actions taken by them in the course of the performance of their official duties, those officers shall be given written notice of the intention to release or publish said video at least 48 hours prior to such release.

BPD may, without prior notice to involved officers, share video footage with law enforcement, national security, military, or other government agencies outside of Berkeley, when there is reasonable suspicion that criminal activity has occurred or is about to occur. (Ref. policy 425.18)

1300.9.2 POLICE REVIEW COMMISSION (PRC)

Access to recorded files will be granted for the purposes of review to the Police Review Commission Officer and/or Investigator investigating a specific complaint where BWC evidence files are available, and are not part of any ongoing criminal investigation. (Ref. policy 425.18.1)

- (a) The PRC Officer and PRC Investigator will be provided user account access to evidence files through the evidence management system for their use during a complaint investigation and to facilitate viewing by Board of Inquiry members during a Board of Inquiry.
- (b) The PRC Officer and PRC investigator shall not make or create a copy of any evidence file, nor make or allow to be made any audio or video recording of any evidence file while it is being streamed and viewed from the evidence management system.
- (c) The PRC Officer and PRC Investigator shall not allow any unauthorized individuals to view or access evidence files.
- (d) The evidence management system associates an audit trail record with each evidence file, thereby logging the date, time, user, activity, and client IP address occurring during each evidence file access.
- (e) The evidence management system shall only be accessed on City premises.
- (f) The Department retains custody and control of the recordings, and content of the video will be subject to applicable legal standards including, but not limited to the confidentiality requirements of the Public Safety Officers' Procedural Bill of Rights, (Government Code § 3300, et seq., Penal Code § 832.7, and the California Public Records Act; Government Code § 6250, et seq.)

1300.10 TRAINING

Training for the operation of BWC's shall be provided by BPD personnel. All BPD personnel who use BWC's shall be provided a copy of this Surveillance Use Policy.

1300.11 AUDITING AND OVERSIGHT

Division Captains for divisions utilizing BWC's shall ensure compliance with this Surveillance Use Policy.

1300.12 MAINTENANCE

The BWC system will be maintained by the Applications Programmer Analyst and assigned

Department of Information and Technology (IT) staff.

The Chief of Police, or his/her designee shall appoint a member of the Department to coordinate the use and maintenance of BWCs and the storage of recordings, including (Penal Code § 832.18) (Ref policy 425.4):

- (a) Establishing a system for uploading, storing and security of recordings.
- (b) Designating persons responsible for uploading recorded data.
- (c) Establishing a maintenance system to ensure availability of BWCs.
- (d) Establishing a system for tagging and categorizing data according to the type of incident captured.
- (e) Establishing a system to prevent tampering, deleting and copying recordings and ensure chain of custody integrity.
- (f) Working with the City Attorney's office to ensure an appropriate retention schedule is being applied to recordings and associated documentation.
- (g) Maintaining an audit trail record for all access to evidence files, wherein access information for each evidence file is logged through use of a secure log-in system. The Department's storage system associates an audit trail record with each evidence file, thereby logging the date, time, user name, activity and client IP address occurring during each evidence file access.
- (h) All recordings made by members acting in their official capacity shall remain the property of the Department. Subject to the provisions of this Policy, members shall have no expectation of privacy or ownership interest in the content of these recordings.

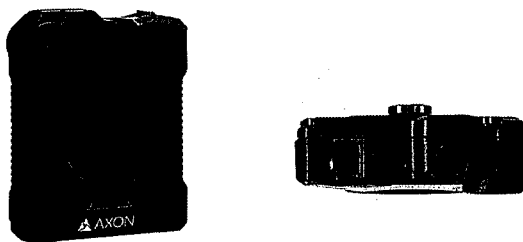
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BERKELEY POLICE DEPARTMENT SURVEILLANCE ACQUISITION REPORT - BODY WORN CAMERAS

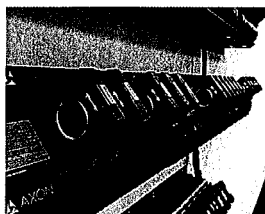
BODY WORN CAMERAS (BWCs)**A. DESCRIPTION**

The BWC system consists of four main components: The camera, the docking station, and the Digital Information Management System (DIMS) and smartphone applications.

The first component, the Axon camera, is a system which incorporates an audio and video recording device. It is designed to record events in real time for secure storage, retrieval, and analysis. The camera is to be attached to an officer's uniform and is powered by an internal rechargeable battery. The camera features low-light performance, full-shift battery life, a capture rate of 30 frames per second with no dropped frames, HD video, pre-event buffering, multi-camera playback, and the ability to automatically categorize video using the police department's computer aided dispatch system. An officer can start and stop recording by pressing a button on the front of the camera. The camera does not contain a screen for footage review.



The second component of the system is the docking station. Once the Axon camera is placed in the docking station it recharges the camera's battery. The dock also triggers the uploading of data from the camera to a cloud based Digital Information Management System (DIMS) called Evidence.com. The dock does not directly provide functionality to view, modify or delete video data stored on Axon cameras.



The third component is the Digital Information Management System called Evidence.com. Evidence.com streamlines data management and sharing on one secure platform. The evidence management system is comprehensive, secure, and intuitive to use. The DIMS is located in a cloud-based data center for security, scalability, and ease of administration. Users can add

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metadata to existing videos such as associated case numbers, incident type, incident dispositions, etc. to make the videos easier to find. However, the videos themselves cannot be altered by the user.

The fourth component of the system to be utilized are two Axon mobile applications, which allow officers to collect and review evidence in the field and more effectively use their BWCs. The applications use secure Bluetooth and Wi-Fi technology to access the BWC systems and footage. These applications are compliant with US Department of Justice evidentiary standards, meaning that they are both secure and are set up in a way that prohibits the altering or destruction of evidence. The applications are called Axon View and Axon Capture. Axon View allows users to change their camera settings, view live video, and review and tag recorded videos while they are stored on the BWC. Recorded videos remain in the BWC's memory, and cannot be manipulated or deleted. Axon Capture allows officers to use their city-issued smartphone's camera and microphone to take photographs, and record audio and video, and to upload this data directly to Evidence.com. These applications do not allow users to alter, manipulate, or edit any of the footage recorded by the BWC. These applications use secure technology to add value and efficiency to the BWC program.

B. PURPOSE

The primary objective of the BWC system is to document officer contacts, arrests, and critical incidents. Video footage collected by the BWCs will be used as evidence in both criminal and administrative investigations. Video footage not relevant to any investigation will be discarded after a defined retention period.

In instances where the officer might be expected to take law enforcement action of any kind, the officer is expected to record the encounter for the benefit of both the officer and the member of the public.

1. The BWC shall be activated in any of the following situations:
 - i. All in-person enforcement and investigative contacts including pedestrian stops and field interview (FI) situations.
 - ii. Traffic stops including, but not limited to, traffic violations, stranded motorist assistance and all crime interdiction stops.
 - iii. Self-initiated field contacts in which a member would normally notify the Communications Center.
 - iv. Any search activity, including the service of search or arrest warrants; probation, parole, or consent searches where the member is seeking evidence of an offense, or conducting a safety sweep or community caretaking sweep of the premises. Once a location has been secured and the member is not interacting with detainees or arrestees, the member may mute their BWC when conducting a search for evidence.

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- v. Any other contact that the member determines has become adversarial after the initial contact in a situation where the member would not otherwise activate BWC recording.
- vi. Transporting any detained or arrested person and where a member facilitates entry into or out of a vehicle, or any time the member expects to have physical contact with that person.

At no time is an officer expected to jeopardize his or her safety in order to activate a BWC. The BWC should be activated in anticipation of situations described above, and in any unanticipated, rapidly unfolding situation where activation becomes required, as soon as the user can do so safely.

Officers should activate their BWC when conducting custodial interviews unless there are other recording devices being used. Officers shall document and explain in their report the reason for not recording custodial interviews, should a BWC be de-activated while conducting a custodial interview or interrogation.

2. Prohibited uses of the BWC system include:

- i. Officers shall not surreptitiously record another department member without a court order unless lawfully authorized by the Chief of Police, or his/her designee.
- ii. Officers are prohibited from using a department-issued BWC for personal use and are prohibited from making personal copies of recordings created while on duty or while acting in their official capacity.
- iii. Officers are prohibited from retaining BWC recordings.
- iv. Officers shall not duplicate or distribute such recordings, except for department business purposes.

C. LOCATION

Officers may use BWCs anywhere where officers have jurisdiction to operate as sworn officers, in accordance with BPD policy #425.

D. IMPACT

With the introduction of BWCs, officers record all enforcement contacts with the public. To that end, an officer could find themselves engaged in their lawful duties in both public and private areas. Additionally, due to the nature of law enforcement work, an officer may be required to engage in sensitive conversations with individuals of all ages, including children.

The right to maintain someone's anonymity versus the need to gain information to maintain public safety is of paramount concern. The Department recognizes that all people have a right to privacy and is committed to protecting and safeguarding civil rights by adhering to the

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strictest requirements of both state and federal law concerning release of audio/video recordings.

E. MITIGATION

In order to minimize violations of privacy, BWC policy provides that:

1. Officers should record any incident they feel would be appropriate or valuable to document. The BWC policy shall require officers to activate the BWC under the criteria listed above.
2. Officers should not activate the BWC and/or use caution when entering a public locker room, changing room, restroom, doctor's or attorney's office, or other place where individuals unrelated to the investigation are present and would have a heightened expectation of privacy unless the officer is investigating criminal activity or responding to a call for service.
3. BWC use is limited to enforcement and investigative activities involving members of the public. The BWC recordings will capture video and audio evidence for use in criminal investigations, administrative reviews, training, civil litigation, and other proceedings protected by confidentiality laws and department policy.
4. BWC footage will be retained or released in accordance with applicable state and federal law. Criminal defendants will have access to relevant BWC footage via the court discovery process.
5. Officers are prohibited from retaining BWC recordings, Officers shall not duplicate or distribute such recordings, except for department business purposes. All such recordings shall be retained at the Department.
6. Officers are prohibited from intentionally erasing, altering, reusing, modifying or tampering with original audio video recordings. Officers may request restriction and subsequent deletion of an accidental recording according to the BWC policy.
7. Access to recorded files will be granted for the purposes of review in response to a public records request, as permitted by law and department policy. Department policy does not authorize release of investigative files or documents that would constitute an unwarranted invasions of privacy. Circumstances where this might arise in video include footage taken inside a home, a medical facility, the scene of a medical emergency, or where an individual recorded has a "reasonable expectation of privacy"

F. DATA TYPES AND SOURCES

BWC use is limited to enforcement and investigative activities involving members of the public. The BWC recordings will capture video and audio evidence for use in criminal investigations, administrative reviews, training, civil litigations, and other proceedings protected by confidentiality laws and department policy.

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The BWC collects video and audio recordings of events occurring in the user's presence. As each video is created, the system automatically stamps the video with the current date/time and the camera user's identity. The user has the option to add metadata manually to existing recordings after they are created. Such metadata may include but is not limited to:

1. Category of contact (from Department's defined list)
2. Disposition of contact (arrest, citation, etc.)
3. Associated case number

G. DATA SECURITY

To assist with identifying and preserving data and recordings, members shall tag and download recordings in accordance with procedure, and document the existence of the recording in the related case report. Transfers must occur at the end of the member's shift, and any time the member is aware that the storage capacity of the BWC is nearing its limit. In circumstances when the officer cannot complete this task, the officer's supervisor shall immediately take custody of the BWC and be responsible for transferring the data into the digital evidence management system. Officers shall tag each file with the appropriate case/incident number, provide a descriptive title, and select an appropriate category for each recording, using the Axon View app or via the Evidence.com site.

Members are prohibited from intentionally erasing, altering, reusing, modifying or tampering with original audio video recordings.

Improper use or release of BWC recordings may compromise ongoing criminal and administrative investigations or violate the privacy rights of those recorded and is prohibited. The Chief of Police, or his/her designee shall appoint a member of the Department to coordinate the use and maintenance of BWCs and the storage of recordings, including (Penal Code Section 832.18) (Ref. policy 425.14):

1. Establishing a system for uploading, storing and security of recordings.
2. Designating persons responsible for uploading recorded data.
3. Establishing a maintenance system to ensure availability of BWCs.
4. Establishing a system for tagging and categorizing data according to the type of incident captured.
5. Establishing a system to prevent tampering, deleting and copying recordings and ensure chain of custody integrity.
6. Working with the City Attorney's office to ensure an appropriate retention schedule is being applied to recordings and associated documentation.
7. Maintaining an audit trail record for all access to evidence files, wherein access information for each evidence file is logged through use of a secure log-in system. The Department's storage system associates an audit trail record with each evidence file,

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thereby logging the date, time, user name, activity and client IP address occurring during each evidence file access.

H. FISCAL COST

In 2017, the Berkeley City Council approved a resolution authorizing a contract between BPD and Axon. Axon was chosen after a competitive Request for Proposal (RFP) process. The contract will not exceed \$1,218,103 and includes the cost of 200 body worn cameras, charging stations, accessories, software licenses, training and unlimited storage for five years. The purchase also includes replacement cameras and charging stations during the third and fifth year of the contract.

There will be an annual cost of approximately \$250,000 to the police department's budget for a staff person to administer the body worn camera program beginning in FY 2019.

I. THIRD PARTY DEPENDENCE AND ACCESS

All BWC data will be uploaded and stored on Axon Cloud Services, Evidence.com. Axon complies with the EU-U.S. Privacy Shield Framework and the Swiss-U.S. Privacy Shield Framework as set forth by the U.S. Department of Commerce regarding the collection, use, and retention of personal information transferred from the European Union and Switzerland to the United States (collectively, "Privacy Shield"). Axon has certified to the U.S. Department of Commerce that it adheres to the Privacy Shield Principles.

J. ALTERNATIVES

Officers rely primarily on traditional policing techniques to gather evidence related to criminal investigations such as speaking to witnesses and suspects, gathering information from observations, and using standard data aggregation systems. These methods will continue to be employed as primary investigative tools that will be supplemented by use of BWCs to document police activity.

BWC technology provides video and audio documentation of policing activity in addition to the oral and written statements of officers, victims, and witnesses. Alternatives to the use of BWCs would be vehicle-based cameras and/or not utilizing BWCs. However, BPD sees the use of BWCs as an integral strategy to strengthen police transparency, prevent and resolve complaints against the police by civilians, document police-public interaction, and promote the perceived legitimacy and sense of procedural justice that communities have about their departments. There is a broad consensus – among community leaders, the ACLU, the Department of Justice, the Berkeley Police Department, and elected officials – that body-worn cameras can be an important tool for improving the high-quality public service expected of police officers.

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K. EXPERIENCE OF OTHER ENTITIES

Numerous police agencies have adopted BWCs as a tool to help combat crime, to reduce citizen complaints and to reduce use of force situations. Many departments have developed their own usage policies which may include standards for required officer use, supervisory review, storage and data retention standards, and internal and public access.

A report for the U.S. Bureau of Justice Administration, https://www.bja.gov/bwc/pdfs/14-005_Report_BODY_WORN_CAMERAS.pdf - pages 6-8, cites a 2013 Rialto, CA study that showed that the use of BWCs led to a 59 percent decrease in UOF and an 87.5 percent decrease in citizen complaints. Likewise, the Mesa, AZ report noted in "Impact" Section above also points to large decreases in UOF and citizen complaints.

The 2017 Police Body Worn Cameras: A Policy Scorecard, <https://www.bwccscorecard.org/>, provides an analysis of how scores of different police agencies have employed BWCs through a defined list of metrics.

Body Worn Cameras

425.1 PURPOSE AND SCOPE

This policy provides guidelines for the use of portable Body Worn Cameras (BWCs) by members of this department while in the performance of their duties.

This policy does not apply to non-BWC evidence, including other methods of audio or video recordings, interviews or interrogations conducted at any Berkeley Police Department facility, authorized undercover operations, wiretaps or eavesdropping (concealed listening devices).

425.2 POLICY

The Berkeley Police Department recognizes that video recording of contacts between department personnel and the public provides an objective record of these events, and that the use of a recording system complements field personnel in the performance of their duties by providing a video record of enforcement and investigative field contacts, which can enhance criminal prosecutions, limit civil liability, increase transparency, and enhance professionalism in the delivery of police services to the community. A video recording of an event or contact also enables the delivery of timely, relevant, and appropriate training to maximize safety for both community members and BPD personnel.

While recordings obtained from BWCs provide an objective record of events, it is understood that video recordings do not necessarily capture all events, activities and information, or reflect the full experience of the individual member(s) in a given incident. Moreover, the recordings, especially video, have limitations and may depict events differently than the events as perceived and recalled by the involved member. Specifically, it is understood that the BWC will capture information that may not have been seen and/or heard by the involved member and that the involved member may see and hear information that may not have been captured by the BWC.

425.3 CONFIDENTIALITY AND PROPER USE OF RECORDINGS

BWC use is limited to enforcement and investigative activities involving members of the public. The BWC recordings will capture video and audio evidence for use in criminal investigations, administrative reviews, training, civil litigation, and other proceedings protected by confidentiality laws and department policy. Improper use or release of BWC recordings may compromise ongoing criminal and administrative investigations or violate the privacy rights of those recorded and is prohibited.

425.4 COORDINATOR

The Chief of Police, or his/her designee shall appoint a member of the Department to coordinate the use and maintenance of BWCs and the storage of recordings, including (Penal Code § 832.18):

- (a) Establishing a system for uploading, storing and security of recordings.
- (b) Designating persons responsible for uploading recorded data.

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- (c) Establishing a maintenance system to ensure availability of BWCs.
- (d) Establishing a system for tagging and categorizing data according to the type of incident captured.
- (e) Establishing a system to prevent tampering, deleting and copying recordings and ensure chain of custody integrity.
- (f) Working with the City Attorney's office to ensure an appropriate retention schedule is being applied to recordings and associated documentation.
- (g) Maintaining an audit trail record for all access to evidence files, wherein access information for each evidence file is logged through use of a secure log-in system. The Department's storage system associates an audit trail record with each evidence file, thereby logging the date, time, user name, activity and client IP address occurring during each evidence file access.

All recordings made by members acting in their official capacity shall remain the property of the Department. Subject to the provisions of this Policy, members shall have no expectation of privacy or ownership interest in the content of these recordings.

425.5 MEMBER RESPONSIBILITIES

Prior to going into service, each uniformed member who is assigned to wear a BWC will be responsible for making sure that he or she is equipped with a BWC issued by the Department, and that the BWC is in good working order. If the BWC is not in working order or the member becomes aware of a malfunction at any time, the member shall promptly report the failure to his/her supervisor to permit the supervisor or other department employee to provide the member with a functioning BWC as soon as practicable. Uniformed members should wear the recorder in a conspicuous manner as prescribed by the Department, to provide a generally unobstructed camera view of contacts between members of the public and department members.

Members lawfully engaged in their duties as a police officer are not required to obtain consent from, or give notice to, members of the public, prior to recording with their BWC.

Upon the approval of the Chief of Police, or his/her designee, non-uniformed members lawfully engaged in their duties as a police officer may use an approved BWC.

Members are required to document the existence of a recording in any report or other official record of the contact, such as a CAD entry, including any instance where the member is aware that the BWC malfunctioned or the member deactivated the recording. In the event activity outlined in section 425.7 is not captured in whole or in part the member shall document this and explain in their report their understanding, if any, of why the footage was not captured in the recording.

425.6 SUPERVISOR RESPONSIBILITIES

At such time as the scene is considered secure and safe, the on-scene supervisor shall take immediate physical custody of involved officer's/officers' BWC when the device may have captured an incident involving an officer-involved shooting or use of force resulting in death or great bodily injury, and shall ensure the data is uploaded in a timely manner as prescribed by BPD policy

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(Penal Code § 832.18). Supervisors may review relevant BWC video and audio files in the field in furtherance of their duties and responsibilities.

Supervisors shall also review relevant BWC recordings prior to submitting any administrative reports.

425.7 ACTIVATION OF THE BODY WORN CAMERA

This policy is not intended to describe every possible situation in which the BWC should be used. Members shall activate the BWC as required by this policy in (a)-(f) below, and may activate the BWC at any time the member believes it would be appropriate or valuable to record an incident within the limits of privacy described herein.

The BWC shall be activated in any of the following situations:

- (a) All in-person enforcement and investigative contacts including pedestrian stops and field interview (FI) situations.
- (b) Traffic stops including, but not limited to, traffic violations, stranded motorist assistance and all crime interdiction stops.
- (c) Self-initiated field contacts in which a member would normally notify the Communications Center.
- (d) Any search activity, including the service of search or arrest warrants; probation, parole, or consent searches where the member is seeking evidence of an offense, or conducting a safety sweep or community caretaking sweep of the premises. Once a location has been secured and the member is not interacting with detainees or arrestees, the member may mute their BWC when conducting a search for evidence.
- (e) Any other contact that the member determines has become adversarial after the initial contact in a situation where the member would not otherwise activate BWC recording.
- (f) Transporting any detained or arrested person and where a member facilitates entry into or out of a vehicle, or any time the member expects to have physical contact with that person.

At no time is a member expected to jeopardize his or her safety in order to activate a BWC. The BWC should be activated by members in anticipation of situations described above, and in any unanticipated, rapidly unfolding situation where activation becomes required, as soon as the member can do so safely.

Members should activate their BWC when conducting custodial interviews unless there are other recording devices being used. Members shall document and explain in their report the reason for not recording custodial interviews, should a BWC be de-activated while conducting a custodial interview or interrogation.

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425.8 VICTIMS AND WITNESSES OF CRIMES; INFORMANTS

In the event that an officer has the opportunity to record interviews of victims and witnesses of crimes, they shall consider the following:

- (a) **Witnesses:** In the event a crime witness or a member of the community wishes to report or discuss criminal activity anonymously, officers have the discretion to not record. Members may offer to avert their camera to capture only audio during the interview, when doing so would facilitate obtaining the witness's recorded statement. In cases where a witness requests they not be recorded, and the member agrees not to record, members should record their request prior to turning the camera off. When a member is already recording, the member shall record their explanation for turning the camera off prior to doing so.
- (b) **Victims:** Upon request by the victim, officers have the discretion to not record the interview. Members may offer to avert their camera to capture only audio during the interview, when doing so would facilitate obtaining the victim's recorded statement. In cases where a victim requests they not be recorded, and the member agrees not to record, members should record their request prior to turning the camera off. When a member is already recording, the member shall record their explanation for turning the camera off prior to doing so.
 - 1. **Domestic Violence Victims:** Members should attempt to record interviews of domestic violence victims to facilitate future prosecution efforts and discourage later recanting of statements. Members should also record interviews with children who witness domestic violence, when the child is willing.
 - 2. **Child Abuse and Sexual Assault Victims:** Members shall have the discretion to record, absent any request to not record the interview by victims, witnesses, or non-suspect parents of victims, during child abuse and/or sexual assault investigations.
- (c) **Informants:** Members shall not activate their recorders when conducting an interview or engaging in a conversation with a confidential informant, unless needed as evidence.

Members have no obligation to advise a victim or witness that he or she is being recorded, but may do so at their discretion. When a victim or witness requests they not be recorded, members may consider their request (See Penal Code 632).

Members shall remain sensitive to the dignity of all individuals being recorded and exercise discretion to respect privacy by discontinuing recording whenever it reasonably appears to the member that such privacy concerns may outweigh any legitimate law enforcement interest in recording. Recording should resume when privacy concerns are no longer at issue unless the member determines that the circumstances no longer fit the criteria for recording.

Informal community interactions differ from "consensual encounters" in which members make an effort to develop reasonable suspicion to detain or probable cause to arrest. To strengthen relationships between police and citizens, members may use discretion regarding the recording of informal, non-enforcement related interactions with members of the community.

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425.9 ACTIVATION IN CROWD CONTROL SITUATIONS

During crowd control, protest or mass arrest incidents, members shall use their BWCs consistent with this policy, or when directed by the Incident Commander. The Incident Commander shall document his or her orders to activate in an appropriate report (e.g. Operations Plan or After Action Report).

The limitations outlined in the Intelligence Procedures for First Amendment Activities Policy governing intelligence-gathering procedures for First Amendment activities, apply to the use of BWCs and other recording devices.

Video recording of individuals who are picketing or engaged in peaceful protest will be avoided unless the officer believes a violation of criminal law is occurring, may occur, or if the officer interacts with a participant or third party to the event, or a participant or third party initiates contact with the member.

425.10 SURREPTITIOUS USE OF THE BWC

Members of the Department may surreptitiously record any conversation during the course of a criminal investigation in which the member reasonably believes that such a recording will be lawful and beneficial to the investigation.

Members shall not surreptitiously record another department member without a court order unless lawfully authorized by the Chief of Police, or his/her designee.

Members are prohibited from using department-issued BWCs for non-work related personal activity. BWCs will not be activated in places where members have a reasonable expectation of privacy, such as workplace locker rooms, dressing rooms, members' private vehicles or restrooms.

425.11 CESSATION OF RECORDING

Once activated, the member may mute or deactivate their BWC at any time based on their discretion, in the following circumstances:

- (a) Discussion of tactical or confidential information with other law enforcement personnel.
- (b) Where members are on a perimeter or assigned to a static post where the member's direct participation in the incident is complete and they are not actively part of an investigation.
- (c) If it is necessary to discuss issues or concerns with an employee, supervisor, doctor, nurse, or paramedic in private.
- (d) In the member's judgment, a recording would interfere with his or her ability to conduct an investigation.

Decisions regarding the reason for muting or BWC deactivation shall be noted on the recording, or otherwise documented.

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Members shall cease audio/video recording whenever necessary to ensure conversations are not recorded between a person in custody and the person's attorney, religious advisor or physician, unless there is explicit consent from all parties to the conversation. This does not apply to conversations with paramedics or EMTs during their response at a scene, and during transport.

425.12 EXPLOSIVE DEVICE

Many portable recorders, including BWCs and audio/video transmitters, emit radio waves that could trigger an explosive device. Therefore, these devices should not be used where an explosive device may be present.

Members believing that the use of a BWC may detonate an explosive device may deactivate their BWC in such cases.

425.13 PROHIBITED USE OF BODY WORN CAMERAS

Members are prohibited from using a department-issued BWC for personal use and are prohibited from making personal copies of recordings created while on duty or while acting in their official capacity.

Members are prohibited from retaining BWC recordings. Members shall not duplicate or distribute such recordings, except for department business purposes. All such recordings shall be retained at the Department.

Members may not use personally owned recorders (e.g. personal cell phone) to document contacts unless exigent circumstances exist to warrant the use of personally owned recording devices. Regardless, if a member is using a department-issued BWC, and/or another recording device, members shall comply with the provisions of this policy, including retention and release requirements. In every event where members use any recording device aside from or in addition to their department-issued BWC, the member shall document and explain the use and the exigent circumstance in their police report (e.g. the BWC failed and evidence needed to be captured at that moment in time).

Recordings shall not be used by any member for the purpose of embarrassment, intimidation or ridicule.

425.14 PROCESSING AND HANDLING OF RECORDINGS

To assist with identifying and preserving data and recordings, members shall tag and download recordings in accordance with procedure, and document the existence of the recording in the related case report. Transfers must occur at the end of the member's shift, and any time the member is aware that the storage capacity of the BWC is nearing its limit. In circumstances when the officer cannot complete this task, the officer's supervisor shall immediately take custody of the BWC and be responsible for uploading the data. Officers shall tag each file with the appropriate case/incident number, provide a descriptive title, and select an appropriate category for each recording, using the Axon View app or via the Evidence.com site.

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Members are prohibited from intentionally erasing, altering, reusing, modifying or tampering with original audio video recordings. Members may request restriction and subsequent deletion of an accidental recording as described under section 425.16 below.

425.15 RETENTION REQUIREMENTS

The Department shall retain all recordings for a minimum of 60 days. Incidents involving consensual contacts, and aid to citizens will be retained for six months, and cold reports will be retained for one year. Recordings of incidents involving use of force by a police officer, detentions, arrests, or recordings relevant to a formal or informal complaint shall be retained for a minimum of two years and one month. Recordings relating to court cases and personnel complaints that are being adjudicated will be manually deleted at the same time other evidence associated with the case is purged in line with the Department's evidence retention policy. Any recordings related to administrative or civil proceedings shall be maintained until such matter is fully adjudicated, at which time it shall be deleted in line with the Department's evidence retention policy, and any applicable orders from the court.

Recordings created by equipment testing or accidental activation may be deleted after 60 days.

425.16 ACCIDENTAL RECORDING - REQUEST FOR RESTRICTION

In the event of an accidental or sensitive personal recording of non-departmental business activity, where the resulting recording is of no investigative or evidentiary value, the recording employee may request that the file be restricted pending 60-day deletion by submitting an email request via their chain of command to the Professional Standards Division Captain. The Professional Standards Division Captain will approve or deny the restriction request. In cases where the request is denied, an appeal may be submitted to the Chief of Police, or his/her designee, for restriction authorization. In all cases of restriction requests, a determination should be made within seven calendar days.

425.17 REVIEW OF RECORDINGS BY A MEMBER

Members are authorized to review their own BWC video files at any time in furtherance of official business. Such official business includes, but is not limited to, preparing written reports, prior to or while providing testimony in a case or being deposed. Members may review recordings as an evidentiary resource, except as stated in subsection 425.17.1 below. Members shall not retain personal copies of recordings. Members shall not use the fact that a recording was made as a reason to write a less detailed report.

425.17.1 OFFICER INVOLVED INCIDENTS RESULTING IN GRAVE BODILY INJURY OR DEATH

- (a) In the event of a critical incident that results in grave bodily injury or death, including an officer-involved shooting or an in-custody death, the BWC of the involved member(s) shall be taken from him or her and secured by a supervisor, commander, or appropriate investigator, as necessary. The involved member(s) shall not access or obtain their footage of the incident until such time as the criminal investigator(s) have reviewed

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the video files. It will be the responsibility of the investigation team's supervisor to coordinate with the involved member's supervisor to obtain footage of the incident on behalf of the member.

- (b) Personnel uploading secured BWC video files shall not view the files unless authorized.
- (c) No member involved in a critical incident may view any video recordings prior to an interview by the appropriate criminal investigative unit, and receiving command approval.
- (d) Prior to the conclusion of the criminal interview process, the involved member and/or the member's representative will have an opportunity to review the member's recording(s). The involved member may choose to provide additional information to supplement his or her statement by providing a supplemental statement or separate supplemental document. In no case shall a member alter a report made prior to reviewing the recording.
- (e) The Department acknowledges that recordings taken during critical incidents obtained from BWCs do not necessarily reflect the full extent of the nature of the event or the experience, analysis, training, threat assessment or state of mind of the individual officer(s) in a given incident. Moreover, the recordings, especially video, have limitations and may depict events differently than the events recalled by the involved officer. Specifically, it is understood that the recording device will capture information that may not have been heard and/or observed by the involved officer and that officers may see and hear events that are not captured by the camera.

Officers who are involved in any critical incident where video recordings exist depicting the involved officer, either as a subject officer or witness, shall be provided the following admonishment to the initial interview or submission of the initial written report:

"In this case, there is video evidence that you will have an opportunity to view. Video evidence has limitations and may depict the events differently than you recall, and may not depict all of the events as seen or heard by you. Video has a limited field of view and may not capture events normally seen by the human eye. The "frame rate" of video may limit the camera's ability to capture movements normally seen by the human eye. Lighting as seen on the video may be different than what is seen by the human eye. Videos are a two-dimensional medium and may not capture depth, distance or positional orientation as well as the human eye. Remember, the video evidence is intended to assist your memory and ensure that your statement explains your state of mind at the time of the incident."

425.17.2 SUPERVISORY REVIEW

With the exception of section 425.17.1 above, supervisors are authorized to review relevant recordings any time they are reviewing and approving case reports from their subordinates.

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425.17.3 INVESTIGATORY REVIEW

Supervisors are authorized to review relevant recordings any time they are investigating alleged misconduct or reports of meritorious conduct, or whenever such recordings support review of the member's performance.

Recorded files may also be reviewed:

- (a) Upon approval by a supervisor, by any member of the Department who is participating in conduct of an official investigation, such as a personnel complaint, an administrative investigation or a criminal investigation.
- (b) Pursuant to lawful process or by court or District Attorney personnel who are otherwise authorized to review evidence in a related case.
- (c) By personnel assigned to investigatory units who are authorized to view any BWC video file associated to their active investigations, unless otherwise prohibited by policy.
- (d) Upon approval by the Chief of Police, Internal Affairs investigators may review BWC video with a complainant.

Investigators conducting criminal or internal investigations shall:

1. Advise the coordinator to restrict access to the BWC file in criminal or internal investigations, as necessary.
2. Review the file to determine whether the BWC file is of evidentiary value and process it in accordance with established protocols.
3. Notify the coordinator to remove the access restriction when the criminal/internal investigation is closed.

425.17.4 TEACHING OR LEARNING TOOL

BWC files may also be reviewed by training staff regarding specific incidents where such files may serve as an internal learning or teaching tool. In the event that videos are intended to be used for training purposes, the involved officer(s) will first be consulted. If he/she objects to the use of the video, such objection shall be submitted to the person in charge of training who shall weigh the value of the video for training against the officer(s) objections and basis for the objection. Should the person in charge of training refuse to grant the request of the involved officer(s), the matter shall be heard by the Chief of Police, or his/her designee, prior to utilizing the video.

425.17.5 COB CIVIL CLAIMS AND LAWSUITS

BWC recordings may be reviewed and used by City of Berkeley defense counsel for the purposes of defending the city in civil claims and lawsuits, with the authorization of the Chief of Police, or his/her designee.

425.18 RELEASE OF RECORDINGS

All recordings should be reviewed by the Custodian of Records and the City Attorney's Office prior to public release, see General Order R-23 (Release of Public Records and Information).

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In the event that the Police Department or City Department intends to release or publish for any purpose video recordings where officers are captured on video or the video depicts actions taken by them in the course of the performance of their official duties, those officers shall be given written notice of the intention to release or publish said video at least 48 hours prior to such release.

BPD may, without prior notice to involved officers, share video footage with law enforcement, national security, military, or other government agencies outside of Berkeley, when there is reasonable suspicion that criminal activity has occurred or is about to occur.

425.18.1 POLICE REVIEW COMMISSION (PRC)

Access to recorded files will be granted for the purposes of review to the Police Review Commission Officer and/or Investigator investigating a specific complaint where BWC evidence files are available, and are not part of any ongoing criminal investigation.

- (a) The PRC Officer and PRC Investigator will be provided user account access to evidence files through the evidence management system for their use during a complaint investigation and to facilitate viewing by Board of Inquiry members during a Board of Inquiry.
- (b) The PRC Officer and PRC investigator shall not make or create a copy of any evidence file, nor make or allow to be made any audio or video recording of any evidence file while it is being streamed and viewed from the evidence management system.
- (c) The PRC Officer and PRC Investigator shall not allow any unauthorized individuals to view or access evidence files.
- (d) The evidence management system associates an audit trail record with each evidence file, thereby logging the date, time, user, activity, and client IP address occurring during each evidence file access.
- (e) The evidence management system shall only be accessed on City premises.
- (f) The Department retains custody and control of the recordings, and content of the video will be subject to applicable legal standards including, but not limited to the confidentiality requirements of the Public Safety Officers' Procedural Bill of Rights, (Government Code § 3300, et seq., Penal Code § 832.7, and the California Public Records Act; Government Code § 6250, et seq.)

425.18.2 PUBLIC RECORDS ACT (PRA) REQUEST

Access to recorded files will be granted for the purposes of review in response to a public records request, as permitted under Government Code § 6254(f) and BPD General Order R-23 (Release of Public Records and Information). General Order R-23 does not authorize release of investigative files or documents that would constitute an unwarranted invasion of privacy. Circumstances where this might arise in video include footage taken inside a home, a medical facility, the scene of a medical emergency, or where an individual recorded has a "reasonable expectation of privacy."

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425.18.3 MEDIA

Access to recorded files will be granted for the purposes of review to media personnel or the general public with permission of the Chief of Police, or his/her designee, subject to General Order R-23 and privacy protections indicated in this policy.

425.19 COMPLIANCE WITH BMC 2.99 ACQUISITION AND USE OF SURVEILLANCE TECHNOLOGY

This policy shall comply at all times with the requirement of BMC 2.99 Acquisition and Use of Surveillance Technology.

425.20 TRAINING REQUIRED

Officers who are assigned BWCs must complete department-approved training in the proper use and maintenance of the devices before deploying to the field.

As part of a continual improvement process, regular review should be conducted by BPD staff of the training on this policy and the related use of BWCs under this policy. Information resulting from the outcomes of this review shall be incorporated into the City Manager's annual "Surveillance Technology Report" as required under BMC 2.99 Acquisition and Use of Surveillance Technology.

The Department, Police Review Commission and other City Departments shall maintain the confidentiality of Department sworn employee personnel records as required by state and local law. Failure to maintain the confidentiality of Department sworn employee personnel records, whether or not intentional, may subject individuals to civil penalties and discipline, up to and including termination of employment.

ATTACHMENT 3:
Global Positioning System Tracking Devices

Surveillance Technology Report: Global Positioning System Tracking Devices

March 1, 2018 – Sept. 30, 2019

<p>Description</p>	<p>A description of all non-privileged and non-confidential information about use of the Surveillance Technology, including but not limited to the quantity of data gathered and sharing of data, if any, with outside entities. If sharing has occurred, the report shall include general, non-privileged and non-confidential information about recipient entities, including the names of the entities and purposes for such sharing.</p> <p>Global Positioning System Trackers are used to track the movements of vehicles, bicycles, other items, and/or individuals for the purpose of investigating criminal activity.</p> <p>Global Positioning System (GPS) “Electronic Stake Out” (ESO) devices were deployed on “bait” bicycles eighty-five (85) times during this reporting period, resulting in forty-nine (49) arrests.</p> <p>GPS “Slap-N-Track” (SNT) devices were used in two investigations during this reporting period: (1) a robbery and laptop snatch series involving multiple cases and suspects in Berkeley and in the region, with all suspects ultimately arrested; and (2) a currently-active case involving a series of auto burglaries in Berkeley and in the region.</p> <p>Data may be shared with the District Attorney’s Office for use as evidence to aid in prosecution, in accordance with laws governing evidence; other law enforcement personnel as a part of an active criminal investigations; and other third parties, pursuant to a court order.</p>
<p>Geographic Deployment</p>	<p>Where applicable, non-privileged and non-confidential information about where the surveillance technology was deployed geographically.</p> <p>GPS ESO-equipped bikes were deployed primarily in commercial districts across the city where bikes are frequently stolen.</p> <p>GPS SNT devices are deployed with judicial pre-approval, based on suspect location, rather than geographical consideration.</p>
<p>Complaints</p>	<p>A summary of each complaint, if any, received by the City about the Surveillance Technology.</p> <p>There were no complaints made regarding GPS Trackers.</p>
<p>Audits and Violations</p>	<p>The results of any non-privileged internal audits, any information about violations or potential violations of the Surveillance Use Policy, and any actions taken in response.</p> <p>There were no audits and no known violations relating to GPS Trackers.</p>
<p>Data Breaches</p>	<p>Non-privileged and non-confidential information about any data breaches or other unauthorized access to the data collected by the surveillance technology, including information about the scope of the breach and the actions taken in response.</p> <p>There were no known data breaches relating to GPS Trackers.</p>

<p>Effectiveness</p>	<p>Information that helps the community assess whether the Surveillance Technology has been effective in achieving its identified outcomes.</p> <p>GPS Trackers continue to be very effective in apprehending bicycle thieves, many of whom are repeat offenders who've committed not only bike thefts, but other crimes as well. SNT trackers are effective in that they provide invaluable information on suspect vehicle location during the investigation of complex cases where suspects may be moving around the Bay Area and beyond.</p> <p>GPS Trackers greatly reduce costs associated with surveillance operations. A bike may be left for days. Surveillance operations generally involve four or more officers for the entire duration of an operation. A moving surveillance is extremely resource-intensive, requiring multiple officers in multiple vehicles for extended periods of time. Using both types of GPS trackers eliminates the need for officers' immediate presence until officers are ready to apprehend the suspect(s).</p>
<p>Costs</p>	<p>Total annual costs for the Surveillance Technology, including personnel and other ongoing costs.</p> <p>The annual cost for the GPS Trackers' data service is \$1,920; the total cost for the 19 month period of this initial report was \$3,040. Further information regarding costs is contained in Policy 1301a, the Surveillance Acquisition Report.</p> <p>There are staff time costs associated with preparing and placing SNT trackers. The investigator must prepare a search warrant and obtain a judge's approval, and a small number of officers must place the tracker on the suspect's car. The total number of hours is a fraction of the time it would take to do a full surveillance operation involving numerous officers.</p> <p>There are staff time costs associated with preparing ESO trackers and placing ESO tracker-equipped bikes for bait bike operations. These are on the order of two-four hours per operation. The total number of hours is extremely small, given the large number of operations, and resulting arrests.</p>

Surveillance Use Policy - GPS Tracking Devices

1301.1 PURPOSE

Global Positioning System (GPS) tracking devices track the movements of vehicles, bicycles, cargo, machinery, other items, and/or individuals. GPS trackers electronically relay their precise location in real time, and thereby assist BPD in the recovery of evidence and arrest of suspects.

1301.2 AUTHORIZED USE

GPS trackers shall only be used during active criminal investigations. GPS trackers shall only be used pursuant to a lawfully issued search warrant, or with consent of the owner of the object to which the GPS tracker is attached.

GPS trackers shall only be utilized for law enforcement purposes.

1301.3 DATA COLLECTION

Location data may be obtained through the use of a GPS Tracker.

1301.4 DATA ACCESS

Access to GPS tracker data shall be limited to Berkeley Police Department (BPD) personnel utilizing the GPS Tracker(s) for active criminal investigations. Information may be shared in accordance with 1301.9 below.

In support of active criminal investigations, BPD personnel may receive GPS tracker data from probation or parole agencies which utilize GPS trackers (e.g. ankle monitors) as a condition of probation or parole.

1301.5 DATA PROTECTION

The data from the GPS tracker is encrypted by the vendor. The data is only accessible through a secure website to BPD personnel who have been granted security access.

1301.6 CIVIL LIBERTIES AND RIGHTS PROTECTION:

The Berkeley Police Department is dedicated to the most efficient utilization of its resources and services in its public safety endeavors. The Berkeley Police Department recognizes the need to protect its ownership and control over shared information and to protect the privacy and civil liberties of the public, in accordance with federal and state law. Provisions of this policy, including 1301.4 Data Access, 1301.5 Data Protection, 1301.7 Data Retention, 1301.8 Public Access and 1301.9 Third Party Data Sharing serve to protect against any unauthorized use of GPS tracker data. These procedures ensure the data is not used in a way that would violate or infringe upon anyone's civil rights and/or liberties, including but not limited to potentially disparate or adverse impacts on any communities or groups.

1301.7 DATA RETENTION

A GPS Tracker data record consists of date, time, latitude, longitude, map address, and tracker

identification label. This data is stored indefinitely by the vendor. The data does not contain any images, names of subjects, vehicle information, etc.

Tracker data received from the vendor shall be kept in accordance with applicable laws, BPD policies that do not conflict with applicable law or court order, and/or as specified in a search warrant.

1301.8 PUBLIC ACCESS

Data collected and used in a police report shall be made available to the public in accordance with department policy and applicable state or federal law.

1301.9 THIRD-PARTY DATA-SHARING

Data collected from the GPS trackers may be shared with the following:

- (a) The District Attorney's Office for use as evidence to aid in prosecution, in accordance with laws governing evidence;
- (b) Other law enforcement personnel as part of an active criminal investigation;
- (c) Other third parties, pursuant to a Court Order.

1301.10 TRAINING

Training for the operation of the GPS trackers shall be provided by BPD personnel. All BPD personnel shall be provided with this Surveillance Use Policy.

1301.11 AUDITING AND OVERSIGHT

Division Captains or their designee shall ensure compliance with this Surveillance Use Policy.

1301.12 MAINTENANCE

GPS trackers shall only be obtained with the permission of the Investigations Division Captain or his/her designee. The Investigations Division Captain or his/her designee will ensure the trackers are returned when the mission/investigation is completed.

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BERKELEY POLICE DEPARTMENT SURVEILLANCE ACQUISITION REPORT - GPS TRACKING DEVICES

GPS TRACKING DEVICES

A. DESCRIPTION

Global Positioning System (GPS) tracking devices track the movements of vehicles, bicycles, cargo, machinery, other items, and/or individuals.

The Berkeley Police Department currently uses two types of GPS Tracking Devices to track the movements of vehicles, bicycles, or other kinds of property. The manufacturer, 3SI Security Systems, describes them as follows:

1. The "Slap-n-Track" (SNT) tracker tracks vehicles, cargo, and other large assets for long deployments. Offers extended battery life, rugged and weatherproof housing, and optional magnets.
2. The "Electronic Stake Out" (ESO) tracker offers Law Enforcement miniaturized and covertly packaged GPS Tracking Solutions to target property crimes, especially pattern crimes, in their local jurisdictions.

B. PURPOSE

Global Positioning System (GPS) tracking devices provide precise, real-time location information during the conduct of active criminal investigations. GPS trackers are only used pursuant to a lawfully issued search warrant, or with consent of the owner of the object to which the GPS tracker is attached.

C. LOCATION

GPS tracking devices shall be deployed in locations consistent with the authority granted by consent or a lawfully issued search warrant or court order.

D. IMPACT

The Berkeley Police Department is dedicated to the most efficient utilization of its resources and services in its public safety endeavors. GPS Trackers are used in place of expensive, resource-intensive surveillance operations which typically involve multiple officers, often over long periods of time. The Berkeley Police Department recognizes the need to protect its ownership and control over shared information and to protect the privacy and civil liberties of the public, in accordance with federal and state law. The procedures utilized with GPS trackers help to ensure no unauthorized use of of GPS tracker data occurs. BPD Policy 1301 Surveillance Use Policy – GPS Tracking Devices ensure the use of GPS trackers and the resulting data are not used in a way that would violate or infringe upon anyone's civil rights and/or liberties, including but not limited to potentially disparate or adverse impacts on any communities or groups.

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BERKELEY POLICE DEPARTMENT SURVEILLANCE ACQUISITION REPORT - GPS TRACKING DEVICES

E. MITIGATION

Data from a GPS tracker is encrypted from the vendor. Data shall be maintained in a secure, non-public location, such as locations requiring security access or badge access, thereby safeguarding the public from any impacts identified in subsection (D).

F. DATA TYPES AND SOURCES

A GPS tracker data record consists of date, time, latitude, longitude, map address (derived by using latitude, longitude and Google maps), and tracker identification label. The data does not contain any images, names of subjects, vehicle information, etc.

G. DATA SECURITY

Data from a GPS tracker is encrypted by the vendor on secure servers. The data is only accessible through a secure website to BPD personnel who have been granted security access. Captains whose Divisions utilize GPS trackers are responsible for ensuring compliance with the procedures for utilizing GPS Trackers.

H. FISCAL COST

The initial cost of the GPS trackers totaled \$4,335.

- Between 2015-present BPD purchased 5 GPS "ESO" trackers for \$2,250 (\$450 each).
- In 2017 BPD purchased 3 GPS "SNT" trackers for \$2,085 (\$695 each).

The annual cost for the GPS data service totals \$1,920.

- The annual data service for the five ESO trackers is \$1,020 (\$204 each).
- The annual data service for the three SNT trackers is \$900 (\$300 each).

Personnel costs are minimal in that the GPS trackers are used as a resource during normal working hours.

GPS trackers are funded through the Investigations Division's general budget.

I. THIRD PARTY DEPENDENCE AND ACCESS

Data collected from the GPS trackers may be shared with the following:

- a. The District Attorney's Office for use as evidence to aid in prosecution, in accordance with laws governing evidence;
- b. Other law enforcement offices as part of a criminal investigation;
- c. Other third parties, pursuant to a Court Order.

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BERKELEY POLICE DEPARTMENT SURVEILLANCE ACQUISITION REPORT - GPS TRACKING DEVICES

J. ALTERNATIVES

An alternative to the use of GPS trackers is to conduct resource-intensive surveillance operations utilizing numerous personnel over extended periods of time.

K. EXPERIENCE OF OTHER ENTITIES

The use of GPS tracker technology is common amongst law enforcement agencies throughout the country.

ATTACHMENT 4:
Automated License Plate Readers

Surveillance Technology Report: Automated License Plate Readers

March 1, 2018 – Sept. 30, 2019

<p>Description</p>	<p>A description of all non-privileged and non-confidential information about use of the Surveillance Technology, including but not limited to the quantity of data gathered and sharing of data, if any, with outside entities. If sharing has occurred, the report shall include general, non-privileged and non-confidential information about recipient entities, including the names of the entities and purposes for such sharing.</p> <p>Automated License Plate Readers (ALPRs) are used by Parking Enforcement Bureau vehicles for time zone parking and scofflaw enforcement. The City’s Transportation Division uses anonymized information for purposes of supporting the City’s GoBerkeley parking management program. ALPR use replaced the practice of physically “chalking” tires.</p> <p style="text-align: center;">Summary of ALPR Time Zone Enforcement Data</p> <p style="text-align: center;">Read Data</p> <p style="text-align: center;">There were an average of 9,075 “Reads” per working day (Based on one month’s data: 9/9/19-10/9/19)</p> <p style="text-align: center;">Hit Data</p> <p style="text-align: center;">There were 69,738 “Hits” 18,410 “Enforced Hits” resulted in citation issuance. 51,328 “Not Enforced” Hits resulted in no citation issuance. (Based on one year’s data: 10/9/18-10/9/19)</p> <p>Genetec is the vendor for the ALPR Time Zone enforcement system. A “read” indicates the ALPR system successfully read a license plate. A “hit” indicates the ALPR system detected a possible violation, which prompts the Parking Enforcement Officer to further assess the vehicle. In many cases, hits are “rejected” or “not enforced” because the Parking Enforcement Officer determines the vehicle has an appropriate placard or permit, or there is other information which precludes citation.</p> <p style="text-align: center;">Summary of ALPR Booting Scofflaw Enforcement Data</p> <p style="text-align: center;">255 vehicles booted from 9/1/18-6/30/19</p> <p>Paylock is the vendor for the ALPR Booting Scofflaw Enforcement Program. A single parking enforcement vehicle is equipped with the Paylock system ALPR. The Paylock ALPR system provides the operator a “hit” when a plate is recognized as having five or more unpaid parking tickets. The operator then further assesses the vehicle, confirms the citation data, and, if confirmed, creates a boot entry in Paylock, and boots the car.</p> <p>Paylock uploads and retains information to their secure server solely on <i>confirmed</i> boots or tows. Hits and reads are not retained in the Paylock server. Booting Scofflaw enforcement has been temporarily suspended due to the transition to a different citation management vendor.</p>
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	<p>All BPD ALPR data may only be shared with other law enforcement or prosecutorial agencies for official law enforcement purposes, or as otherwise permitted by law. All ALPR data is subject to the provisions of BPD Policy 415 - Immigration Law, and therefore may not be shared with federal immigration enforcement officials.</p>
Geographic Deployment	<p>Where applicable, non-privileged and non-confidential information about where the surveillance technology was deployed geographically.</p> <p>Only Parking Enforcement Vehicles are equipped with ALPRs. ALPRs are deployed based on areas where there are parking time restrictions. ALPRs are not deployed based on geographic considerations not related to parking and scofflaw enforcement.</p>
Complaints	<p>A summary of each complaint, if any, received by the City about the Surveillance Technology.</p> <p>There have been no complaints about the deployment and use of Automated License Plate Readers.</p>
Audits and Violations	<p>The results of any non-privileged internal audits, any information about violations or potential violations of the Surveillance Use Policy, and any actions taken in response.</p> <p>There have been no complaints of violations of the ALPR Surveillance Use Policy.</p>
Data Breaches	<p>Non-privileged and non-confidential information about any data breaches or other unauthorized access to the data collected by the surveillance technology, including information about the scope of the breach and the actions taken in response.</p> <p>There have been no known data breaches or other unauthorized access to Automated License Plate Reader data.</p>
Effectiveness	<p>Information that helps the community assess whether the Surveillance Technology has been effective in achieving its identified outcomes.</p> <p>ALPRs have proven effective in parking enforcement for time zone enforcement.</p> <p>ALPRs have proven effective in supporting enforcement upon vehicles which have five or more unpaid citations. The ALPR's ability to read and check license plates while being driven greatly increases efficiency, allowing an operator to cover larger areas more quickly without having to stop except to confirm a hit.</p>
Costs	<p>Total annual costs for the Surveillance Technology, including personnel and other ongoing costs.</p> <p>The annual system maintenance cost for Genetec is \$47,000. This cost is borne by the Transportation Division, which also purchased the ALPR units used in Time Zone Enforcement.</p> <p>No Genetec LPR units were purchased during the period covered by this report.</p> <p>Genetec ALPR units are in use on 20 Parking Enforcement vehicles. Parking Enforcement personnel perform a variety of parking enforcement activities, and are not limited solely to time zone enforcement. Therefore, personnel costs specifically attributable to time zone enforcement are not tracked.</p>

The cost of Paylock is \$140 per boot.

One Parking Enforcement Officer is assigned to scofflaw enforcement and abandoned auto enforcement on a full time basis. Assuming the Officer works approximately half their day on scofflaw enforcement, the annual personnel cost would be approximately one half a fulltime Parking Enforcement Officer's pay with benefits, or \$65,000.

Surveillance Use Policy - ALPR

1302.1 PURPOSE

This Surveillance Use Policy is issued in compliance with BMC 2.99, and incorporates by reference language from the Berkeley Police Department ALPR Policy #422 and adds elements as required by BMC 2.99.

The policy of the Berkeley Police Department is to utilize ALPR technology to capture and store digital license plate data and images while recognizing the established privacy rights of the public.

All data and images gathered by the ALPR are for the official use of this department. Because such data may contain confidential information, it is not open to public review. (Ref. policy 422.2)

1302.2 AUTHORIZED AND PROHIBITED USES USE

Use of an ALPR is restricted to the purposes outlined below. Department members shall not use, or allow others to use the equipment or database records for any unauthorized purpose (Civil Code § 1798.90.51; Civil Code § 1798.90.53). (Ref. policy 422.4)

- (a) An ALPR shall only be used for official law enforcement business.
- (b) An ALPR may be used to support a patrol operation or criminal investigation. Reasonable suspicion or probable cause is not required before using an ALPR.
- (c) While an ALPR may be used to canvass license plates around any crime scene, particular consideration should be given to using ALPR-equipped cars to canvass areas around homicides, shootings and other major incidents. Partial license plates reported during major crimes should be entered into the ALPR system in an attempt to identify suspect vehicles.

1302.3 DATA COLLECTION

All data and images gathered by an ALPR are for the official use of the Berkeley Police Department. Such data may contain confidential CLETS information and is not open to public review. ALPR information gathered and retained by this department may be used and shared with prosecutors or other law enforcement agencies only as permitted by law. (Ref. policy 422.5)

1302.4 DATA ACCESS

- (a) No member of this department shall operate ALPR equipment or access ALPR data without first completing department-approved training.
- (b) No ALPR operator may access California Law Enforcement Telecommunications System (CLETS) data unless otherwise authorized to do so.
- (c) If practicable, the officer should verify an ALPR response through the California Law Enforcement Telecommunications System (CLETS) before taking enforcement action that is based solely on an ALPR alert.

1302.5 DATA PROTECTION

All saved data will be safeguarded and protected by both procedural and technological means. The Berkeley Police Department will observe the following safeguards regarding access to and use of stored data (Civil Code § 1798.90.51; Civil Code § 1798.90.53) (Ref. policy 422.6):

- (a) All ALPR data downloaded to any workstation or server shall be accessible only through a login/password-protected system capable of documenting all access of information by name, date and time (Civil Code § 1798.90.52).
- (b) Berkeley Police Department members approved to access ALPR data under these guidelines are permitted to access the data for legitimate law enforcement purposes only, such as when the data relate to a specific criminal investigation or department-related civil or administrative action and parking enforcement.
- (c) Aggregated ALPR data not related to specific criminal investigations shall not be released to any local, state or federal agency or entity without the express written consent of the City Manager.
- (d) Measures will be taken to ensure the accuracy of ALPR information. Errors discovered in ALPR data collected by ALPR units shall be marked, corrected or deleted in accordance with the type and severity of the error in question.

1302.6 CIVIL LIBERTIES AND RIGHTS PROTECTION:

The Berkeley Police Department is dedicated to the most efficient utilization of its resources and services in its public safety endeavors. The Berkeley Police Department recognizes the need to protect its ownership and control over shared information and to protect the privacy and civil liberties of the public, in accordance with federal and state law. The procedures described within this policy (Data Access, Data Protection, Data Retention, Public Access and Third Party Data Sharing) protect against the unauthorized use of ALPR data. These policies ensure the data is not used in a way that would violate or infringe upon anyone's civil rights and/or liberties, including but not limited to potentially disparate or adverse impacts on any communities or groups.

1302.7 DATA RETENTION

The Investigations Division Captain, or his/her designee, is responsible for ensuring proper collection and retention of ALPR data. Technical support and assistance shall be provided by the City of Berkeley's Information Technology (IT) department and associated ALPR system providers/vendors as identified below. IT staff will not have the ability to access or view individual records or reports, as they may contain CLETS information they are not authorized to receive. IT's role will be limited to providing initial infrastructure set-up, unless particular IT staff members have been cleared by DOJ background checks and authorized by the Chief of Police to receive ALPR records.

All ALPR data downloaded to the server should be stored for a minimum of one year (Government Code § 34090.6) and in accordance with the established records retention schedule. Thereafter, ALPR data should be purged unless it has become, or it is reasonable to believe it will become, evidence in a criminal or civil action or is subject to a lawful action to produce records. In those circumstances the applicable data should be downloaded from the server onto portable media and booked into evidence. (Ref. policy 422.5)

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- (a) Collected images and metadata of hits will not be stored for more than 365 days. Metadata of reads will not be stored for more than 30 days. Images of reads will not be transferred to the server.

1302.8 PUBLIC ACCESS

- (a) Non-law enforcement requests for access to stored ALPR data shall be processed according to the Records Maintenance and Release Policy in accordance with applicable law. (Ref. policy 422.6 (a))
- (b) Non-law enforcement requests for information regarding a specific vehicle's license plate may be honored when the requester is the registered owner of the vehicle in question, and when providing such information will not invade the privacy of a third party. The requestor in such cases must provide acceptable proof of his or her identity and of ownership of the vehicle in question. (Ref. policy 422.6 (b))

1302.9 THIRD-PARTY DATA-SHARING

The ALPR data may be shared only with other law enforcement or prosecutorial agencies for official law enforcement purposes or as otherwise permitted by law. ALPR data is subject to the provisions of BPD Policy 415, and hence may not be shared with federal immigration enforcement officials.

Requests for ALPR data by non-law enforcement or non-prosecutorial agencies will be processed as provided in the Records Maintenance and Release Policy (Civil Code § 1798.90.55).

Aggregated ALPR data not related to specific criminal investigations shall not be released to any local, state or federal agency or entity without the express written consent of the City Manager. (Ref. policy 422.6 (e))

1302.10 TRAINING

Training for the operation of ALPR Technology shall be provided by BPD personnel. All BPD employees who utilize ALPR Technology shall be provided a copy of this Surveillance Use Policy.

1302.11 AUDITING AND OVERSIGHT

ALPR system audits will be conducted by the Professional Standards Bureau's Audit and Inspections Sergeant on a regular basis, at least biannually. (Ref. policy 422.6 (g))

1302.12 MAINTENANCE

Any installation and maintenance of ALPR equipment, as well as ALPR data retention and access, shall be managed by the Investigations Division Captain. The Investigations Division Captain will assign members under his/her command to administer the day-to-day operation of the ALPR equipment and data. (Ref. policy 422.3)

1302.12.1 ALPR ADMINISTRATOR

The Investigations Division Captain, or his/her designee, shall be responsible for developing guidelines and procedures to comply with the requirements of Civil Code § 1798.90.5 et seq. This includes, but is not limited to (Civil Code § 1798.90.51; Civil Code § 1798.90.53) (Ref.

policy 422.3.1):

- (a) A description of the job title or other designation of the members and independent contractors who are authorized to use or access the ALPR system or to collect ALPR information.
- (b) Training requirements for authorized users.
- (c) A description of how the ALPR system will be monitored to ensure the security of the information and compliance with applicable privacy laws.
- (d) Procedures for system operators to maintain records of access in compliance with Civil Code § 1798.90.52.
- (e) The title and name of the current designee in overseeing the ALPR operation.
- (f) Ensuring this policy and related procedures are conspicuously posted on the City's website.

AUTOMATED LICENSE PLATE READER (ALPR) DEVICES

A. DESCRIPTION

Automated License Plate Readers (ALPRs) are high-speed, computer controlled camera systems that are typically mounted on Berkeley Police Department Parking Enforcement Vehicles.

ALPRs capture license plate numbers which come into view, along with the location, date and time. The data, which includes a photo of the front or the back of the car displaying the license plate, is then uploaded to a central server.

B. PURPOSE

The Berkeley Police Department's Parking Enforcement Unit utilizes vehicles equipped with ALPRs to conduct enforcement of posted time limits in commercial areas and Residential Preferential Parking (RPP) permit areas. These ALPR's also access information in the California Law Enforcement Telecommunications System's (CLETS) Stolen Vehicle System (SVS) database, which provides information on matches for stolen and wanted vehicles.

The Berkeley Police Department's Scofflaw Enforcement program (often referred to as the "booting" program) utilizes an ALPR to scan license plates, and check the scanned "reads" against a list of vehicles which have five or more outstanding parking citations exceeding 30 days old. Typically, upon a confirmed "hit," the vehicle is immobilized with a "boot", or towed, and the owner has to pay the outstanding citations and fees in order to release the boot and/or recover their car from storage. This allows the City to recover outstanding parking citation fees.

C. LOCATION

Parking Enforcement vehicles travel throughout the city; using the ALPRs as described above.

D. IMPACT

The Berkeley Police Department is dedicated to the most efficient utilization of its resources and services in its public safety endeavors. The Berkeley Police Department recognizes the need to protect its ownership and control over shared information and to protect the privacy and civil liberties of the public, in accordance with federal and state law. The procedures utilized with ALPR Units will help to ensure unauthorized use of its data. The procedures will ensure the data is not used in a way that would violate or infringe upon anyone's civil rights and/or liberties, including but not limited to potentially disparate or adverse impacts on any communities or groups.

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BERKELEY POLICE DEPARTMENT SURVEILLANCE ACQUISITION REPORT - AUTOMATED LICENSE PLATE READER DEVICES

E. MITIGATION

All saved data will be safeguarded and protected by both procedural and technological means which are implemented to safeguard the public from any impacts identified in subsection (D). See subsection (G) for further.

F. DATA TYPES AND SOURCES

Photographs of license plates and location data may be obtained through the use of ALPR Units.

G. DATA SECURITY

The Berkeley Police Department will observe the following safeguards regarding access to and use of stored data (Civil Code § 1798.90.51; Civil Code § 1798.90.53):

1. All ALPR data downloaded to any workstation or server shall be accessible only through a login/password-protected system capable of documenting all access of information by name, date and time (Civil Code § 1798.90.52).
2. Berkeley Police Department members approved to access ALPR data under these guidelines are permitted to access the data for legitimate law enforcement purposes only, such as when the data relate to a specific criminal investigation or department-related civil or administrative action and parking enforcement.
3. Aggregated ALPR data not related to specific criminal investigations shall not be released to any local, state or federal agency or entity without the express written consent of the City Manager.
4. Measures will be taken to ensure the accuracy of ALPR information. Errors discovered in ALPR data collected by ALPR units shall be marked, corrected or deleted in accordance with the type and severity of the error in question.

H. FISCAL COST

In 2015, Public Works brought an ALPR Contract to City Council. Council approved a contract for Public Works to buy five Genetec ALPR Units with PCS Mobile communication, for a pilot program for \$450,000.

In 2017, after success with the program, City Council approved an amendment to the contract, allowing Public Works to purchase 15 more ALPR Units for Parking Enforcement vehicles, and to continue its use of PCS Mobile, for 1,200,000. The money was allocated from the goBerkeley/Federal Highway Administration Parking Meter Fund.

Yearly service for the ALPR Units includes warranties, hosting services, cellular connection, mobile computing, and training which varies. The costs through fiscal year 2022 are currently estimated at \$1,175,000.

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BERKELEY POLICE DEPARTMENT SURVEILLANCE ACQUISITION REPORT - AUTOMATED LICENSE PLATE READER DEVICES

Personnel costs are minimal in that the ALPR Units are used as a resource during normal working hours.

I. THIRD PARTY DEPENDENCE AND ACCESS

1. Vendor Access-Scofflaw Enforcement: The contracted vendor for the City's Scofflaw Enforcement program is currently Paylock. Paylock stores data on a secure server, and provides access to authorized personnel via Paylock's "Bootview" secure website, as described below:
 - a. All data captured by the ALPR is stored on the booting vehicle's laptop for 30 days, and is only accessible during that period via the ALPR proprietary software. This includes reads, hits, and photographs associated with each.
 - b. When a car is booted and/or towed, the read, hit and photographic data relating to the booting and/or towing of scofflaw vehicles is uploaded to Paylock's secure server. No other data is uploaded to Paylock's secure server.
2. Vendor Access-General Parking Enforcement and goBerkeley Program: The contracted vendor for the City's Parking Enforcement ALPR is currently Genetec. The city uses Genetec ALPRs to support efficient enforcement of posted time limit parking and Residential Preferential Parking permits.
 - a. In addition, Genetec periodically provides reports to the City of Berkeley Transportation Division's "goBerkeley" parking management program so that the City's program can analyze data about parking demand. These reports do not contain any information about a vehicle's license plate number, the name of the registered owner, address of registered owner, or any other information gleaned from the license plate number associated with a particular vehicle. Rather, the reports consist of completely anonymized information, using identification numbers that are not associated with a particular license plate or registered owner.
 - b. The reports will provide only the date, time, location, approximate address, "goBerkeley" blockface ID, and Residential Permit Pass (RPP) area in which a vehicle was observed. If a citation was not issued for an RPP or other time limit violation, the report may also provide the reason a parking enforcement officer concluded there was no parking violation, e.g., RPP visitor pass, disabled placard or license plate, etc.
3. Department of Information Technology Access: Technical support and assistance for ALPR's is provided by the City of Berkeley's Department of Information Technology (IT) and associated ALPR system providers/vendors as identified herein. IT staff who

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do not have the proper clearance and training do not have the ability to access or view individual records or reports, as they may contain CLETS information they are not authorized to receive. IT provides initial infrastructure set-up, and continued systems support as needed to ensure efficient and accurate performance of the ALPR hardware and software. Only IT staff members who have successfully undergone DOJ background checks and training are authorized by the Chief of Police to view specific ALPR records.

4. Other Law Enforcement Agency Access: ALPR data may only be shared with other law enforcement or prosecutorial agencies for official law enforcement purposes or as otherwise permitted by law. Requests for ALPR data by non-law enforcement or non-prosecutorial agencies will be processed as provided in the Records Maintenance and Release Policy (Civil Code § 1798.90.55). Aggregated ALPR data not related to specific criminal investigations shall not be released to any local, state or federal agency or entity without the express written consent of the City Manager.
5. Member Access: No member of this department shall operate ALPR equipment or access ALPR data without first completing department-approved training. No ALPR operator may access CLETS data unless otherwise authorized to do so. If practicable, the officer should verify an ALPR response through CLETS before taking enforcement action that is based solely on an ALPR alert.
6. Public Access: Non-law enforcement requests for access to stored ALPR data shall be processed according to the Records Maintenance and Release Policy in accordance with applicable law. Non-law enforcement requests for information regarding a specific vehicle's license plate may be honored when the requester is the registered owner of the vehicle in question, and when providing such information will not invade the privacy of a third party. The requestor in such cases must provide acceptable proof of his or her identity and of ownership of the vehicle in question.

J. ALTERNATIVES

None.

K. EXPERIENCE OF OTHER ENTITIES

The use of ALPR technology is common amongst law enforcement agencies throughout the country, in support of parking enforcement, and law enforcement criminal investigations.

Automated License Plate Readers (ALPRs)

422.1 PURPOSE AND SCOPE

The purpose of this policy is to provide guidance for the capture, storage and use of digital data obtained through the use of Automated License Plate Reader (ALPR) technology.

422.2 POLICY

The policy of the Berkeley Police Department is to utilize ALPR technology to capture and store digital license plate data and images while recognizing the established privacy rights of the public.

All data and images gathered by the ALPR are for the official use of this department. Because such data may contain confidential information, it is not open to public review.

422.3 ADMINISTRATION

Any installation and maintenance of ALPR equipment, as well as ALPR data retention and access, shall be managed by the Investigations Division Captain. The Investigations Division Captain will assign members under his/her command to administer the day-to-day operation of the ALPR equipment and data.

422.3.1 ALPR ADMINISTRATOR

The Investigations Division Captain, or his/her designee, shall be responsible for developing guidelines and procedures to comply with the requirements of Civil Code § 1798.90.5 et seq. This includes, but is not limited to (Civil Code § 1798.90.51; Civil Code § 1798.90.53):

- (a) A description of the job title or other designation of the members and independent contractors who are authorized to use or access the ALPR system or to collect ALPR information.
- (b) Training requirements for authorized users.
- (c) A description of how the ALPR system will be monitored to ensure the security of the information and compliance with applicable privacy laws.
- (d) Procedures for system operators to maintain records of access in compliance with Civil Code § 1798.90.52.
- (e) The title and name of the current designee in overseeing the ALPR operation.
- (f) Ensuring this policy and related procedures are conspicuously posted on the City's website.

422.4 USE OF THE ALPR

An ALPR shall only be used for official law enforcement business.

Use of an ALPR is restricted to the purposes outlined below. Department members shall not use,

or allow others to use the equipment or database records for any unauthorized purpose (Civil Code § 1798.90.51; Civil Code § 1798.90.53).

- (a) An ALPR may be used by Berkeley Police Department Parking Enforcement for parking and scofflaw enforcement.
- (b) An ALPR may be used to support criminal investigations. Reasonable suspicion or probable cause is not required before using an ALPR.
- (c) While an ALPR may be used to canvass license plates around any crime scene, particular consideration should be given to using ALPR-equipped vehicles to canvass areas around homicides, shootings and other major incidents. Partial license plates reported during major crimes should be entered into the ALPR system in an attempt to identify suspect vehicles.

No member of this department shall operate ALPR equipment or access ALPR data without first completing department-approved training.

No ALPR operator may access California Law Enforcement Telecommunications System (CLETS) data unless otherwise authorized to do so. If practicable, the officer should verify an ALPR response through the California Law Enforcement Telecommunications System (CLETS) before taking enforcement action that is based solely on an ALPR alert

422.5 .DATA COLLECTION AND RETENTION

All data and images gathered by an ALPR are for the official use of the Berkeley Police Department. Such data may contain confidential CLETS information and is not open to public review.

The Investigations Division Captain, or his/her designee, is responsible for ensuring proper collection and retention of ALPR data.

Technical support and assistance shall be provided by the City of Berkeley's Information Technology (IT Department and associated ALPR system providers/vendors as identified below. IT staff will not have the ability to access or view individual records or reports, as they may contain CLETS information they are not authorized to receive. IT's role will be limited to providing initial infrastructure set-up, unless particular IT staff members have been cleared by DOJ background checks and authorized by the Chief of Police to receive ALPR records.

All ALPR data downloaded to the server should be stored for a minimum of one year (Government Code § 34090.6) and in accordance with the established records retention schedule. Thereafter, ALPR data should be purged unless it has become, or it is reasonable to believe it will become, evidence in a criminal or civil action or is subject to a lawful action to produce records. In those circumstances the applicable data should be downloaded from the server onto portable media and booked into evidence.

- (a) Collected images and metadata of reads showing violations will not be stored for more than 365 days.
- (b) Metadata of reads showing violations will be stored for up to 30 days. Images of reads not

showing violations will not be transferred to the server.

422.6 ACCOUNTABILITY

All saved data will be safeguarded and protected by both procedural and technological means. The Berkeley Police Department will observe the following safeguards regarding access to and use of stored data (Civil Code § 1798.90.51; Civil Code § 1798.90.53):

- (a) Non-law enforcement requests for access to stored ALPR data shall be processed according to the Records Maintenance and Release Policy in accordance with applicable law.
- (b) Non-law enforcement requests for information regarding a specific vehicle's license plate may be honored when the requester is the registered owner of the vehicle in question, and when providing such information will not invade the privacy of a third party. The requestor in such cases must provide acceptable proof of his or her identity and of ownership of the vehicle in question.
- (c) All ALPR data downloaded to any workstation or server shall be accessible only through a login/password-protected system capable of documenting all access of information by name, date and time (Civil Code § 1798.90.52).
- (d) Berkeley Police Department members approved to access ALPR data under these guidelines are permitted to access the data for legitimate law enforcement purposes only, such as when the data relate to a specific criminal investigation or department-related civil or administrative action or parking enforcement.
- (e) Aggregated ALPR data not related to specific criminal investigations shall not be released to any local, state or federal agency or entity without the express written consent of the City Manager.
- (f) Measures will be taken to ensure the accuracy of ALPR information. Errors discovered in ALPR data collected by ALPR units shall be marked, corrected or deleted in accordance with the type and severity of the error in question.
- (g) ALPR system audits will be conducted by the Professional Standards Bureau's Audit and Inspections Sergeant on a regular basis, at least biannually.

For security or data breaches, see the Records Release and Maintenance Policy.

422.7 RELEASING ALPR DATA

The ALPR data may be shared only with other law enforcement or prosecutorial agencies for official law enforcement purposes or as otherwise permitted by law, using the following procedures:

- (a) The agency makes a written request for the ALPR data that includes:
 - 1. The name of the agency.
 - 2. The name of the person requesting.
 - 3. The intended purpose of obtaining the information.

-
4. The related case number.
 - (b) The request is reviewed by the Investigations Division Captain, or his/her designee, and approved before the request is fulfilled.
 - (c) The approved request is retained on file.

Requests for ALPR data by non-law enforcement or non-prosecutorial agencies will be processed as provided in the Records Maintenance and Release Policy (Civil Code § 1798.90.55).

ALPR data is subject to the provisions of the Berkeley Police Department's Immigration Law Policy, and hence may not be shared with federal immigration enforcement officials.

422.8 SCOFFLAW ENFORCEMENT

The Berkeley Police Department uses ALPR technology in the Parking Enforcement Unit for parking and scofflaw enforcement.

The Parking Enforcement Unit will utilize vehicles equipped with ALPR units to conduct enforcement of posted time limits in commercial areas and Residential Preferential Parking (RPP) permit areas. These ALPR's will also access information in the DMV's Stolen Vehicle System (SVS) database for wanted and stolen vehicles.

The Scofflaw Enforcement program (often referred to as the "booting" program) utilizes an ALPR to scan license plates and check the scanned "reads" against a list of vehicles which have five or more outstanding parking citations exceeding 30 days old. Typically, upon a confirmed "hit," the vehicle is immobilized with a "boot", or towed, and the owner has to pay the outstanding citations and fees in order to release the boot and/or recover their car from storage. This allows the City to recover outstanding citation fees.

The contracted vendor for the City's Scofflaw Enforcement program is currently Paylock. Paylock stores data on a secure server, and provides access to authorized personnel via Paylock's "Bootview" secure website.

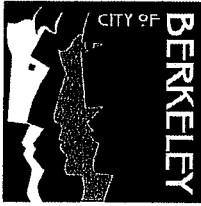
When a car is booted and/or towed, the read, hit and photographic data relating to the booting and/or towing of scofflaw vehicles is uploaded to Paylock's secure server. No other data is uploaded to Paylock's secure server.

The City's Parking Enforcement ALPR vendor (currently Genetec) will periodically provide reports to the City of Berkeley Transportation Division's "goBerkeley" parking management program so that it can analyze data about parking demand. These reports will not contain any information about a vehicle's license plate number, the name of the registered owner, address of registered owner, or any other information gleaned from the license plate number associated with a particular vehicle. Rather, the reports will consist of 100 percent anonymized information using identification numbers that are not associated with a particular license plate or registered owner.

The reports will provide only the date, time, location, approximate address, "goBerkeley" blockface ID, and RPP area in which a vehicle was observed. If a citation was not issued for an RPP or other time limit violation, the report may also provide the reason a parking

enforcement officer concluded there was no parking violation, e.g., RPP visitor pass, disabled placard or license plate, etc.

ATTACHMENT 5:
Police Review Commission Communication



Police Review Commission (PRC)

September 11, 2019

To: Honorable Mayor and Members of the City Council
From: George Perezvelez, ^{PRC 04/19} Chairperson, Police Review Commission
Re: Proposed Berkeley Police Department Policy 422, Automated License Plate Readers

Summary: This memo is to inform you of the Police Review Commission's qualified approval of the BPD's proposed policy for the use of Automated License Plate Readers (ALPRs).

Background: The BPD submitted the ALPR policy, Policy 422, to the PRC for review, along with the Surveillance Use Policy and the Surveillance Acquisition Report (Policy 1302 and Appendix A) for these devices. This process was undertaken in advance of BPD submitting these items to the City Council as required by the Surveillance Technology Use and Community Safety Ordinance (B.M.C. Ch. 2.99).

These policies were first considered by the full Commission, which then referred them to its Lexipol Policies Subcommittee. In response to feedback from the PRC and the Subcommittee, the BPD revised the proposed policy, which was reviewed by both bodies. At various stages, the PRC and the subcommittee had the opportunity to hear from and ask questions of Police Chief Greenwood and other members of the BPD, and Deputy City Attorney Chris Jensen. The PRC also heard input from representatives of Media Alliance and Oakland Privacy.

Final action: At its September 4, 2019 meeting, the PRC voted to approve for submission to the City Council for your review and discussion the version of Policy 422 that is attached here, with two caveats. First, there was concern among some commissioners that the ALPR was originally acquired for the purpose of parking enforcement and that this policy represents an expansion of that function. If this is not what the Council had in mind, then this policy should be modified accordingly. Second, Section 422.4(c) of the policy does not adequately define what constitutes a "crime scene."

Finally, the Commission wishes to remind the Council that they will see actual use of the ALPR technology under the reporting mechanism in place in the Surveillance Technology Use and Community Safety Ordinance.

Honorable Mayor and Members of the City Council
Proposed Berkeley Police Department Policy 422, Automated License Plate Readers
September 11, 2019
p. 2

The above action was approved by the following vote: Moved/Seconded
(Perezvelez/Mikiten) -- Ayes: Calavita, Chang, Leftwich, Mikiten, Perezvelez,
Ramsey; Noes: Earnest, Mizell; Abstain: Allamby; Absent: None.

Attachment: Revised Policy 422

cc: Dee Williams-Ridley, City Manager
Andrew Greenwood, Chief of Police
David White, Deputy City Manager
PRC Commissioners

Automated License Plate Readers (ALPRs)

422.1 PURPOSE AND SCOPE

The purpose of this policy is to provide guidance for the capture, storage and use of digital data obtained through the use of Automated License Plate Reader (ALPR) technology.

422.2 POLICY

The policy of the Berkeley Police Department is to utilize ALPR technology to capture and store digital license plate data and images while recognizing the established privacy rights of the public.

All data and images gathered by the ALPR are for the official use of this department. Because such data may contain confidential information, it is not open to public review.

422.3 ADMINISTRATION

Any installation and maintenance of ALPR equipment, as well as ALPR data retention and access, shall be managed by the Investigations Division Captain. The Investigations Division Captain will assign members under his/her command to administer the day-to-day operation of the ALPR equipment and data.

422.3.1 ALPR ADMINISTRATOR

The Investigations Division Captain, or his/her designee, shall be responsible for developing guidelines and procedures to comply with the requirements of Civil Code § 1798.90.5 et seq. This includes, but is not limited to (Civil Code § 1798.90.51; Civil Code § 1798.90.53):

- (a) A description of the job title or other designation of the members and independent contractors who are authorized to use or access the ALPR system or to collect ALPR information.
- (b) Training requirements for authorized users.
- (c) A description of how the ALPR system will be monitored to ensure the security of the information and compliance with applicable privacy laws.
- (d) Procedures for system operators to maintain records of access in compliance with Civil Code § 1798.90.52.
- (e) The title and name of the current designee in overseeing the ALPR operation.
- (f) Ensuring this policy and related procedures are conspicuously posted on the City's website.

422.4 USE OF THE ALPR

An ALPR shall only be used for official law enforcement business.

Use of an ALPR is restricted to the purposes outlined below. Department members shall not use,

or allow others to use the equipment or database records for any unauthorized purpose (Civil Code § 1798.90.51; Civil Code § 1798.90.53).

- (a) An ALPR may be used by Berkeley Police Department Parking Enforcement for parking and scofflaw enforcement.
- (b) An ALPR may be used to support criminal investigations. Reasonable suspicion or probable cause is not required before using an ALPR.
- (c) While an ALPR may be used to canvass license plates around any crime scene, particular consideration should be given to using ALPR-equipped vehicles to canvass areas around homicides, shootings and other major incidents. Partial license plates reported during major crimes should be entered into the ALPR system in an attempt to identify suspect vehicles.

No member of this department shall operate ALPR equipment or access ALPR data without first completing department-approved training.

No ALPR operator may access California Law Enforcement Telecommunications System (CLETS) data unless otherwise authorized to do so. If practicable, the officer should verify an ALPR response through the California Law Enforcement Telecommunications System (CLETS) before taking enforcement action that is based solely on an ALPR alert.

422.5 DATA COLLECTION AND RETENTION

All data and images gathered by an ALPR are for the official use of the Berkeley Police Department. Such data may contain confidential CLETS information and is not open to public review. ~~ALPR information gathered and retained by this department may be used and shared with prosecutors or other law enforcement agencies only as permitted by law.~~

The Investigations Division Captain, or his/her designee, is responsible for ensuring proper collection and retention of ALPR data.

Technical support and assistance shall be provided by the City of Berkeley's Information Technology (IT Department and associated ALPR system providers/vendors as identified below. IT staff will not have the ability to access or view individual records or reports, as they may contain CLETS information they are not authorized to receive. IT's role will be limited to providing initial infrastructure set-up, unless particular IT staff members have been cleared by DOJ background checks and authorized by the Chief of Police to receive ALPR records.

All ALPR data downloaded to the server should be stored for a minimum of one year (Government Code § 34090.6) and in accordance with the established records retention schedule. Thereafter, ALPR data should be purged unless it has become, or it is reasonable to believe it will become, evidence in a criminal or civil action or is subject to a lawful action to produce records. In those circumstances the applicable data should be downloaded from the server onto portable media and booked into evidence.

- (a) Collected images and metadata of reads showing violations will not be stored for more than 365 days.

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- (b) Metadata of reads showing violations will be stored for up to 30 days. Images of reads not showing violations will not be transferred to the server.

422.6 ACCOUNTABILITY

All saved data will be safeguarded and protected by both procedural and technological means. The Berkeley Police Department will observe the following safeguards regarding access to and use of stored data (Civil Code § 1798.90.51; Civil Code § 1798.90.53):

- (a) Non-law enforcement requests for access to stored ALPR data shall be processed according to the Records Maintenance and Release Policy in accordance with applicable law.
- (b) Non-law enforcement requests for information regarding a specific vehicle's license plate may be honored when the requester is the registered owner of the vehicle in question, and when providing such information will not invade the privacy of a third party. The requestor in such cases must provide acceptable proof of his or her identity and of ownership of the vehicle in question.
- (c) All ALPR data downloaded to any workstation or server shall be accessible only through a login/password-protected system capable of documenting all access of information by name, date and time (Civil Code § 1798.90.52).
- (d) Berkeley Police Department members approved to access ALPR data under these guidelines are permitted to access the data for legitimate law enforcement purposes only, such as when the data relate to a specific criminal investigation or department-related civil or administrative action or parking enforcement.
- (e) Aggregated ALPR data not related to specific criminal investigations shall not be released to any local, state or federal agency or entity without the express written consent of the City Manager.
- (f) Measures will be taken to ensure the accuracy of ALPR information. Errors discovered in ALPR data collected by ALPR units shall be marked, corrected or deleted in accordance with the type and severity of the error in question.
- (g) ALPR system audits will be conducted by the Professional Standards Bureau's Audit and Inspections Sergeant on a regular basis, at least biannually.

For security or data breaches, see the Records Release and Maintenance Policy.

422.7 RELEASING ALPR DATA

The ALPR data may be shared only with other law enforcement or prosecutorial agencies for official law enforcement purposes or as otherwise permitted by law, using the following procedures:

- (a) The agency makes a written request for the ALPR data that includes:
 1. The name of the agency.

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2. The name of the person requesting.
 3. The intended purpose of obtaining the information.
 4. The related case number.
- (b) The request is reviewed by the Investigations Division Captain, or his/her designee, and approved before the request is fulfilled.
- (c) The approved request is retained on file.

Requests for ALPR data by non-law enforcement or non-prosecutorial agencies will be processed as provided in the Records Maintenance and Release Policy (Civil Code § 1798.90.55).

ALPR data is subject to the provisions of the Berkeley Police Department's Immigration Law Policy, and hence may not be shared with federal immigration enforcement officials.

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The Parking Enforcement Unit will utilize vehicles equipped with ALPR units to conduct enforcement of posted time limits in commercial areas and Residential Preferential Parking (RPP) permit areas. These ALPR's will also access information in the DMV's Stolen Vehicle System (SVS) database for wanted and stolen vehicles.

The Scofflaw Enforcement program (often referred to as the "booting" program) utilizes an ALPR to scan license plates and check the scanned "reads" against a list of vehicles which have five or more outstanding parking citations exceeding 30 days old. Typically, upon a confirmed "hit," the vehicle is immobilized with a "boot", or towed, and the owner has to pay the outstanding citations and fees in order to release the boot and/or recover their car from storage. This allows the City to recover outstanding citation fees.

The contracted vendor for the City's Scofflaw Enforcement program is currently Paylock. Paylock stores data on a secure server, and provides access to authorized personnel via Paylock's "Bootview" secure website, as described below:

- (a) All data captured by the ALPR is stored on the laptop for 30 days, and is only accessible during that period via the ALPR proprietary software. This includes reads, hits, and photographs associated with each.

When a car is booted and/or towed, the read, hit and photographic data relating to the booting and/or towing of scofflaw vehicles is uploaded to Paylock's secure server. No other data is uploaded to Paylock's secure server.

The City's Parking Enforcement ALPR vendor (currently Genetec) will periodically provide reports to the City of Berkeley Transportation Division's "goBerkeley" parking management program so that it can analyze data about parking demand. These reports will not contain any information about a vehicle's license plate number, the name of the registered owner, address of registered owner, or any other information gleaned from the license plate number associated

with a particular vehicle. Rather, the reports will consist of 100 percent anonymized information using identification numbers that are not associated with a particular license plate or registered owner.

The reports will provide only the date, time, location, approximate address, "goBerkeley" blockface ID, and RPP area in which a vehicle was observed. If a citation was not issued for an RPP or other time limit violation, the report may also provide the reason a parking enforcement officer concluded there was no parking violation, e.g., RPP visitor pass, disabled placard or license plate, etc.



Office of the City Manager

ACTION CALENDAR

December 3, 2019

(Continued from November 12, 2019)

To: Honorable Mayor and Members of the City Council

From: Dee Williams-Ridley, City Manager

Submitted by: Andrew Greenwood, Chief of Police
David White, Deputy City Manager

Subject: Surveillance Technology Report, Surveillance Acquisition Report, and
Surveillance Use Policy for Automatic License Plate Readers, GPS Trackers,
and Body Worn Cameras

RECOMMENDATION

Adopt a Resolution accepting the Surveillance Technology Report, Surveillance Acquisition Report, and Surveillance Use Policy for Automatic License Plate Readers, GPS Trackers, and Body Worn Cameras submitted pursuant to Chapter 2.99 of the Berkeley Municipal Code.

FISCAL IMPACTS OF RECOMMENDATION

There are no fiscal impacts associated with adopting the attached resolution.

CURRENT SITUATION AND ITS EFFECTS

On March 27, 2018, the City Council adopted Ordinance 7,592-N.S., adding Chapter 2.99 to the Berkeley Municipal Code, which is also known as the Surveillance Technology Use and Community Safety Ordinance (“Ordinance”). The purpose of the Ordinance is to provide transparency surrounding the use of surveillance technology, as defined by Section 2.99.020 in the Ordinance, and to ensure that decisions surrounding the acquisition and use of surveillance technology consider the impacts that such technology may have on civil rights and civil liberties. Further, the Ordinance requires that the City evaluate all costs associated with the acquisition of surveillance technology and regularly report on their use.

The Ordinance imposes various reporting requirements on the City Manager and staff. The purpose of this staff report and attached resolution is to satisfy annual reporting requirements as outlined in sections 2.99.050 and 2.99.070. The attached Surveillance Technology Reports, Surveillance Acquisition Reports and Surveillance Use Policies for Automatic License Plate Readers, GPS Trackers, and Body Worn Cameras are for technologies that were acquired by the City prior to the adoption of the Ordinance.

Section 2.99.050 of the Ordinance required the City Manager to submit a Surveillance Acquisition Report and Surveillance Use Policy for each surveillance technology that has been possessed or used prior to the effective date of the Ordinance. The requirements of this section were not satisfied due to a multitude of factors, and the Police Department opted to submit the attached acquisition reports and use policies to the Police Review Commission prior to their review by the City Council. The Police Review Commission underwent an extensive engagement process and the full Commission discussed the attached use policies and reports at scheduled meetings from May to October 2019. In all cases, the Police Review Commission approved the attached acquisition reports and use policies and conveyed any concerns or suggested modifications to the Police Chief. In addition to the technologies covered by the attached resolution, City staff continues to evaluate whether or not there is any other technology that is used or possessed that is subject to the Ordinance.

Finally, Section 2.99.040 of the Ordinance allows the City Manager to borrow, acquire, or temporarily use surveillance technology in exigent circumstances without having to obtain the approval of City Council. Since the adoption of the ordinance, the City is reporting two instances in which the City Manager has made use of Section 2.99.040. In preparation for the potentially violent August 5, 2018 demonstration in downtown Berkeley, the City borrowed remote accessible cameras from the Northern California Regional Intelligence Center (NCRIC) in order to have the ability to remotely monitor intersections in real time. The cameras did not have face recognition technology. Signage was posted in the areas of the cameras, informing people that the area may be under video surveillance. Using cameras to monitor intersections is at times preferable to physically placing officers in those locations. In addition, as a mutual aid resource, the Police Department requested the Alameda County Sheriff's Office Small Unmanned Aerial System (sUAS) team as a mutual aid resource. The purpose of the request was to support the identification and apprehension of any felony suspects, should a felony occur. Following the felony vandalism of over ten City of Berkeley vehicles, the sUAS team deployed a drone, but no suspects were apprehended.

BACKGROUND

On March 27, 2018, the City Council adopted Ordinance 7,592-N.S., adding Chapter 2.99 to the Berkeley Municipal Code, which is also known as the Surveillance Technology Use and Community Safety Ordinance. The Ordinance contains various reporting requirements including the following:

- Section 2.99.050, which requires that the City Manager shall submit a Surveillance Acquisition Report and a proposed Surveillance Use Policy for each technology governed by the Ordinance that had been possessed or used by the City prior to the effective date of the Ordinance; and

- Section 2.99.070 of the Ordinance, which requires that the City Manager must submit to the City Council a Surveillance Technology Report as defined by Section 2.99.020(2) of the Ordinance at the first regular City Council meeting in November.

For each of the three technologies, the Surveillance Technology Report, Surveillance Acquisition Report and Surveillance Use Policies were prepared to satisfy the specific, section-by-section requirements of the Ordinance, and are attached to this report. It should be noted that substantial policies already existed for Body Worn Cameras and License Plate Readers. Those policies—also reviewed by the Police Review Commission for purposes of this report—are also attached. The existing policies will continue to remain in effect upon Council’s approval. Henceforth, all new Surveillance Use Policies and Surveillance Acquisition Reports will be listed in Chapter 13 of the Berkeley Police Department Policy Manual, which is being created to provide easy access to all policies relating to BMC 2.99. All BPD policies are available to the public on BPD’s website.

ENVIRONMENTAL SUSTAINABILITY

There are no identifiable environmental effects or opportunities associated with the content of this report.

RATIONALE FOR RECOMMENDATION

City Council is being asked to adopt the attached resolution for the City to be in compliance with the Ordinance.

ALTERNATIVE ACTIONS CONSIDERED

City Council could decide not to adopt the resolution or could direct staff to revise the attached policies.

CONTACT PERSON

Andrew Greenwood, Chief of Police, (510) 981-7017
David White, Deputy City Manager, (510) 981-7012

ATTACHMENTS

1. Proposed Resolution

2. Body Worn Cameras

Surveillance Technology Report: Body Worn Cameras

Policy 1300 Body Worn Camera Use Policy

Policy 1300(a) Appendix: Body Worn Camera Acquisition Report

Policy 425 Body Worn Camera Policy (Existing Policy)

3. Global Positioning System Tracking Devices

Surveillance Technology Report

Policy 1301 Global Positioning System Tracking Devices Use Policy

Policy 1301(a) Appendix: Global Positioning System Tracking Devices Acquisition Report

4. Automated License Plate Readers

Surveillance Technology Report: Automated License Plate Readers

Policy 1302 Automated License Plate Reader Use Policy

Policy 1302(a) Appendix: Automated License Plate Reader Acquisition Report

Policy 422 Automated License Plate Reader (Latest version of existing Policy)

5. Police Review Commission Memorandum Regarding Automatic License Plate Readers

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RESOLUTION NO. ##,###-N.S.

A RESOLUTION ACCEPTING THE SURVEILLANCE TECHNOLOGY REPORT, SURVEILLANCE ACQUISITION REPORT, AND SURVEILLANCE USE POLICY FOR AUTOMATIC LICENSE PLATE READERS, GPS TRACKERS, AND BODY WORN CAMERAS

WHEREAS, on March 27, 2018, the City Council adopted Ordinance 7,592-N.S., which is known as the Surveillance Technology Use and Community Safety Ordinance (“Ordinance”); and

WHEREAS, Section 2.99.050 of the Ordinance requires that the City Manager shall submit a Surveillance Acquisition Report and a proposed Surveillance Use Policy for each piece of technology governed by the Ordinance that had been possessed or used by the City prior to the effective date of the Ordinance; and

WHEREAS, Section 2.99.070 of the Ordinance requires that the City Manager must submit to the City Council a Surveillance Technology Report as defined by Section 2.99.020(2) of the Ordinance at the first regular City Council meeting in November; and

WHEREAS, the Surveillance Acquisition Reports and Surveillance Use Policies for Automatic License Plate Readers, GPS Trackers, and Body Worn Cameras satisfy the requirements of the Ordinance.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley:

Section 1. Pursuant to Section 2.99.060, as it pertains to the use of Automatic License Plate Readers, GPS Trackers, and Body Worn Cameras, the City Council hereby finds and determines the following:

- a. The benefits of using the technologies outweigh the costs;
- b. The policies attached to this resolution safeguard civil liberties; and
- c. No feasible alternatives exist with similar utility that will have a lesser impact on civil rights or liberties.

Section 2. The City Council hereby accepts the Surveillance Technology Reports, Surveillance Acquisition Reports, and Surveillance Use Policies for Automatic License Plate Readers, GPS Trackers, and Body Worn Cameras.

ATTACHMENT 2:
BODY WORN CAMERAS

Surveillance Technology Report Body Worn Cameras
To be provided as part of supplemental communications

Surveillance Use Policy - Body Worn Cameras

1300.1 PURPOSE

This Surveillance Use Policy is issued in compliance with BMC 2.99, and incorporates by reference language from the Berkeley Police Department Body Worn Camera Policy #425 and adds elements as required by BMC 2.99.

The Berkeley Police Department recognizes that video recording of contacts between department personnel and the public provides an objective record of these events, and that the use of a recording system complements field personnel in the performance of their duties by providing a video record of enforcement and investigative field contacts, which can enhance criminal prosecutions, limit civil liability, increase transparency, and enhance professionalism in the delivery of police services to the community. A video recording of an event or contact also enables the delivery of timely, relevant, and appropriate training to maximize safety for both community members and BPD personnel. (Ref. policy 425.2)

1300.2 AUTHORIZED USE

This policy is not intended to describe every possible situation in which the BWC should be used. Members shall activate the BWC as required by this policy in (a)-(f) below, and may activate the BWC at any time the member believes it would be appropriate or valuable to record an incident within the limits of privacy described herein.

The BWC shall be activated in any of the following situations:

- (a) All in-person enforcement and investigative contacts including pedestrian stops and field interview (FI) situations.
- (b) Traffic stops including, but not limited to, traffic violations, stranded motorist assistance and all crime interdiction stops.
- (c) Self-initiated field contacts in which a member would normally notify the Communications Center.
- (d) Any search activity, including the service of search or arrest warrants; probation, parole, or consent searches where the member is seeking evidence of an offense, or conducting a safety sweep or community caretaking sweep of the premises. Once a location has been secured and the member is not interacting with detainees or arrestees, the member may mute their BWC when conducting a search for evidence.
- (e) Any other contact that the member determines has become adversarial after the initial contact in a situation where the member would not otherwise activate BWC recording.
- (f) Transporting any detained or arrested person and where a member facilitates entry into or out of a vehicle, or any time the member expects to have physical contact with that person.

At no time is a member expected to jeopardize his or her safety in order to activate a BWC. The BWC should be activated by members in anticipation of situations described above, and in any unanticipated, rapidly unfolding situation where activation becomes required, as soon as the member can do so safely.

Members should activate their BWC when conducting custodial interviews unless there are other recording devices being used. Members shall document and explain in their report the reason for not recording custodial interviews, should a BWC be de-activated while conducting a custodial interview or interrogation. (Ref. policy 425.7)

1300.2.1 PROHIBITED USE

Members are prohibited from using a department-issued BWC for personal use and are prohibited from making personal copies of recordings created while on duty or while acting in their official capacity.

Members are prohibited from retaining BWC recordings. Members shall not duplicate or distribute such recordings, except for department business purposes. All such recordings shall be retained at the Department.

Recordings shall not be used by any member for the purpose of embarrassment, intimidation or ridicule. (Ref. policy 425.13)

1300.3 DATA COLLECTION

BWC use is limited to enforcement and investigative activities involving members of the public. The BWC recordings will capture video and audio evidence for use in criminal investigations, administrative reviews, training, civil litigation, and other proceedings protected by confidentiality laws and department policy. Improper use or release of BWC recordings may compromise ongoing criminal and administrative investigations or violate the privacy rights of those recorded and is prohibited. (Ref. policy 425.3)

1300.4 DATA ACCESS

Members are authorized to review their own BWC video files at any time in furtherance of official business. Such official business includes, but is not limited to, preparing written reports, prior to or while providing testimony in a case or being deposed. Members may review recordings as an evidentiary resource, except as stated in subsection 1300.4.1 below. Members shall not retain personal copies of recordings. Members shall not use the fact that a recording was made as a reason to write a less detailed report. (Ref. policy 425.17)

1300.4.1 OFFICER INVOLVED INCIDENTS RESULTING IN GRAVE BODILY INJURY OR DEATH

- (a) In the event of a critical incident that results in grave bodily injury or death, including an officer-involved shooting or an in-custody death, the BWC of the involved member(s) shall be taken from him or her and secured by a supervisor, commander, or appropriate investigator, as necessary. The involved member(s) shall not access or obtain their footage of the incident until such time as the criminal investigator(s) have reviewed the video files.

It will be the responsibility of the investigation team's supervisor to coordinate with the involved member's supervisor to obtain footage of the incident on behalf of the member.

- (b) Personnel uploading secured BWC video files shall not view the files unless authorized.
- (c) No member involved in a critical incident may view any video recordings prior to an interview by the appropriate criminal investigative unit, and receiving command approval.
- (d) Prior to the conclusion of the criminal interview process, the involved member and/ or the member's representative will have an opportunity to review the member's recording(s). The involved member may choose to provide additional information to supplement his or her statement by providing a supplemental statement or separate supplemental document. In no case shall a member alter a report made prior to reviewing the recording.
- (e) The Department acknowledges that recordings taken during critical incidents obtained from BWCs do not necessarily reflect the full extent of the nature of the event or the experience, analysis, training, threat assessment or state of mind of the individual officers(s) in a given incident. Moreover, the recordings, especially video, have limitations and may depict events differently than the events recalled by the involved officer. Specifically, it is understood that the recording device will capture information that may not have been heard and/or observed by the involved officer and that officers may see and hear events that are not captured by the camera.

Officers who are involved in any critical incident where video recordings exist depicting the involved officer, either as a subject officer or witness, shall be provided the following admonishment to the initial interview or submission of the initial written report:

"In this case, there is video evidence that you will have an opportunity to view. Video evidence has limitations and may depict the events differently than you recall, and may not depict all of the events as seen or heard by you. Video has a limited field of view and may not capture events normally seen by the human eye. The "frame rate" of video may limit the camera's ability to capture movements normally seen by the human eye. Lighting as seen on the video may be different than what is seen by the human eye. Videos are a two-dimensional medium and may not capture depth, distance or positional orientation as well as the human eye. Remember, the video evidence is intended to assist your memory and ensure that your statement explains your state of mind at the time of the incident." (Ref. policy 425.17.1)

1300.4.2 SUPERVISORY REVIEW

With the exception of section 1300.4.1 above, supervisors are authorized to review relevant recordings any time they are reviewing and approving case reports from their subordinates. (Ref. policy 425.17.2)

1300.4.3 INVESTIGATORY REVIEW

Supervisors are authorized to review relevant recordings any time they are investigating alleged misconduct or reports of meritorious conduct, or whenever such recordings support review of the member's performance. (Ref. policy 425.17.3)

- (a) Recorded files may also be reviewed:
 1. Upon approval by a supervisor, by any member of the Department who is participating

in conduct of an official investigation, such as a personnel complaint, an administrative investigation or a criminal investigation.

2. Pursuant to lawful process or by court or District Attorney personnel who are otherwise authorized to review evidence in a related case.
 3. By personnel assigned to investigatory units who are authorized to view any BWC video file associated to their active investigations, unless otherwise prohibited by policy.
 4. Upon approval by the Chief of Police, Internal Affairs investigators may review BWC video with a complainant.
- (b) Investigators conducting criminal or internal investigations shall:
1. Advise the coordinator to restrict access to the BWC file in criminal or internal investigations, as necessary.
 2. Review the file to determine whether the BWC file is of evidentiary value and process it in accordance with established protocols.
 3. Notify the coordinator to remove the access restriction when the criminal/internal investigation is closed.

1300.4.4 TEACHING OR LEARNING TOOL

BWC files may also be reviewed by training staff regarding specific incidents where such files may serve as an internal learning or teaching tool. In the event that videos are intended to be used for training purposes, the involved officer(s) will first be consulted. If he/she objects to the use of the video, such objection shall be submitted to the person in charge of training who shall weigh the value of the video for training against the officer(s) objections and basis for the objection. Should the person in charge of training refuse to grant the request of the involved officer(s), the matter shall be heard by the Chief of Police, or his/her designee, prior to utilizing the video. (Ref. policy 425.17.4)

1300.4.5 COB CIVIL CLAIMS AND LAWSUITS

BWC recordings may be reviewed and used by City of Berkeley defense counsel for the purposes of defending the city in civil claims and lawsuits, with the authorization of the Chief of Police, or his/her designee. (Ref. policy 425.17.5)

1300.5 DATA PROTECTION

To assist with identifying and preserving data and recordings, members shall tag and download recordings in accordance with procedure, and document the existence of the recording in the related case report. Transfers must occur at the end of the member's shift, and any time the member is aware that the storage capacity of the BWC is nearing its limit. In circumstances when the officer cannot complete this task, the officer's supervisor shall immediately take custody of the BWC and be responsible for uploading the data. Officers shall tag each file with the appropriate case/incident number, provide a descriptive title, and select an appropriate category for each recording, using the Axon View app or via the Evidence.com site.

Members are prohibited from intentionally erasing, altering, reusing, modifying or tampering with original audio video recordings. (Ref. policy 425.14)

1300.6 CIVIL LIBERTIES AND RIGHTS PROTECTION:

The Berkeley Police Department is dedicated to the most efficient utilization of its resources and services in its public safety endeavors. The Berkeley Police Department recognizes the need to protect its ownership and control over shared information and to protect the privacy and civil liberties of the public, in accordance with federal and state law. The procedures described within this policy (Data Access, Data Protection, Data Retention, Public Access and Third Party Data Sharing) protect against the unauthorized use of BWC data. These policies will ensure the data is not used in a way that would violate or infringe upon anyone's civil rights and/or liberties, including but not limited to potentially disparate or adverse impacts on any communities or groups.

1300.7 DATA RETENTION

The Department shall retain all recordings for a minimum of 60 days. Incidents involving consensual contacts, and aid to citizens will be retained for six months, and cold reports will be retained for one year. Recordings of incidents involving use of force by a police officer, detentions, arrests, or recordings relevant to a formal or informal complaint shall be retained for a minimum of two years and one month. Recordings relating to court cases and personnel complaints that are being adjudicated will be manually deleted at the same time other evidence associated with the case is purged in line with the Department's evidence retention policy. Any recordings related to administrative or civil proceedings shall be maintained until such matter is fully adjudicated, at which time it shall be deleted in line with the Department's evidence retention policy, and any applicable orders from the court.

Recordings created by equipment testing or accidental activation may be deleted after 60 days. (Ref. policy 425.15)

1300.8 PUBLIC ACCESS

Access to recorded files will be granted for the purposes of review in response to a public records request, as permitted under Government Code § 6254(f) and BPD General Order R-23 (Release of Public Records and Information). General Order R-23 does not authorize release of investigative files or documents that would constitute an unwarranted invasion of privacy. Circumstances where this might arise in video include footage taken inside a home, a medical facility, the scene of a medical emergency, or where an individual recorded has a "reasonable expectation of privacy."

Access to recorded files will be granted for the purposes of review to media personnel or the general public with permission of the Chief of Police, or his/her designee, subject to General Order R-23 and privacy protections indicated in this policy. (Ref. policy 425.18)

1300.9 THIRD-PARTY DATA-SHARING

1300.9.1 CITY ATTORNEY

All recordings should be reviewed by the Custodian of Records and the City Attorney's Office prior to public release, see General Order R-23 (Release of Public Records and Information).

In the event that the Police Department or City Department intends to release or publish for any purpose video recordings where officers are captured on video or the video depicts actions taken by them in the course of the performance of their official duties, those officers shall be given written notice of the intention to release or publish said video at least 48 hours prior to such release.

BPD may, without prior notice to involved officers, share video footage with law enforcement, national security, military, or other government agencies outside of Berkeley, when there is reasonable suspicion that criminal activity has occurred or is about to occur. (Ref. policy 425.18)

1300.9.2 POLICE REVIEW COMMISSION (PRC)

Access to recorded files will be granted for the purposes of review to the Police Review Commission Officer and/or Investigator investigating a specific complaint where BWC evidence files are available, and are not part of any ongoing criminal investigation. (Ref. policy 425.18.1)

- (a) The PRC Officer and PRC Investigator will be provided user account access to evidence files through the evidence management system for their use during a complaint investigation and to facilitate viewing by Board of Inquiry members during a Board of Inquiry.
- (b) The PRC Officer and PRC investigator shall not make or create a copy of any evidence file, nor make or allow to be made any audio or video recording of any evidence file while it is being streamed and viewed from the evidence management system.
- (c) The PRC Officer and PRC Investigator shall not allow any unauthorized individuals to view or access evidence files.
- (d) The evidence management system associates an audit trail record with each evidence file, thereby logging the date, time, user, activity, and client IP address occurring during each evidence file access.
- (e) The evidence management system shall only be accessed on City premises.
- (f) The Department retains custody and control of the recordings, and content of the video will be subject to applicable legal standards including, but not limited to the confidentiality requirements of the Public Safety Officers' Procedural Bill of Rights, (Government Code § 3300, et seq., Penal Code § 832.7, and the California Public Records Act; Government Code § 6250, et seq.)

1300.10 TRAINING

Training for the operation of BWC's shall be provided by BPD personnel. All BPD personnel who use BWC's shall be provided a copy of this Surveillance Use Policy.

1300.11 AUDITING AND OVERSIGHT

Division Captains for divisions utilizing BWC's shall ensure compliance with this Surveillance Use Policy.

1300.12 MAINTENANCE

The BWC system will be maintained by the Applications Programmer Analyst and assigned

Department of Information and Technology (IT) staff.

The Chief of Police, or his/her designee shall appoint a member of the Department to coordinate the use and maintenance of BWCs and the storage of recordings, including (Penal Code § 832.18) (Ref policy 425.4):

- (a) Establishing a system for uploading, storing and security of recordings.
- (b) Designating persons responsible for uploading recorded data.
- (c) Establishing a maintenance system to ensure availability of BWCs.
- (d) Establishing a system for tagging and categorizing data according to the type of incident captured.
- (e) Establishing a system to prevent tampering, deleting and copying recordings and ensure chain of custody integrity.
- (f) Working with the City Attorney's office to ensure an appropriate retention schedule is being applied to recordings and associated documentation.
- (g) Maintaining an audit trail record for all access to evidence files, wherein access information for each evidence file is logged through use of a secure log-in system. The Department's storage system associates an audit trail record with each evidence file, thereby logging the date, time, user name, activity and client IP address occurring during each evidence file access.
- (h) All recordings made by members acting in their official capacity shall remain the property of the Department. Subject to the provisions of this Policy, members shall have no expectation of privacy or ownership interest in the content of these recordings.

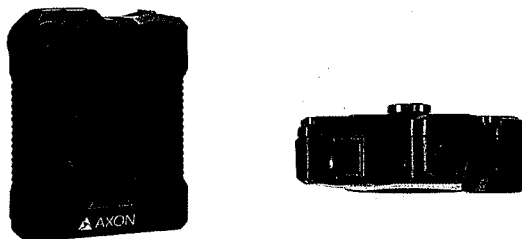
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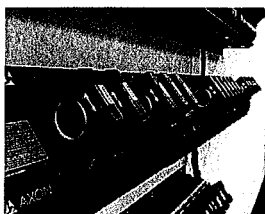
BODY WORN CAMERAS (BWCs)**A. DESCRIPTION**

The BWC system consists of four main components: The camera, the docking station, and the Digital Information Management System (DIMS) and smartphone applications.

The first component, the Axon camera, is a system which incorporates an audio and video recording device. It is designed to record events in real time for secure storage, retrieval, and analysis. The camera is to be attached to an officer's uniform and is powered by an internal rechargeable battery. The camera features low-light performance, full-shift battery life, a capture rate of 30 frames per second with no dropped frames, HD video, pre-event buffering, multi-camera playback, and the ability to automatically categorize video using the police department's computer aided dispatch system. An officer can start and stop recording by pressing a button on the front of the camera. The camera does not contain a screen for footage review.



The second component of the system is the docking station. Once the Axon camera is placed in the docking station it recharges the camera's battery. The dock also triggers the uploading of data from the camera to a cloud based Digital Information Management System (DIMS) called Evidence.com. The dock does not directly provide functionality to view, modify or delete video data stored on Axon cameras.



The third component is the Digital Information Management System called Evidence.com. Evidence.com streamlines data management and sharing on one secure platform. The evidence management system is comprehensive, secure, and intuitive to use. The DIMS is located in a cloud-based data center for security, scalability, and ease of administration. Users can add

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metadata to existing videos such as associated case numbers, incident type, incident dispositions, etc. to make the videos easier to find. However, the videos themselves cannot be altered by the user.

The fourth component of the system to be utilized are two Axon mobile applications, which allow officers to collect and review evidence in the field and more effectively use their BWCs. The applications use secure Bluetooth and Wi-Fi technology to access the BWC systems and footage. These applications are compliant with US Department of Justice evidentiary standards, meaning that they are both secure and are set up in a way that prohibits the altering or destruction of evidence. The applications are called Axon View and Axon Capture. Axon View allows users to change their camera settings, view live video, and review and tag recorded videos while they are stored on the BWC. Recorded videos remain in the BWC's memory, and cannot be manipulated or deleted. Axon Capture allows officers to use their city-issued smartphone's camera and microphone to take photographs, and record audio and video, and to upload this data directly to Evidence.com. These applications do not allow users to alter, manipulate, or edit any of the footage recorded by the BWC. These applications use secure technology to add value and efficiency to the BWC program.

B. PURPOSE

The primary objective of the BWC system is to document officer contacts, arrests, and critical incidents. Video footage collected by the BWCs will be used as evidence in both criminal and administrative investigations. Video footage not relevant to any investigation will be discarded after a defined retention period.

In instances where the officer might be expected to take law enforcement action of any kind, the officer is expected to record the encounter for the benefit of both the officer and the member of the public.

1. The BWC shall be activated in any of the following situations:
 - i. All in-person enforcement and investigative contacts including pedestrian stops and field interview (FI) situations.
 - ii. Traffic stops including, but not limited to, traffic violations, stranded motorist assistance and all crime interdiction stops.
 - iii. Self-initiated field contacts in which a member would normally notify the Communications Center.
 - iv. Any search activity, including the service of search or arrest warrants; probation, parole, or consent searches where the member is seeking evidence of an offense, or conducting a safety sweep or community caretaking sweep of the premises. Once a location has been secured and the member is not interacting with detainees or arrestees, the member may mute their BWC when conducting a search for evidence.

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- v. Any other contact that the member determines has become adversarial after the initial contact in a situation where the member would not otherwise activate BWC recording.
- vi. Transporting any detained or arrested person and where a member facilitates entry into or out of a vehicle, or any time the member expects to have physical contact with that person.

At no time is an officer expected to jeopardize his or her safety in order to activate a BWC. The BWC should be activated in anticipation of situations described above, and in any unanticipated, rapidly unfolding situation where activation becomes required, as soon as the user can do so safely.

Officers should activate their BWC when conducting custodial interviews unless there are other recording devices being used. Officers shall document and explain in their report the reason for not recording custodial interviews, should a BWC be de-activated while conducting a custodial interview or interrogation.

2. Prohibited uses of the BWC system include:

- i. Officers shall not surreptitiously record another department member without a court order unless lawfully authorized by the Chief of Police, or his/her designee.
- ii. Officers are prohibited from using a department-issued BWC for personal use and are prohibited from making personal copies of recordings created while on duty or while acting in their official capacity.
- iii. Officers are prohibited from retaining BWC recordings.
- iv. Officers shall not duplicate or distribute such recordings, except for department business purposes.

C. LOCATION

Officers may use BWCs anywhere where officers have jurisdiction to operate as sworn officers, in accordance with BPD policy #425.

D. IMPACT

With the introduction of BWCs, officers record all enforcement contacts with the public. To that end, an officer could find themselves engaged in their lawful duties in both public and private areas. Additionally, due to the nature of law enforcement work, an officer may be required to engage in sensitive conversations with individuals of all ages, including children.

The right to maintain someone's anonymity versus the need to gain information to maintain public safety is of paramount concern. The Department recognizes that all people have a right to privacy and is committed to protecting and safeguarding civil rights by adhering to the

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strictest requirements of both state and federal law concerning release of audio/video recordings.

E. MITIGATION

In order to minimize violations of privacy, BWC policy provides that:

1. Officers should record any incident they feel would be appropriate or valuable to document. The BWC policy shall require officers to activate the BWC under the criteria listed above.
2. Officers should not activate the BWC and/or use caution when entering a public locker room, changing room, restroom, doctor's or attorney's office, or other place where individuals unrelated to the investigation are present and would have a heightened expectation of privacy unless the officer is investigating criminal activity or responding to a call for service.
3. BWC use is limited to enforcement and investigative activities involving members of the public. The BWC recordings will capture video and audio evidence for use in criminal investigations, administrative reviews, training, civil litigation, and other proceedings protected by confidentiality laws and department policy.
4. BWC footage will be retained or released in accordance with applicable state and federal law. Criminal defendants will have access to relevant BWC footage via the court discovery process.
5. Officers are prohibited from retaining BWC recordings, Officers shall not duplicate or distribute such recordings, except for department business purposes. All such recordings shall be retained at the Department.
6. Officers are prohibited from intentionally erasing, altering, reusing, modifying or tampering with original audio video recordings. Officers may request restriction and subsequent deletion of an accidental recording according to the BWC policy.
7. Access to recorded files will be granted for the purposes of review in response to a public records request, as permitted by law and department policy. Department policy does not authorize release of investigative files or documents that would constitute an unwarranted invasions of privacy. Circumstances where this might arise in video include footage taken inside a home, a medical facility, the scene of a medical emergency, or where an individual recorded has a "reasonable expectation of privacy"

F. DATA TYPES AND SOURCES

BWC use is limited to enforcement and investigative activities involving members of the public. The BWC recordings will capture video and audio evidence for use in criminal investigations, administrative reviews, training, civil litigations, and other proceedings protected by confidentiality laws and department policy.

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The BWC collects video and audio recordings of events occurring in the user's presence. As each video is created, the system automatically stamps the video with the current date/time and the camera user's identity. The user has the option to add metadata manually to existing recordings after they are created. Such metadata may include but is not limited to:

1. Category of contact (from Department's defined list)
2. Disposition of contact (arrest, citation, etc.)
3. Associated case number

G. DATA SECURITY

To assist with identifying and preserving data and recordings, members shall tag and download recordings in accordance with procedure, and document the existence of the recording in the related case report. Transfers must occur at the end of the member's shift, and any time the member is aware that the storage capacity of the BWC is nearing its limit. In circumstances when the officer cannot complete this task, the officer's supervisor shall immediately take custody of the BWC and be responsible for transferring the data into the digital evidence management system. Officers shall tag each file with the appropriate case/incident number, provide a descriptive title, and select an appropriate category for each recording, using the Axon View app or via the Evidence.com site.

Members are prohibited from intentionally erasing, altering, reusing, modifying or tampering with original audio video recordings.

Improper use or release of BWC recordings may compromise ongoing criminal and administrative investigations or violate the privacy rights of those recorded and is prohibited. The Chief of Police, or his/her designee shall appoint a member of the Department to coordinate the use and maintenance of BWCs and the storage of recordings, including (Penal Code Section 832.18) (Ref. policy 425.14):

1. Establishing a system for uploading, storing and security of recordings.
2. Designating persons responsible for uploading recorded data.
3. Establishing a maintenance system to ensure availability of BWCs.
4. Establishing a system for tagging and categorizing data according to the type of incident captured.
5. Establishing a system to prevent tampering, deleting and copying recordings and ensure chain of custody integrity.
6. Working with the City Attorney's office to ensure an appropriate retention schedule is being applied to recordings and associated documentation.
7. Maintaining an audit trail record for all access to evidence files, wherein access information for each evidence file is logged through use of a secure log-in system. The Department's storage system associates an audit trail record with each evidence file,

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thereby logging the date, time, user name, activity and client IP address occurring during each evidence file access.

H. FISCAL COST

In 2017, the Berkeley City Council approved a resolution authorizing a contract between BPD and Axon. Axon was chosen after a competitive Request for Proposal (RFP) process. The contract will not exceed \$1,218,103 and includes the cost of 200 body worn cameras, charging stations, accessories, software licenses, training and unlimited storage for five years. The purchase also includes replacement cameras and charging stations during the third and fifth year of the contract.

There will be an annual cost of approximately \$250,000 to the police department's budget for a staff person to administer the body worn camera program beginning in FY 2019.

I. THIRD PARTY DEPENDENCE AND ACCESS

All BWC data will be uploaded and stored on Axon Cloud Services, Evidence.com. Axon complies with the EU-U.S. Privacy Shield Framework and the Swiss-U.S. Privacy Shield Framework as set forth by the U.S. Department of Commerce regarding the collection, use, and retention of personal information transferred from the European Union and Switzerland to the United States (collectively, "Privacy Shield"). Axon has certified to the U.S. Department of Commerce that it adheres to the Privacy Shield Principles.

J. ALTERNATIVES

Officers rely primarily on traditional policing techniques to gather evidence related to criminal investigations such as speaking to witnesses and suspects, gathering information from observations, and using standard data aggregation systems. These methods will continue to be employed as primary investigative tools that will be supplemented by use of BWCs to document police activity.

BWC technology provides video and audio documentation of policing activity in addition to the oral and written statements of officers, victims, and witnesses. Alternatives to the use of BWCs would be vehicle-based cameras and/or not utilizing BWCs. However, BPD sees the use of BWCs as an integral strategy to strengthen police transparency, prevent and resolve complaints against the police by civilians, document police-public interaction, and promote the perceived legitimacy and sense of procedural justice that communities have about their departments. There is a broad consensus – among community leaders, the ACLU, the Department of Justice, the Berkeley Police Department, and elected officials – that body-worn cameras can be an important tool for improving the high-quality public service expected of police officers.

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K. EXPERIENCE OF OTHER ENTITIES

Numerous police agencies have adopted BWCs as a tool to help combat crime, to reduce citizen complaints and to reduce use of force situations. Many departments have developed their own usage policies which may include standards for required officer use, supervisory review, storage and data retention standards, and internal and public access.

A report for the U.S. Bureau of Justice Administration, https://www.bja.gov/bwc/pdfs/14-005_Report_BODY_WORN_CAMERAS.pdf - pages 6-8, cites a 2013 Rialto, CA study that showed that the use of BWCs led to a 59 percent decrease in UOF and an 87.5 percent decrease in citizen complaints. Likewise, the Mesa, AZ report noted in "Impact" Section above also points to large decreases in UOF and citizen complaints.

The 2017 Police Body Worn Cameras: A Policy Scorecard, <https://www.bwcscorecard.org/>, provides an analysis of how scores of different police agencies have employed BWCs through a defined list of metrics.

Body Worn Cameras

425.1 PURPOSE AND SCOPE

This policy provides guidelines for the use of portable Body Worn Cameras (BWCs) by members of this department while in the performance of their duties.

This policy does not apply to non-BWC evidence, including other methods of audio or video recordings, interviews or interrogations conducted at any Berkeley Police Department facility, authorized undercover operations, wiretaps or eavesdropping (concealed listening devices).

425.2 POLICY

The Berkeley Police Department recognizes that video recording of contacts between department personnel and the public provides an objective record of these events, and that the use of a recording system complements field personnel in the performance of their duties by providing a video record of enforcement and investigative field contacts, which can enhance criminal prosecutions, limit civil liability, increase transparency, and enhance professionalism in the delivery of police services to the community. A video recording of an event or contact also enables the delivery of timely, relevant, and appropriate training to maximize safety for both community members and BPD personnel.

While recordings obtained from BWCs provide an objective record of events, it is understood that video recordings do not necessarily capture all events, activities and information, or reflect the full experience of the individual member(s) in a given incident. Moreover, the recordings, especially video, have limitations and may depict events differently than the events as perceived and recalled by the involved member. Specifically, it is understood that the BWC will capture information that may not have been seen and/or heard by the involved member and that the involved member may see and hear information that may not have been captured by the BWC.

425.3 CONFIDENTIALITY AND PROPER USE OF RECORDINGS

BWC use is limited to enforcement and investigative activities involving members of the public. The BWC recordings will capture video and audio evidence for use in criminal investigations, administrative reviews, training, civil litigation, and other proceedings protected by confidentiality laws and department policy. Improper use or release of BWC recordings may compromise ongoing criminal and administrative investigations or violate the privacy rights of those recorded and is prohibited.

425.4 COORDINATOR

The Chief of Police, or his/her designee shall appoint a member of the Department to coordinate the use and maintenance of BWCs and the storage of recordings, including (Penal Code § 832.18):

- (a) Establishing a system for uploading, storing and security of recordings.
- (b) Designating persons responsible for uploading recorded data.

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- (c) Establishing a maintenance system to ensure availability of BWCs.
- (d) Establishing a system for tagging and categorizing data according to the type of incident captured.
- (e) Establishing a system to prevent tampering, deleting and copying recordings and ensure chain of custody integrity.
- (f) Working with the City Attorney's office to ensure an appropriate retention schedule is being applied to recordings and associated documentation.
- (g) Maintaining an audit trail record for all access to evidence files, wherein access information for each evidence file is logged through use of a secure log-in system. The Department's storage system associates an audit trail record with each evidence file, thereby logging the date, time, user name, activity and client IP address occurring during each evidence file access.

All recordings made by members acting in their official capacity shall remain the property of the Department. Subject to the provisions of this Policy, members shall have no expectation of privacy or ownership interest in the content of these recordings.

425.5 MEMBER RESPONSIBILITIES

Prior to going into service, each uniformed member who is assigned to wear a BWC will be responsible for making sure that he or she is equipped with a BWC issued by the Department, and that the BWC is in good working order. If the BWC is not in working order or the member becomes aware of a malfunction at any time, the member shall promptly report the failure to his/her supervisor to permit the supervisor or other department employee to provide the member with a functioning BWC as soon as practicable. Uniformed members should wear the recorder in a conspicuous manner as prescribed by the Department, to provide a generally unobstructed camera view of contacts between members of the public and department members.

Members lawfully engaged in their duties as a police officer are not required to obtain consent from, or give notice to, members of the public, prior to recording with their BWC.

Upon the approval of the Chief of Police, or his/her designee, non-uniformed members lawfully engaged in their duties as a police officer may use an approved BWC.

Members are required to document the existence of a recording in any report or other official record of the contact, such as a CAD entry, including any instance where the member is aware that the BWC malfunctioned or the member deactivated the recording. In the event activity outlined in section 425.7 is not captured in whole or in part the member shall document this and explain in their report their understanding, if any, of why the footage was not captured in the recording.

425.6 SUPERVISOR RESPONSIBILITIES

At such time as the scene is considered secure and safe, the on-scene supervisor shall take immediate physical custody of involved officer's/officers' BWC when the device may have captured an incident involving an officer-involved shooting or use of force resulting in death or great bodily injury, and shall ensure the data is uploaded in a timely manner as prescribed by BPD policy

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(Penal Code § 832.18). Supervisors may review relevant BWC video and audio files in the field in furtherance of their duties and responsibilities.

Supervisors shall also review relevant BWC recordings prior to submitting any administrative reports.

425.7 ACTIVATION OF THE BODY WORN CAMERA

This policy is not intended to describe every possible situation in which the BWC should be used. Members shall activate the BWC as required by this policy in (a)-(f) below, and may activate the BWC at any time the member believes it would be appropriate or valuable to record an incident within the limits of privacy described herein.

The BWC shall be activated in any of the following situations:

- (a) All in-person enforcement and investigative contacts including pedestrian stops and field interview (FI) situations.
- (b) Traffic stops including, but not limited to, traffic violations, stranded motorist assistance and all crime interdiction stops.
- (c) Self-initiated field contacts in which a member would normally notify the Communications Center.
- (d) Any search activity, including the service of search or arrest warrants; probation, parole, or consent searches where the member is seeking evidence of an offense, or conducting a safety sweep or community caretaking sweep of the premises. Once a location has been secured and the member is not interacting with detainees or arrestees, the member may mute their BWC when conducting a search for evidence.
- (e) Any other contact that the member determines has become adversarial after the initial contact in a situation where the member would not otherwise activate BWC recording.
- (f) Transporting any detained or arrested person and where a member facilitates entry into or out of a vehicle, or any time the member expects to have physical contact with that person.

At no time is a member expected to jeopardize his or her safety in order to activate a BWC. The BWC should be activated by members in anticipation of situations described above, and in any unanticipated, rapidly unfolding situation where activation becomes required, as soon as the member can do so safely.

Members should activate their BWC when conducting custodial interviews unless there are other recording devices being used. Members shall document and explain in their report the reason for not recording custodial interviews, should a BWC be de-activated while conducting a custodial interview or interrogation.

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In the event that an officer has the opportunity to record interviews of victims and witnesses of crimes, they shall consider the following:

- (a) **Witnesses:** In the event a crime witness or a member of the community wishes to report or discuss criminal activity anonymously, officers have the discretion to not record. Members may offer to avert their camera to capture only audio during the interview, when doing so would facilitate obtaining the witness's recorded statement. In cases where a witness requests they not be recorded, and the member agrees not to record, members should record their request prior to turning the camera off. When a member is already recording, the member shall record their explanation for turning the camera off prior to doing so.
- (b) **Victims:** Upon request by the victim, officers have the discretion to not record the interview. Members may offer to avert their camera to capture only audio during the interview, when doing so would facilitate obtaining the victim's recorded statement. In cases where a victim requests they not be recorded, and the member agrees not to record, members should record their request prior to turning the camera off. When a member is already recording, the member shall record their explanation for turning the camera off prior to doing so.
 - 1. **Domestic Violence Victims:** Members should attempt to record interviews of domestic violence victims to facilitate future prosecution efforts and discourage later recanting of statements. Members should also record interviews with children who witness domestic violence, when the child is willing.
 - 2. **Child Abuse and Sexual Assault Victims:** Members shall have the discretion to record, absent any request to not record the interview by victims, witnesses, or non-suspect parents of victims, during child abuse and/or sexual assault investigations.
- (c) **Informants:** Members shall not activate their recorders when conducting an interview or engaging in a conversation with a confidential informant, unless needed as evidence.

Members have no obligation to advise a victim or witness that he or she is being recorded, but may do so at their discretion. When a victim or witness requests they not be recorded, members may consider their request (See Penal Code 632).

Members shall remain sensitive to the dignity of all individuals being recorded and exercise discretion to respect privacy by discontinuing recording whenever it reasonably appears to the member that such privacy concerns may outweigh any legitimate law enforcement interest in recording. Recording should resume when privacy concerns are no longer at issue unless the member determines that the circumstances no longer fit the criteria for recording.

Informal community interactions differ from "consensual encounters" in which members make an effort to develop reasonable suspicion to detain or probable cause to arrest. To strengthen relationships between police and citizens, members may use discretion regarding the recording of informal, non-enforcement related interactions with members of the community.

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425.9 ACTIVATION IN CROWD CONTROL SITUATIONS

During crowd control, protest or mass arrest incidents, members shall use their BWCs consistent with this policy, or when directed by the Incident Commander. The Incident Commander shall document his or her orders to activate in an appropriate report (e.g. Operations Plan or After Action Report).

The limitations outlined in the Intelligence Procedures for First Amendment Activities Policy governing intelligence-gathering procedures for First Amendment activities, apply to the use of BWCs and other recording devices.

Video recording of individuals who are picketing or engaged in peaceful protest will be avoided unless the officer believes a violation of criminal law is occurring, may occur, or if the officer interacts with a participant or third party to the event, or a participant or third party initiates contact with the member.

425.10 SURREPTITIOUS USE OF THE BWC

Members of the Department may surreptitiously record any conversation during the course of a criminal investigation in which the member reasonably believes that such a recording will be lawful and beneficial to the investigation.

Members shall not surreptitiously record another department member without a court order unless lawfully authorized by the Chief of Police, or his/her designee.

Members are prohibited from using department-issued BWCs for non-work related personal activity. BWCs will not be activated in places where members have a reasonable expectation of privacy, such as workplace locker rooms, dressing rooms, members' private vehicles or restrooms.

425.11 CESSATION OF RECORDING

Once activated, the member may mute or deactivate their BWC at any time based on their discretion, in the following circumstances:

- (a) Discussion of tactical or confidential information with other law enforcement personnel.
- (b) Where members are on a perimeter or assigned to a static post where the member's direct participation in the incident is complete and they are not actively part of an investigation.
- (c) If it is necessary to discuss issues or concerns with an employee, supervisor, doctor, nurse, or paramedic in private.
- (d) In the member's judgment, a recording would interfere with his or her ability to conduct an investigation.

Decisions regarding the reason for muting or BWC deactivation shall be noted on the recording, or otherwise documented.

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Members shall cease audio/video recording whenever necessary to ensure conversations are not recorded between a person in custody and the person's attorney, religious advisor or physician, unless there is explicit consent from all parties to the conversation. This does not apply to conversations with paramedics or EMTs during their response at a scene, and during transport.

425.12 EXPLOSIVE DEVICE

Many portable recorders, including BWCs and audio/video transmitters, emit radio waves that could trigger an explosive device. Therefore, these devices should not be used where an explosive device may be present.

Members believing that the use of a BWC may detonate an explosive device may deactivate their BWC in such cases.

425.13 PROHIBITED USE OF BODY WORN CAMERAS

Members are prohibited from using a department-issued BWC for personal use and are prohibited from making personal copies of recordings created while on duty or while acting in their official capacity.

Members are prohibited from retaining BWC recordings. Members shall not duplicate or distribute such recordings, except for department business purposes. All such recordings shall be retained at the Department.

Members may not use personally owned recorders (e.g. personal cell phone) to document contacts unless exigent circumstances exist to warrant the use of personally owned recording devices. Regardless, if a member is using a department-issued BWC, and/or another recording device, members shall comply with the provisions of this policy, including retention and release requirements. In every event where members use any recording device aside from or in addition to their department-issued BWC, the member shall document and explain the use and the exigent circumstance in their police report (e.g. the BWC failed and evidence needed to be captured at that moment in time).

Recordings shall not be used by any member for the purpose of embarrassment, intimidation or ridicule.

425.14 PROCESSING AND HANDLING OF RECORDINGS

To assist with identifying and preserving data and recordings, members shall tag and download recordings in accordance with procedure, and document the existence of the recording in the related case report. Transfers must occur at the end of the member's shift, and any time the member is aware that the storage capacity of the BWC is nearing its limit. In circumstances when the officer cannot complete this task, the officer's supervisor shall immediately take custody of the BWC and be responsible for uploading the data. Officers shall tag each file with the appropriate case/incident number, provide a descriptive title, and select an appropriate category for each recording, using the Axon View app or via the Evidence.com site.

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Members are prohibited from intentionally erasing, altering, reusing, modifying or tampering with original audio video recordings. Members may request restriction and subsequent deletion of an accidental recording as described under section 425.16 below.

425.15 RETENTION REQUIREMENTS

The Department shall retain all recordings for a minimum of 60 days. Incidents involving consensual contacts, and aid to citizens will be retained for six months, and cold reports will be retained for one year. Recordings of incidents involving use of force by a police officer, detentions, arrests, or recordings relevant to a formal or informal complaint shall be retained for a minimum of two years and one month. Recordings relating to court cases and personnel complaints that are being adjudicated will be manually deleted at the same time other evidence associated with the case is purged in line with the Department's evidence retention policy. Any recordings related to administrative or civil proceedings shall be maintained until such matter is fully adjudicated, at which time it shall be deleted in line with the Department's evidence retention policy, and any applicable orders from the court.

Recordings created by equipment testing or accidental activation may be deleted after 60 days.

425.16 ACCIDENTAL RECORDING - REQUEST FOR RESTRICTION

In the event of an accidental or sensitive personal recording of non-departmental business activity, where the resulting recording is of no investigative or evidentiary value, the recording employee may request that the file be restricted pending 60-day deletion by submitting an email request via their chain of command to the Professional Standards Division Captain. The Professional Standards Division Captain will approve or deny the restriction request. In cases where the request is denied, an appeal may be submitted to the Chief of Police, or his/her designee, for restriction authorization. In all cases of restriction requests, a determination should be made within seven calendar days.

425.17 REVIEW OF RECORDINGS BY A MEMBER

Members are authorized to review their own BWC video files at any time in furtherance of official business. Such official business includes, but is not limited to, preparing written reports, prior to or while providing testimony in a case or being deposed. Members may review recordings as an evidentiary resource, except as stated in subsection 425.17.1 below. Members shall not retain personal copies of recordings. Members shall not use the fact that a recording was made as a reason to write a less detailed report.

425.17.1 OFFICER INVOLVED INCIDENTS RESULTING IN GRAVE BODILY INJURY OR DEATH

- (a) In the event of a critical incident that results in grave bodily injury or death, including an officer-involved shooting or an in-custody death, the BWC of the involved member(s) shall be taken from him or her and secured by a supervisor, commander, or appropriate investigator, as necessary. The involved member(s) shall not access or obtain their footage of the incident until such time as the criminal investigator(s) have reviewed

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the video files. It will be the responsibility of the investigation team's supervisor to coordinate with the involved member's supervisor to obtain footage of the incident on behalf of the member.

- (b) Personnel uploading secured BWC video files shall not view the files unless authorized.
- (c) No member involved in a critical incident may view any video recordings prior to an interview by the appropriate criminal investigative unit, and receiving command approval.
- (d) Prior to the conclusion of the criminal interview process, the involved member and/or the member's representative will have an opportunity to review the member's recording(s). The involved member may choose to provide additional information to supplement his or her statement by providing a supplemental statement or separate supplemental document. In no case shall a member alter a report made prior to reviewing the recording.
- (e) The Department acknowledges that recordings taken during critical incidents obtained from BWCs do not necessarily reflect the full extent of the nature of the event or the experience, analysis, training, threat assessment or state of mind of the individual officers(s) in a given incident. Moreover, the recordings, especially video, have limitations and may depict events differently than the events recalled by the involved officer. Specifically, it is understood that the recording device will capture information that may not have been heard and/or observed by the involved officer and that officers may see and hear events that are not captured by the camera.

Officers who are involved in any critical incident where video recordings exist depicting the involved officer, either as a subject officer or witness, shall be provided the following admonishment to the initial interview or submission of the initial written report:

"In this case, there is video evidence that you will have an opportunity to view. Video evidence has limitations and may depict the events differently than you recall, and may not depict all of the events as seen or heard by you. Video has a limited field of view and may not capture events normally seen by the human eye. The "frame rate" of video may limit the camera's ability to capture movements normally seen by the human eye. Lighting as seen on the video may be different than what is seen by the human eye. Videos are a two-dimensional medium and may not capture depth, distance or positional orientation as well as the human eye. Remember, the video evidence is intended to assist your memory and ensure that your statement explains your state of mind at the time of the incident."

425.17.2 SUPERVISORY REVIEW

With the exception of section 425.17.1 above, supervisors are authorized to review relevant recordings any time they are reviewing and approving case reports from their subordinates.

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425.17.3 INVESTIGATORY REVIEW

Supervisors are authorized to review relevant recordings any time they are investigating alleged misconduct or reports of meritorious conduct, or whenever such recordings support review of the member's performance.

Recorded files may also be reviewed:

- (a) Upon approval by a supervisor, by any member of the Department who is participating in conduct of an official investigation, such as a personnel complaint, an administrative investigation or a criminal investigation.
- (b) Pursuant to lawful process or by court or District Attorney personnel who are otherwise authorized to review evidence in a related case.
- (c) By personnel assigned to investigatory units who are authorized to view any BWC video file associated to their active investigations, unless otherwise prohibited by policy.
- (d) Upon approval by the Chief of Police, Internal Affairs investigators may review BWC video with a complainant.

Investigators conducting criminal or internal investigations shall:

1. Advise the coordinator to restrict access to the BWC file in criminal or internal investigations, as necessary.
2. Review the file to determine whether the BWC file is of evidentiary value and process it in accordance with established protocols.
3. Notify the coordinator to remove the access restriction when the criminal/internal investigation is closed.

425.17.4 TEACHING OR LEARNING TOOL

BWC files may also be reviewed by training staff regarding specific incidents where such files may serve as an internal learning or teaching tool. In the event that videos are intended to be used for training purposes, the involved officer(s) will first be consulted. If he/she objects to the use of the video, such objection shall be submitted to the person in charge of training who shall weigh the value of the video for training against the officer(s) objections and basis for the objection. Should the person in charge of training refuse to grant the request of the involved officer(s), the matter shall be heard by the Chief of Police, or his/her designee, prior to utilizing the video.

425.17.5 COB CIVIL CLAIMS AND LAWSUITS

BWC recordings may be reviewed and used by City of Berkeley defense counsel for the purposes of defending the city in civil claims and lawsuits, with the authorization of the Chief of Police, or his/her designee.

425.18 RELEASE OF RECORDINGS

All recordings should be reviewed by the Custodian of Records and the City Attorney's Office prior to public release, see General Order R-23 (Release of Public Records and Information).

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In the event that the Police Department or City Department intends to release or publish for any purpose video recordings where officers are captured on video or the video depicts actions taken by them in the course of the performance of their official duties, those officers shall be given written notice of the intention to release or publish said video at least 48 hours prior to such release.

BPD may, without prior notice to involved officers, share video footage with law enforcement, national security, military, or other government agencies outside of Berkeley, when there is reasonable suspicion that criminal activity has occurred or is about to occur.

425.18.1 POLICE REVIEW COMMISSION (PRC)

Access to recorded files will be granted for the purposes of review to the Police Review Commission Officer and/or Investigator investigating a specific complaint where BWC evidence files are available, and are not part of any ongoing criminal investigation.

- (a) The PRC Officer and PRC Investigator will be provided user account access to evidence files through the evidence management system for their use during a complaint investigation and to facilitate viewing by Board of Inquiry members during a Board of Inquiry.
- (b) The PRC Officer and PRC investigator shall not make or create a copy of any evidence file, nor make or allow to be made any audio or video recording of any evidence file while it is being streamed and viewed from the evidence management system.
- (c) The PRC Officer and PRC Investigator shall not allow any unauthorized individuals to view or access evidence files.
- (d) The evidence management system associates an audit trail record with each evidence file, thereby logging the date, time, user, activity, and client IP address occurring during each evidence file access.
- (e) The evidence management system shall only be accessed on City premises.
- (f) The Department retains custody and control of the recordings, and content of the video will be subject to applicable legal standards including, but not limited to the confidentiality requirements of the Public Safety Officers' Procedural Bill of Rights, (Government Code § 3300, et seq., Penal Code § 832.7, and the California Public Records Act; Government Code § 6250, et seq.)

425.18.2 PUBLIC RECORDS ACT (PRA) REQUEST

Access to recorded files will be granted for the purposes of review in response to a public records request, as permitted under Government Code § 6254(f) and BPD General Order R-23 (Release of Public Records and Information). General Order R-23 does not authorize release of investigative files or documents that would constitute an unwarranted invasion of privacy. Circumstances where this might arise in video include footage taken inside a home, a medical facility, the scene of a medical emergency, or where an individual recorded has a "reasonable expectation of privacy."

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425.18.3 MEDIA

Access to recorded files will be granted for the purposes of review to media personnel or the general public with permission of the Chief of Police, or his/her designee, subject to General Order R-23 and privacy protections indicated in this policy.

425.19 COMPLIANCE WITH BMC 2.99 ACQUISITION AND USE OF SURVEILLANCE TECHNOLOGY

This policy shall comply at all times with the requirement of BMC 2.99 Acquisition and Use of Surveillance Technology.

425.20 TRAINING REQUIRED

Officers who are assigned BWCs must complete department-approved training in the proper use and maintenance of the devices before deploying to the field.

As part of a continual improvement process, regular review should be conducted by BPD staff of the training on this policy and the related use of BWCs under this policy. Information resulting from the outcomes of this review shall be incorporated into the City Manager's annual "Surveillance Technology Report" as required under BMC 2.99 Acquisition and Use of Surveillance Technology.

The Department, Police Review Commission and other City Departments shall maintain the confidentiality of Department sworn employee personnel records as required by state and local law. Failure to maintain the confidentiality of Department sworn employee personnel records, whether or not intentional, may subject individuals to civil penalties and discipline, up to and including termination of employment.

ATTACHMENT 3:
Global Positioning System Tracking Devices

Surveillance Technology Report GPS Tracker
To be provided as part of supplemental communications

Surveillance Use Policy - GPS Tracking Devices

1301.1 PURPOSE

Global Positioning System (GPS) tracking devices track the movements of vehicles, bicycles, cargo, machinery, other items, and/or individuals. GPS trackers electronically relay their precise location in real time, and thereby assist BPD in the recovery of evidence and arrest of suspects.

1301.2 AUTHORIZED USE

GPS trackers shall only be used during active criminal investigations. GPS trackers shall only be used pursuant to a lawfully issued search warrant, or with consent of the owner of the object to which the GPS tracker is attached.

GPS trackers shall only be utilized for law enforcement purposes.

1301.3 DATA COLLECTION

Location data may be obtained through the use of a GPS Tracker.

1301.4 DATA ACCESS

Access to GPS tracker data shall be limited to Berkeley Police Department (BPD) personnel utilizing the GPS Tracker(s) for active criminal investigations. Information may be shared in accordance with 1301.9 below.

In support of active criminal investigations, BPD personnel may receive GPS tracker data from probation or parole agencies which utilize GPS trackers (e.g. ankle monitors) as a condition of probation or parole.

1301.5 DATA PROTECTION

The data from the GPS tracker is encrypted by the vendor. The data is only accessible through a secure website to BPD personnel who have been granted security access.

1301.6 CIVIL LIBERTIES AND RIGHTS PROTECTION:

The Berkeley Police Department is dedicated to the most efficient utilization of its resources and services in its public safety endeavors. The Berkeley Police Department recognizes the need to protect its ownership and control over shared information and to protect the privacy and civil liberties of the public, in accordance with federal and state law. Provisions of this policy, including 1301.4 Data Access, 1301.5 Data Protection, 1301.7 Data Retention, 1301.8 Public Access and 1301.9 Third Party Data Sharing serve to protect against any unauthorized use of GPS tracker data. These procedures ensure the data is not used in a way that would violate or infringe upon anyone's civil rights and/or liberties, including but not limited to potentially disparate or adverse impacts on any communities or groups.

1301.7 DATA RETENTION

A GPS Tracker data record consists of date, time, latitude, longitude, map address, and tracker

identification label. This data is stored indefinitely by the vendor. The data does not contain any images, names of subjects, vehicle information, etc.

Tracker data received from the vendor shall be kept in accordance with applicable laws, BPD policies that do not conflict with applicable law or court order, and/or as specified in a search warrant.

1301.8 PUBLIC ACCESS

Data collected and used in a police report shall be made available to the public in accordance with department policy and applicable state or federal law.

1301.9 THIRD-PARTY DATA-SHARING

Data collected from the GPS trackers may be shared with the following:

- (a) The District Attorney's Office for use as evidence to aid in prosecution, in accordance with laws governing evidence;
- (b) Other law enforcement personnel as part of an active criminal investigation;
- (c) Other third parties, pursuant to a Court Order.

1301.10 TRAINING

Training for the operation of the GPS trackers shall be provided by BPD personnel. All BPD personnel shall be provided with this Surveillance Use Policy.

1301.11 AUDITING AND OVERSIGHT

Division Captains or their designee shall ensure compliance with this Surveillance Use Policy.

1301.12 MAINTENANCE

GPS trackers shall only be obtained with the permission of the Investigations Division Captain or his/her designee. The Investigations Division Captain or his/her designee will ensure the trackers are returned when the mission/investigation is completed.

1301 APPENDIX A

BERKELEY POLICE DEPARTMENT SURVEILLANCE ACQUISITION REPORT - GPS TRACKING DEVICES

GPS TRACKING DEVICES**A. DESCRIPTION**

Global Positioning System (GPS) tracking devices track the movements of vehicles, bicycles, cargo, machinery, other items, and/or individuals.

The Berkeley Police Department currently uses two types of GPS Tracking Devices to track the movements of vehicles, bicycles, or other kinds of property. The manufacturer, 3SI Security Systems, describes them as follows:

1. The "Slap-n-Track" (SNT) tracker tracks vehicles, cargo, and other large assets for long deployments. Offers extended battery life, rugged and weatherproof housing, and optional magnets.
2. The "Electronic Stake Out" (ESO) tracker offers Law Enforcement miniaturized and covertly packaged GPS Tracking Solutions to target property crimes, especially pattern crimes, in their local jurisdictions.

B. PURPOSE

Global Positioning System (GPS) tracking devices provide precise, real-time location information during the conduct of active criminal investigations. GPS trackers are only used pursuant to a lawfully issued search warrant, or with consent of the owner of the object to which the GPS tracker is attached.

C. LOCATION

GPS tracking devices shall be deployed in locations consistent with the authority granted by consent or a lawfully issued search warrant or court order.

D. IMPACT

The Berkeley Police Department is dedicated to the most efficient utilization of its resources and services in its public safety endeavors. GPS Trackers are used in place of expensive, resource-intensive surveillance operations which typically involve multiple officers, often over long periods of time. The Berkeley Police Department recognizes the need to protect its ownership and control over shared information and to protect the privacy and civil liberties of the public, in accordance with federal and state law. The procedures utilized with GPS trackers help to ensure no unauthorized use of of GPS tracker data occurs. BPD Policy 1301 Surveillance Use Policy – GPS Tracking Devices ensure the use of GPS trackers and the resulting data are not used in a way that would violate or infringe upon anyone's civil rights and/or liberties, including but not limited to potentially disparate or adverse impacts on any communities or groups.

1301 APPENDIX A

BERKELEY POLICE DEPARTMENT SURVEILLANCE ACQUISITION REPORT - GPS TRACKING DEVICES

E. MITIGATION

Data from a GPS tracker is encrypted from the vendor. Data shall be maintained in a secure, non-public location, such as locations requiring security access or badge access, thereby safeguarding the public from any impacts identified in subsection (D).

F. DATA TYPES AND SOURCES

A GPS tracker data record consists of date, time, latitude, longitude, map address (derived by using latitude, longitude and Google maps), and tracker identification label. The data does not contain any images, names of subjects, vehicle information, etc.

G. DATA SECURITY

Data from a GPS tracker is encrypted by the vendor on secure servers. The data is only accessible through a secure website to BPD personnel who have been granted security access. Captains whose Divisions utilize GPS trackers are responsible for ensuring compliance with the procedures for utilizing GPS Trackers.

H. FISCAL COST

The initial cost of the GPS trackers totaled \$4,335.

- Between 2015-present BPD purchased 5 GPS "ESO" trackers for \$2,250 (\$450 each).
- In 2017 BPD purchased 3 GPS "SNT" trackers for \$2,085 (\$695 each).

The annual cost for the GPS data service totals \$1,920.

- The annual data service for the five ESO trackers is \$1,020 (\$204 each).
- The annual data service for the three SNT trackers is \$900 (\$300 each).

Personnel costs are minimal in that the GPS trackers are used as a resource during normal working hours.

GPS trackers are funded through the Investigations Division's general budget.

I. THIRD PARTY DEPENDENCE AND ACCESS

Data collected from the GPS trackers may be shared with the following:

- a. The District Attorney's Office for use as evidence to aid in prosecution, in accordance with laws governing evidence;
- b. Other law enforcement offices as part of a criminal investigation;
- c. Other third parties, pursuant to a Court Order.

1301 APPENDIX A

BERKELEY POLICE DEPARTMENT SURVEILLANCE ACQUISITION REPORT - GPS TRACKING DEVICES

J. ALTERNATIVES

An alternative to the use of GPS trackers is to conduct resource-intensive surveillance operations utilizing numerous personnel over extended periods of time.

K. EXPERIENCE OF OTHER ENTITIES

The use of GPS tracker technology is common amongst law enforcement agencies throughout the country.

ATTACHMENT 4:
Automated License Plate Readers

Surveillance Technology Report Automated License Plate Reader
To be provided as part of supplemental communications

Surveillance Use Policy - ALPR

1302.1 PURPOSE

This Surveillance Use Policy is issued in compliance with BMC 2.99, and incorporates by reference language from the Berkeley Police Department ALPR Policy #422 and adds elements as required by BMC 2.99.

The policy of the Berkeley Police Department is to utilize ALPR technology to capture and store digital license plate data and images while recognizing the established privacy rights of the public.

All data and images gathered by the ALPR are for the official use of this department. Because such data may contain confidential information, it is not open to public review. (Ref. policy 422.2)

1302.2 AUTHORIZED AND PROHIBITED USES USE

Use of an ALPR is restricted to the purposes outlined below. Department members shall not use, or allow others to use the equipment or database records for any unauthorized purpose (Civil Code § 1798.90.51; Civil Code § 1798.90.53). (Ref. policy 422.4)

- (a) An ALPR shall only be used for official law enforcement business.
- (b) An ALPR may be used to support a patrol operation or criminal investigation. Reasonable suspicion or probable cause is not required before using an ALPR.
- (c) While an ALPR may be used to canvass license plates around any crime scene, particular consideration should be given to using ALPR-equipped cars to canvass areas around homicides, shootings and other major incidents. Partial license plates reported during major crimes should be entered into the ALPR system in an attempt to identify suspect vehicles.

1302.3 DATA COLLECTION

All data and images gathered by an ALPR are for the official use of the Berkeley Police Department. Such data may contain confidential CLETS information and is not open to public review. ALPR information gathered and retained by this department may be used and shared with prosecutors or other law enforcement agencies only as permitted by law. (Ref. policy 422.5)

1302.4 DATA ACCESS

- (a) No member of this department shall operate ALPR equipment or access ALPR data without first completing department-approved training.
- (b) No ALPR operator may access California Law Enforcement Telecommunications System (CLETS) data unless otherwise authorized to do so.
- (c) If practicable, the officer should verify an ALPR response through the California Law Enforcement Telecommunications System (CLETS) before taking enforcement action that is based solely on an ALPR alert.

1302.5 DATA PROTECTION

All saved data will be safeguarded and protected by both procedural and technological means. The Berkeley Police Department will observe the following safeguards regarding access to and use of stored data (Civil Code § 1798.90.51; Civil Code § 1798.90.53) (Ref. policy 422.6):

- (a) All ALPR data downloaded to any workstation or server shall be accessible only through a login/password-protected system capable of documenting all access of information by name, date and time (Civil Code § 1798.90.52).
- (b) Berkeley Police Department members approved to access ALPR data under these guidelines are permitted to access the data for legitimate law enforcement purposes only, such as when the data relate to a specific criminal investigation or department-related civil or administrative action and parking enforcement.
- (c) Aggregated ALPR data not related to specific criminal investigations shall not be released to any local, state or federal agency or entity without the express written consent of the City Manager.
- (d) Measures will be taken to ensure the accuracy of ALPR information. Errors discovered in ALPR data collected by ALPR units shall be marked, corrected or deleted in accordance with the type and severity of the error in question.

1302.6 CIVIL LIBERTIES AND RIGHTS PROTECTION:

The Berkeley Police Department is dedicated to the most efficient utilization of its resources and services in its public safety endeavors. The Berkeley Police Department recognizes the need to protect its ownership and control over shared information and to protect the privacy and civil liberties of the public, in accordance with federal and state law. The procedures described within this policy (Data Access, Data Protection, Data Retention, Public Access and Third Party Data Sharing) protect against the unauthorized use of ALPR data. These policies ensure the data is not used in a way that would violate or infringe upon anyone's civil rights and/or liberties, including but not limited to potentially disparate or adverse impacts on any communities or groups.

1302.7 DATA RETENTION

The Investigations Division Captain, or his/her designee, is responsible for ensuring proper collection and retention of ALPR data. Technical support and assistance shall be provided by the City of Berkeley's Information Technology (IT) department and associated ALPR system providers/vendors as identified below. IT staff will not have the ability to access or view individual records or reports, as they may contain CLETS information they are not authorized to receive. IT's role will be limited to providing initial infrastructure set-up, unless particular IT staff members have been cleared by DOJ background checks and authorized by the Chief of Police to receive ALPR records.

All ALPR data downloaded to the server should be stored for a minimum of one year (Government Code § 34090.6) and in accordance with the established records retention schedule. Thereafter, ALPR data should be purged unless it has become, or it is reasonable to believe it will become, evidence in a criminal or civil action or is subject to a lawful action to produce records. In those circumstances the applicable data should be downloaded from the server onto portable media and booked into evidence. (Ref. policy 422.5)

-
- (a) Collected images and metadata of hits will not be stored for more than 365 days. Metadata of reads will not be stored for more than 30 days. Images of reads will not be transferred to the server.

1302.8 PUBLIC ACCESS

- (a) Non-law enforcement requests for access to stored ALPR data shall be processed according to the Records Maintenance and Release Policy in accordance with applicable law. (Ref. policy 422.6 (a))
- (b) Non-law enforcement requests for information regarding a specific vehicle's license plate may be honored when the requester is the registered owner of the vehicle in question, and when providing such information will not invade the privacy of a third party. The requestor in such cases must provide acceptable proof of his or her identity and of ownership of the vehicle in question. (Ref. policy 422.6 (b))

1302.9 THIRD-PARTY DATA-SHARING

The ALPR data may be shared only with other law enforcement or prosecutorial agencies for official law enforcement purposes or as otherwise permitted by law. ALPR data is subject to the provisions of BPD Policy 415, and hence may not be shared with federal immigration enforcement officials.

Requests for ALPR data by non-law enforcement or non-prosecutorial agencies will be processed as provided in the Records Maintenance and Release Policy (Civil Code § 1798.90.55).

Aggregated ALPR data not related to specific criminal investigations shall not be released to any local, state or federal agency or entity without the express written consent of the City Manager. (Ref. policy 422.6 (e))

1302.10 TRAINING

Training for the operation of ALPR Technology shall be provided by BPD personnel. All BPD employees who utilize ALPR Technology shall be provided a copy of this Surveillance Use Policy.

1302.11 AUDITING AND OVERSIGHT

ALPR system audits will be conducted by the Professional Standards Bureau's Audit and Inspections Sergeant on a regular basis, at least biannually. (Ref. policy 422.6 (g))

1302.12 MAINTENANCE

Any installation and maintenance of ALPR equipment, as well as ALPR data retention and access, shall be managed by the Investigations Division Captain. The Investigations Division Captain will assign members under his/her command to administer the day-to-day operation of the ALPR equipment and data. (Ref. policy 422.3)

1302.12.1 ALPR ADMINISTRATOR

The Investigations Division Captain, or his/her designee, shall be responsible for developing guidelines and procedures to comply with the requirements of Civil Code § 1798.90.5 et seq. This includes, but is not limited to (Civil Code § 1798.90.51; Civil Code § 1798.90.53) (Ref.

policy 422.3.1):

- (a) A description of the job title or other designation of the members and independent contractors who are authorized to use or access the ALPR system or to collect ALPR information.
- (b) Training requirements for authorized users.
- (c) A description of how the ALPR system will be monitored to ensure the security of the information and compliance with applicable privacy laws.
- (d) Procedures for system operators to maintain records of access in compliance with Civil Code § 1798.90.52.
- (e) The title and name of the current designee in overseeing the ALPR operation.
- (f) Ensuring this policy and related procedures are conspicuously posted on the City's website.

AUTOMATED LICENSE PLATE READER (ALPR) DEVICES

A. DESCRIPTION

Automated License Plate Readers (ALPRs) are high-speed, computer controlled camera systems that are typically mounted on Berkeley Police Department Parking Enforcement Vehicles.

ALPRs capture license plate numbers which come into view, along with the location, date and time. The data, which includes a photo of the front or the back of the car displaying the license plate, is then uploaded to a central server.

B. PURPOSE

The Berkeley Police Department's Parking Enforcement Unit utilizes vehicles equipped with ALPRs to conduct enforcement of posted time limits in commercial areas and Residential Preferential Parking (RPP) permit areas. These ALPR's also access information in the California Law Enforcement Telecommunications System's (CLETS) Stolen Vehicle System (SVS) database, which provides information on matches for stolen and wanted vehicles.

The Berkeley Police Department's Scofflaw Enforcement program (often referred to as the "booting" program) utilizes an ALPR to scan license plates, and check the scanned "reads" against a list of vehicles which have five or more outstanding parking citations exceeding 30 days old. Typically, upon a confirmed "hit," the vehicle is immobilized with a "boot", or towed, and the owner has to pay the outstanding citations and fees in order to release the boot and/or recover their car from storage. This allows the City to recover outstanding parking citation fees.

C. LOCATION

Parking Enforcement vehicles travel throughout the city; using the ALPRs as described above.

D. IMPACT

The Berkeley Police Department is dedicated to the most efficient utilization of its resources and services in its public safety endeavors. The Berkeley Police Department recognizes the need to protect its ownership and control over shared information and to protect the privacy and civil liberties of the public, in accordance with federal and state law. The procedures utilized with ALPR Units will help to ensure unauthorized use of its data. The procedures will ensure the data is not used in a way that would violate or infringe upon anyone's civil rights and/or liberties, including but not limited to potentially disparate or adverse impacts on any communities or groups.

1302 APPENDIX A

BERKELEY POLICE DEPARTMENT SURVEILLANCE ACQUISITION REPORT - AUTOMATED LICENSE PLATE READER DEVICES

E. MITIGATION

All saved data will be safeguarded and protected by both procedural and technological means which are implemented to safeguard the public from any impacts identified in subsection (D). See subsection (G) for further.

F. DATA TYPES AND SOURCES

Photographs of license plates and location data may be obtained through the use of ALPR Units.

G. DATA SECURITY

The Berkeley Police Department will observe the following safeguards regarding access to and use of stored data (Civil Code § 1798.90.51; Civil Code § 1798.90.53):

1. All ALPR data downloaded to any workstation or server shall be accessible only through a login/password-protected system capable of documenting all access of information by name, date and time (Civil Code § 1798.90.52).
2. Berkeley Police Department members approved to access ALPR data under these guidelines are permitted to access the data for legitimate law enforcement purposes only, such as when the data relate to a specific criminal investigation or department-related civil or administrative action and parking enforcement.
3. Aggregated ALPR data not related to specific criminal investigations shall not be released to any local, state or federal agency or entity without the express written consent of the City Manager.
4. Measures will be taken to ensure the accuracy of ALPR information. Errors discovered in ALPR data collected by ALPR units shall be marked, corrected or deleted in accordance with the type and severity of the error in question.

H. FISCAL COST

In 2015, Public Works brought an ALPR Contract to City Council. Council approved a contract for Public Works to buy five Genetec ALPR Units with PCS Mobile communication, for a pilot program for \$450,000.

In 2017, after success with the program, City Council approved an amendment to the contract, allowing Public Works to purchase 15 more ALPR Units for Parking Enforcement vehicles, and to continue its use of PCS Mobile, for 1,200,000. The money was allocated from the goBerkeley/Federal Highway Administration Parking Meter Fund.

Yearly service for the ALPR Units includes warranties, hosting services, cellular connection, mobile computing, and training which varies. The costs through fiscal year 2022 are currently estimated at \$1,175,000.

1302 APPENDIX A

BERKELEY POLICE DEPARTMENT SURVEILLANCE ACQUISITION REPORT - AUTOMATED LICENSE PLATE READER DEVICES

Personnel costs are minimal in that the ALPR Units are used as a resource during normal working hours.

I. THIRD PARTY DEPENDENCE AND ACCESS

1. Vendor Access-Scofflaw Enforcement: The contracted vendor for the City's Scofflaw Enforcement program is currently Paylock. Paylock stores data on a secure server, and provides access to authorized personnel via Paylock's "Bootview" secure website, as described below:
 - a. All data captured by the ALPR is stored on the booting vehicle's laptop for 30 days, and is only accessible during that period via the ALPR proprietary software. This includes reads, hits, and photographs associated with each.
 - b. When a car is booted and/or towed, the read, hit and photographic data relating to the booting and/or towing of scofflaw vehicles is uploaded to Paylock's secure server. No other data is uploaded to Paylock's secure server.
2. Vendor Access-General Parking Enforcement and goBerkeley Program: The contracted vendor for the City's Parking Enforcement ALPR is currently Genetec. The city uses Genetec ALPRs to support efficient enforcement of posted time limit parking and Residential Preferential Parking permits.
 - a. In addition, Genetec periodically provides reports to the City of Berkeley Transportation Division's "goBerkeley" parking management program so that the City's program can analyze data about parking demand. These reports do not contain any information about a vehicle's license plate number, the name of the registered owner, address of registered owner, or any other information gleaned from the license plate number associated with a particular vehicle. Rather, the reports consist of completely anonymized information, using identification numbers that are not associated with a particular license plate or registered owner.
 - b. The reports will provide only the date, time, location, approximate address, "goBerkeley" blockface ID, and Residential Permit Pass (RPP) area in which a vehicle was observed. If a citation was not issued for an RPP or other time limit violation, the report may also provide the reason a parking enforcement officer concluded there was no parking violation, e.g., RPP visitor pass, disabled placard or license plate, etc.
3. Department of Information Technology Access: Technical support and assistance for ALPR's is provided by the City of Berkeley's Department of Information Technology (IT) and associated ALPR system providers/vendors as identified herein. IT staff who

1302 APPENDIX A**BERKELEY POLICE DEPARTMENT SURVEILLANCE ACQUISITION REPORT - AUTOMATED LICENSE PLATE READER DEVICES**

do not have the proper clearance and training do not have the ability to access or view individual records or reports, as they may contain CLETS information they are not authorized to receive. IT provides initial infrastructure set-up, and continued systems support as needed to ensure efficient and accurate performance of the ALPR hardware and software. Only IT staff members who have successfully undergone DOJ background checks and training are authorized by the Chief of Police to view specific ALPR records.

4. Other Law Enforcement Agency Access: ALPR data may only be shared with other law enforcement or prosecutorial agencies for official law enforcement purposes or as otherwise permitted by law. Requests for ALPR data by non-law enforcement or non-prosecutorial agencies will be processed as provided in the Records Maintenance and Release Policy (Civil Code § 1798.90.55). Aggregated ALPR data not related to specific criminal investigations shall not be released to any local, state or federal agency or entity without the express written consent of the City Manager.
5. Member Access: No member of this department shall operate ALPR equipment or access ALPR data without first completing department-approved training. No ALPR operator may access CLETS data unless otherwise authorized to do so. If practicable, the officer should verify an ALPR response through CLETS before taking enforcement action that is based solely on an ALPR alert.
6. Public Access: Non-law enforcement requests for access to stored ALPR data shall be processed according to the Records Maintenance and Release Policy in accordance with applicable law. Non-law enforcement requests for information regarding a specific vehicle's license plate may be honored when the requester is the registered owner of the vehicle in question, and when providing such information will not invade the privacy of a third party. The requestor in such cases must provide acceptable proof of his or her identity and of ownership of the vehicle in question.

J. ALTERNATIVES

None.

K. EXPERIENCE OF OTHER ENTITIES

The use of ALPR technology is common amongst law enforcement agencies throughout the country, in support of parking enforcement, and law enforcement criminal investigations.

Automated License Plate Readers (ALPRs)

422.1 PURPOSE AND SCOPE

The purpose of this policy is to provide guidance for the capture, storage and use of digital data obtained through the use of Automated License Plate Reader (ALPR) technology.

422.2 POLICY

The policy of the Berkeley Police Department is to utilize ALPR technology to capture and store digital license plate data and images while recognizing the established privacy rights of the public.

All data and images gathered by the ALPR are for the official use of this department. Because such data may contain confidential information, it is not open to public review.

422.3 ADMINISTRATION

Any installation and maintenance of ALPR equipment, as well as ALPR data retention and access, shall be managed by the Investigations Division Captain. The Investigations Division Captain will assign members under his/her command to administer the day-to-day operation of the ALPR equipment and data.

422.3.1 ALPR ADMINISTRATOR

The Investigations Division Captain, or his/her designee, shall be responsible for developing guidelines and procedures to comply with the requirements of Civil Code § 1798.90.5 et seq. This includes, but is not limited to (Civil Code § 1798.90.51; Civil Code § 1798.90.53):

- (a) A description of the job title or other designation of the members and independent contractors who are authorized to use or access the ALPR system or to collect ALPR information.
- (b) Training requirements for authorized users.
- (c) A description of how the ALPR system will be monitored to ensure the security of the information and compliance with applicable privacy laws.
- (d) Procedures for system operators to maintain records of access in compliance with Civil Code § 1798.90.52.
- (e) The title and name of the current designee in overseeing the ALPR operation.
- (f) Ensuring this policy and related procedures are conspicuously posted on the City's website.

422.4 USE OF THE ALPR

An ALPR shall only be used for official law enforcement business.

Use of an ALPR is restricted to the purposes outlined below. Department members shall not use,

or allow others to use the equipment or database records for any unauthorized purpose (Civil Code § 1798.90.51; Civil Code § 1798.90.53).

- (a) An ALPR may be used by Berkeley Police Department Parking Enforcement for parking and scofflaw enforcement.
- (b) An ALPR may be used to support criminal investigations. Reasonable suspicion or probable cause is not required before using an ALPR.
- (c) While an ALPR may be used to canvass license plates around any crime scene, particular consideration should be given to using ALPR-equipped vehicles to canvass areas around homicides, shootings and other major incidents. Partial license plates reported during major crimes should be entered into the ALPR system in an attempt to identify suspect vehicles.

No member of this department shall operate ALPR equipment or access ALPR data without first completing department-approved training.

No ALPR operator may access California Law Enforcement Telecommunications System (CLETS) data unless otherwise authorized to do so. If practicable, the officer should verify an ALPR response through the California Law Enforcement Telecommunications System (CLETS) before taking enforcement action that is based solely on an ALPR alert

422.5 .DATA COLLECTION AND RETENTION

All data and images gathered by an ALPR are for the official use of the Berkeley Police Department. Such data may contain confidential CLETS information and is not open to public review.

The Investigations Division Captain, or his/her designee, is responsible for ensuring proper collection and retention of ALPR data.

Technical support and assistance shall be provided by the City of Berkeley's Information Technology (IT Department and associated ALPR system providers/vendors as identified below. IT staff will not have the ability to access or view individual records or reports, as they may contain CLETS information they are not authorized to receive. IT's role will be limited to providing initial infrastructure set-up, unless particular IT staff members have been cleared by DOJ background checks and authorized by the Chief of Police to receive ALPR records.

All ALPR data downloaded to the server should be stored for a minimum of one year (Government Code § 34090.6) and in accordance with the established records retention schedule. Thereafter, ALPR data should be purged unless it has become, or it is reasonable to believe it will become, evidence in a criminal or civil action or is subject to a lawful action to produce records. In those circumstances the applicable data should be downloaded from the server onto portable media and booked into evidence.

- (a) Collected images and metadata of reads showing violations will not be stored for more than 365 days.
- (b) Metadata of reads showing violations will be stored for up to 30 days. Images of reads not

showing violations will not be transferred to the server.

422.6 ACCOUNTABILITY

All saved data will be safeguarded and protected by both procedural and technological means. The Berkeley Police Department will observe the following safeguards regarding access to and use of stored data (Civil Code § 1798.90.51; Civil Code § 1798.90.53):

- (a) Non-law enforcement requests for access to stored ALPR data shall be processed according to the Records Maintenance and Release Policy in accordance with applicable law.
- (b) Non-law enforcement requests for information regarding a specific vehicle's license plate may be honored when the requester is the registered owner of the vehicle in question, and when providing such information will not invade the privacy of a third party. The requestor in such cases must provide acceptable proof of his or her identity and of ownership of the vehicle in question.
- (c) All ALPR data downloaded to any workstation or server shall be accessible only through a login/password-protected system capable of documenting all access of information by name, date and time (Civil Code § 1798.90.52).
- (d) Berkeley Police Department members approved to access ALPR data under these guidelines are permitted to access the data for legitimate law enforcement purposes only, such as when the data relate to a specific criminal investigation or department-related civil or administrative action or parking enforcement.
- (e) Aggregated ALPR data not related to specific criminal investigations shall not be released to any local, state or federal agency or entity without the express written consent of the City Manager.
- (f) Measures will be taken to ensure the accuracy of ALPR information. Errors discovered in ALPR data collected by ALPR units shall be marked, corrected or deleted in accordance with the type and severity of the error in question.
- (g) ALPR system audits will be conducted by the Professional Standards Bureau's Audit and Inspections Sergeant on a regular basis, at least biannually.

For security or data breaches, see the Records Release and Maintenance Policy.

422.7 RELEASING ALPR DATA

The ALPR data may be shared only with other law enforcement or prosecutorial agencies for official law enforcement purposes or as otherwise permitted by law, using the following procedures:

- (a) The agency makes a written request for the ALPR data that includes:
 - 1. The name of the agency.
 - 2. The name of the person requesting.
 - 3. The intended purpose of obtaining the information.

4. The related case number.
- (b) The request is reviewed by the Investigations Division Captain, or his/her designee, and approved before the request is fulfilled.
- (c) The approved request is retained on file.

Requests for ALPR data by non-law enforcement or non-prosecutorial agencies will be processed as provided in the Records Maintenance and Release Policy (Civil Code § 1798.90.55).

ALPR data is subject to the provisions of the Berkeley Police Department's Immigration Law Policy, and hence may not be shared with federal immigration enforcement officials.

422.8 SCOFFLAW ENFORCEMENT

The Berkeley Police Department uses ALPR technology in the Parking Enforcement Unit for parking and scofflaw enforcement.

The Parking Enforcement Unit will utilize vehicles equipped with ALPR units to conduct enforcement of posted time limits in commercial areas and Residential Preferential Parking (RPP) permit areas. These ALPR's will also access information in the DMV's Stolen Vehicle System (SVS) database for wanted and stolen vehicles.

The Scofflaw Enforcement program (often referred to as the "booting" program) utilizes an ALPR to scan license plates and check the scanned "reads" against a list of vehicles which have five or more outstanding parking citations exceeding 30 days old. Typically, upon a confirmed "hit," the vehicle is immobilized with a "boot", or towed, and the owner has to pay the outstanding citations and fees in order to release the boot and/or recover their car from storage. This allows the City to recover outstanding citation fees.

The contracted vendor for the City's Scofflaw Enforcement program is currently Paylock. Paylock stores data on a secure server, and provides access to authorized personnel via Paylock's "Bootview" secure website.

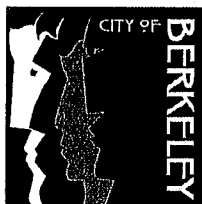
When a car is booted and/or towed, the read, hit and photographic data relating to the booting and/or towing of scofflaw vehicles is uploaded to Paylock's secure server. No other data is uploaded to Paylock's secure server.

The City's Parking Enforcement ALPR vendor (currently Genetec) will periodically provide reports to the City of Berkeley Transportation Division's "goBerkeley" parking management program so that it can analyze data about parking demand. These reports will not contain any information about a vehicle's license plate number, the name of the registered owner, address of registered owner, or any other information gleaned from the license plate number associated with a particular vehicle. Rather, the reports will consist of 100 percent anonymized information using identification numbers that are not associated with a particular license plate or registered owner.

The reports will provide only the date, time, location, approximate address, "goBerkeley" blockface ID, and RPP area in which a vehicle was observed. If a citation was not issued for an RPP or other time limit violation, the report may also provide the reason a parking

enforcement officer concluded there was no parking violation, e.g., RPP visitor pass, disabled placard or license plate, etc.

ATTACHMENT 5:
Police Review Commission Communication



Police Review Commission (PRC)

September 11, 2019

To: Honorable Mayor and Members of the City Council
From: George Perezvelez, Chairperson, Police Review Commission
Re: Proposed Berkeley Police Department Policy 422, Automated License Plate Readers

Summary: This memo is to inform you of the Police Review Commission's qualified approval of the BPD's proposed policy for the use of Automated License Plate Readers (ALPRs).

Background: The BPD submitted the ALPR policy, Policy 422, to the PRC for review, along with the Surveillance Use Policy and the Surveillance Acquisition Report (Policy 1302 and Appendix A) for these devices. This process was undertaken in advance of BPD submitting these items to the City Council as required by the Surveillance Technology Use and Community Safety Ordinance (B.M.C. Ch. 2.99).

These policies were first considered by the full Commission, which then referred them to its Lexipol Policies Subcommittee. In response to feedback from the PRC and the Subcommittee, the BPD revised the proposed policy, which was reviewed by both bodies. At various stages, the PRC and the subcommittee had the opportunity to hear from and ask questions of Police Chief Greenwood and other members of the BPD, and Deputy City Attorney Chris Jensen. The PRC also heard input from representatives of Media Alliance and Oakland Privacy.

Final action: At its September 4, 2019 meeting, the PRC voted to approve for submission to the City Council for your review and discussion the version of Policy 422 that is attached here, with two caveats. First, there was concern among some commissioners that the ALPR was originally acquired for the purpose of parking enforcement and that this policy represents an expansion of that function. If this is not what the Council had in mind, then this policy should be modified accordingly. Second, Section 422.4(c) of the policy does not adequately define what constitutes a "crime scene."

Finally, the Commission wishes to remind the Council that they will see actual use of the ALPR technology under the reporting mechanism in place in the Surveillance Technology Use and Community Safety Ordinance.

Honorable Mayor and Members of the City Council
Proposed Berkeley Police Department Policy 422, Automated License Plate Readers
September 11, 2019
p. 2

The above action was approved by the following vote: Moved/Seconded
(Perezvelez/Mikiten) -- Ayes: Calavita, Chang, Leftwich, Mikiten, Perezvelez,
Ramsey; Noes: Earnest, Mizell; Abstain: Allamby; Absent: None.

Attachment: Revised Policy 422

cc: Dee Williams-Ridley, City Manager
Andrew Greenwood, Chief of Police
David White, Deputy City Manager
PRC Commissioners

Automated License Plate Readers (ALPRs)

422.1 PURPOSE AND SCOPE

The purpose of this policy is to provide guidance for the capture, storage and use of digital data obtained through the use of Automated License Plate Reader (ALPR) technology.

422.2 POLICY

The policy of the Berkeley Police Department is to utilize ALPR technology to capture and store digital license plate data and images while recognizing the established privacy rights of the public.

All data and images gathered by the ALPR are for the official use of this department. Because such data may contain confidential information, it is not open to public review.

422.3 ADMINISTRATION

Any installation and maintenance of ALPR equipment, as well as ALPR data retention and access, shall be managed by the Investigations Division Captain. The Investigations Division Captain will assign members under his/her command to administer the day-to-day operation of the ALPR equipment and data.

422.3.1 ALPR ADMINISTRATOR

The Investigations Division Captain, or his/her designee, shall be responsible for developing guidelines and procedures to comply with the requirements of Civil Code § 1798.90.5 et seq. This includes, but is not limited to (Civil Code § 1798.90.51; Civil Code § 1798.90.53):

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422.5 DATA COLLECTION AND RETENTION

All data and images gathered by an ALPR are for the official use of the Berkeley Police Department. Such data may contain confidential CLETS information and is not open to public review. ~~ALPR information gathered and retained by this department may be used and shared with prosecutors or other law enforcement agencies only as permitted by law.~~

The Investigations Division Captain, or his/her designee, is responsible for ensuring proper collection and retention of ALPR data.

Technical support and assistance shall be provided by the City of Berkeley's Information Technology (IT Department and associated ALPR system providers/vendors as identified below. IT staff will not have the ability to access or view individual records or reports, as they may contain CLETS information they are not authorized to receive. IT's role will be limited to providing initial infrastructure set-up, unless particular IT staff members have been cleared by DOJ background checks and authorized by the Chief of Police to receive ALPR records.

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- (g) ALPR system audits will be conducted by the Professional Standards Bureau's Audit and Inspections Sergeant on a regular basis, at least biannually.

For security or data breaches, see the Records Release and Maintenance Policy.

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 1. The name of the agency.

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The Scofflaw Enforcement program (often referred to as the "booting" program) utilizes an ALPR to scan license plates and check the scanned "reads" against a list of vehicles which have five or more outstanding parking citations exceeding 30 days old. Typically, upon a confirmed "hit," the vehicle is immobilized with a "boot", or towed, and the owner has to pay the outstanding citations and fees in order to release the boot and/or recover their car from storage. This allows the City to recover outstanding citation fees.

The contracted vendor for the City's Scofflaw Enforcement program is currently Paylock. Paylock stores data on a secure server, and provides access to authorized personnel via Paylock's "Bootview" secure website, as described below:

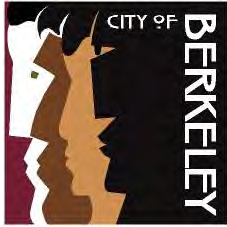
- (a) All data captured by the ALPR is stored on the laptop for 30 days, and is only accessible during that period via the ALPR proprietary software. This includes reads, hits, and photographs associated with each.

When a car is booted and/or towed, the read, hit and photographic data relating to the booting and/or towing of scofflaw vehicles is uploaded to Paylock's secure server. No other data is uploaded to Paylock's secure server.

The City's Parking Enforcement ALPR vendor (currently Genetec) will periodically provide reports to the City of Berkeley Transportation Division's "goBerkeley" parking management program so that it can analyze data about parking demand. These reports will not contain any information about a vehicle's license plate number, the name of the registered owner, address of registered owner, or any other information gleaned from the license plate number associated

with a particular vehicle. Rather, the reports will consist of 100 percent anonymized information using identification numbers that are not associated with a particular license plate or registered owner.

The reports will provide only the date, time, location, approximate address, "goBerkeley" blockface ID, and RPP area in which a vehicle was observed. If a citation was not issued for an RPP or other time limit violation, the report may also provide the reason a parking enforcement officer concluded there was no parking violation, e.g., RPP visitor pass, disabled placard or license plate, etc.



Office of the City Manager

REVISED AGENDA MATERIAL

Meeting Date: December 3, 2019

Item Description: City Council Rules of Procedure and Order Revisions

Supplemental/Revision Submitted By: Mark Numainville, City Clerk

This revised language for **Section 5. Number and Make-Up of Committees** was discussed and unanimously adopted by the Agenda & Rules Committee on Monday, November 18.

The recommended language will adjust the committee membership to allow for four members to serve on the Budget and Finance Committee and require that the Mayor be a member of the Budget and Finance Committee.

5D. Number and Make-up of Committees

Six committees are authorized, each comprised of three councilmembers, except Budget & Finance, which shall have four members. All Committees, except Budget & Finance, will have a fourth Councilmember appointed as an alternate. Each Councilmember and the Mayor will serve on two committees. The Mayor shall be a member of the Agenda & Rules Committee, the Budget & Finance Committee, and one other committee. The committees are as follows:

1. Agenda and Rules Committee
2. Budget and Finance Committee
3. Facilities, Infrastructure, Transportation, Environment, and Sustainability
4. Health, Life Enrichment, Equity, and Community
5. Land Use, Housing, and Economic Development
6. Public Safety



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SUPPLEMENTAL AGENDA MATERIAL

for Supplemental Packet 2

Meeting Date: November 19, 2019

Item Number: A

Item Description: City Council Rules of Procedure and Order Revisions

Submitted by: Councilmember Hahn

This Supplemental is built on the Clerk's previous Supp 1 submission. All but one change proposed (on Page 8) reflect allowing more than one Author for each item. Authors are defined as having actual authorship of an item, while Co-Sponsors are strong supporters. Up to 4 Authors and Co-Sponsors are allowed per item. The first Author listed is the Primary Author and is the sole contact for the City Manager with respect to that item. All other changes proposed (except on Page 8) are technical changes to clarify this allowance for more than one Author.

The change on Page 8 allows flexibility for Ad Hoc Subcommittees to consult the parties they deem appropriate to their task, rather than be required to consult with all parties listed.

The Berkeley City Council Rules of Procedure and Order

Adopted by Resolution No. ~~##,###~~-N.S.
Effective November 12, 2019

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I. DUTIES

I. DUTIES

A. Duties of Mayor

The Mayor shall preside at the meetings of the Council and shall preserve strict order and decorum at all regular and special meetings of the Council. The Mayor shall state every question coming before the Council, announce the decision of the Council on all subjects, and decide all questions of order, subject, however, to an appeal to the Council, in which event a majority vote of the Council shall govern and conclusively determine such question of order. In the Mayor's absence, the Vice President of the Council (hereafter referred to as the Vice-Mayor) shall preside.

Commented [NML1]: Standard current practice per City Charter

B. Duties of Councilmembers

Promptly at the hour set by law on the date of each regular meeting, the members of the Council shall take their regular stations in the Council Chambers and the business of the Council shall be taken up for consideration and disposition.

C. Motions to be Stated by Chair

When a motion is made, it may be stated by the Chair or the City Clerk before debate.

D. Decorum by Councilmembers

While the Council is in session, the City Council will practice civility and decorum in their discussions and debate. Councilmembers will value each other's time and will preserve order and decorum. A member shall neither, by conversation or otherwise, delay or interrupt the proceedings of the Council, use personal, impertinent or slanderous remarks, nor disturb any other member while that member is speaking or refuse to obey the orders of the presiding officer or the Council, except as otherwise provided herein.

All Councilmembers have the opportunity to speak and agree to disagree but no Councilmember shall speak twice on any given subject unless all other Councilmembers have been given the opportunity to speak. The Presiding Officer may set a limit on the speaking time allotted to Councilmembers during Council discussion.

Commented [NML2]: Edit from July 15, 2019 Agenda & Rules Committee meeting

Commented [NML3]: SUPP 1 – changed to "a limit" to be more clear that the time is the same for all Councilmembers

The presiding officer has the affirmative duty to maintain order. The City Council will honor the role of the presiding officer in maintaining order. If a Councilmember believes the presiding officer is not maintaining order, the Councilmember may move that the Vice-Mayor, or another Councilmember if the Vice-Mayor is acting as the presiding officer at the time, enforce the rules of decorum and otherwise maintain order. If that motion receives a second and is approved by a majority of the Council, the Vice-Mayor, or other designated Councilmember, shall enforce the rules of decorum and maintain order.

E. Voting Disqualification

No member of the Council who is disqualified shall vote upon the matter on which the member is disqualified. Any member shall openly state or have the presiding officer announce the fact and nature of such disqualification in open meeting, and shall not be subject to further inquiry. Where no clearly disqualifying conflict of interest appears, the matter of disqualification may, at the request of the member affected, be

I. DUTIES

decided by the other members of the Council, by motion, and such decision shall determine such member's right and obligation to vote. A member who is disqualified by conflict of interest in any matter shall not remain in the Chamber during the debate and vote on such matter, but shall request and be given the presiding officer's permission to ~~absent~~ ~~recuse~~ themselves. Any member having a "remote interest" in any matter as provided in Government Code shall divulge the same before voting.

Commented [NML4]: Correct terminology

F. Requests for Technical Assistance and/or Reports

A majority vote of the Council shall be required to direct staff to provide technical assistance, develop a report, initiate staff research, or respond to requests for information or service generated by an individual council member.

G. ~~City Council Policy for Naming and Renaming Public Facilities~~

~~The City Council Policy for Naming and Renaming Public Facilities adopted on January 31, 2012, and all its successors, is incorporated by reference into the City Council Rules of Procedure and included as Appendix A to this document.~~

Commented [NML5]: Edit from July 15, 2019 Agenda & Rules Committee meeting
Language is unnecessary here

II. MEETINGS

II. MEETINGS

A. Call to Order - Presiding Officer

The Mayor, or in the Mayor's absence, the Vice Mayor, shall take the chair precisely at the hour appointed by the meeting and shall immediately call the Council to order. Upon the arrival of the Mayor, the Vice Mayor shall immediately relinquish the chair, ~~at the conclusion of the business presently before the Council.~~ In the absence of the two officers specified in this section, the ~~Councilmember~~~~council member~~ present with the longest period of Council service shall preside.

Commented [NML6]: Edit from July 15, 2019 Agenda & Rules Committee meeting
Mayor resume chair upon resuming place on dais
Commented [NML7]: Amended to standardize use throughout the document

B. Roll Call

Before the Council shall proceed with the business of the Council, the City Clerk shall call the roll of the members and the names of those present shall be entered in the minutes. The later arrival of any absentee shall also be entered in the minutes.

C. Quorum Call

During the course of the meeting, should the Chair note a Council quorum is lacking, the Chair shall call this fact to the attention of the City Clerk. The City Clerk shall issue a quorum call. If a quorum has not been restored within two minutes of a quorum call, the meeting shall be deemed automatically adjourned.

D. Council Meeting ~~Schedule~~Conduct of Business

~~The City Council shall hold a minimum of twenty-four (24) meetings, or the amount needed to conduct City business in a timely manner, whichever is greater, each calendar year.~~

Commented [NML8]: Moved to more appropriate location below

~~Regular meetings of the City Council shall be held generally two to three Tuesdays of each month; the schedule to be established annually by Council resolution taking into consideration holidays and election dates.~~

~~Regular City Council meetings shall begin no later than 6:00 p.m.~~

The agenda for the regular business meetings shall include the following: Ceremonial ~~Items (including comments from the City Auditor if requested);~~ Comments from the City Manager; Comments from the Public; Consent Calendar; Action Calendar (Appeals, Public Hearings, Continued Business, Old Business, New Business); Information Reports; and Communication from the Public. Presentations and workshops may be included as part of the Action Calendar. ~~Items removed from the Consent Calendar will be moved to the Action Calendar.~~ The Chair will determine the order in which the item(s) will be heard with the consent of Council.

Commented [NML9]: Edit from July 15, 2019 Agenda & Rules Committee meeting

Commented [NML10]: Items removed from Consent may have many other actions taken and listing this single action is misleading.

Upon request by ~~the Mayor or~~ any ~~Councilmember~~~~council member~~, any item may be moved from the Consent Calendar or Information Calendar to the Action Calendar. Unless there is an objection by ~~the Mayor or~~ any ~~Councilmember~~~~council member~~, ~~at the~~ ~~Council~~~~council member~~ may also move an item from the Action Calendar to the Consent Calendar.

Commented [NML11]: Amended for clarity throughout document

Commented [NML12]: Edit from July 15, 2019 Agenda & Rules Committee meeting – changed "a Councilmember" to "the Council"

A public hearing that is not expected to be lengthy may be placed on the agenda for a regular business meeting. When a public hearing is expected to be contentious

II. MEETINGS

and lengthy and/or the Council's regular meeting schedule is heavily booked, the ~~Agenda Committee~~ Agenda & Rules Committee, in conjunction with the staff, will schedule a special meeting exclusively for the public hearing. No other matters shall be placed on the agenda for the special meeting. All public comment will be considered as part of the public hearing and no separate time will be set aside for public comment not related to the public hearing at this meeting.

Commented [NML13]: Amended to standardize use throughout the document

Except at meetings at which the budget is to be adopted, no public hearing may commence later than 10:00 p.m. unless there is a legal necessity to hold the hearing or make a decision at that meeting or the City Council determines by a two-thirds vote that there is a fiscal necessity to hold the hearing.

E. Adjournment

1. No Council meeting shall continue past 11:00 p.m. unless a two-thirds majority of the Council votes to extend the meeting to discuss specified items; and any motion to extend the meeting beyond 11:00 p.m. shall include a list of specific agenda items to be covered and shall specify in which order these items shall be handled.
2. Any items not completed at a regularly scheduled Council meeting may be continued to an Adjourned Regular Meeting by a two-thirds majority vote of the Council.

F. Unfinished Business

Any items not completed by formal action of the Council, and any items not postponed to a date certain, shall be considered Unfinished Business. All Unfinished Business shall be referred to the Agenda Committee Agenda & Rules Committee for scheduling for a Council meeting that occurs within 60 days from the date the item last appeared on a Council agenda. The 60 day period is tolled during a Council recess.

G. City Council Schedule and Recess Periods

Pursuant to the Open Government Ordinance, the City Council shall hold a minimum of twenty-four (24) meetings, or the amount needed to conduct City business in a timely manner, whichever is greater, each calendar year.

Regular meetings of the City Council shall be held generally two to three Tuesdays of each month ~~except during recess periods~~; the schedule to be established annually by Council resolution taking into consideration holidays and election dates.

Commented [NML14]: SUPP 1 – Added for clarity

Regular City Council meetings shall begin no later than 6:00 p.m.

Commented [NML15]: Proposed addition regarding starting early for ceremonial items was removed at the July 15, 2019 Agenda & Rules Committee meeting

A recess period is defined as a period of time longer than 21 days without a regular ~~or special~~ meeting of the Council.

Commented [NML16]: Special meetings are as needed and are not factored in to the annual schedule that is adopted, which includes the recess periods.

When a recess period occurs, the City Manager is authorized to take such ministerial actions for matters of operational urgency as would normally be taken by the City Council during the period of recess except for those duties specifically reserved to the Council by the Charter, and including such emergency actions as are necessary for the immediate preservation of the public peace, health or safety; the authority to

II. MEETINGS

extend throughout the period of time established by the City Council for the period of recess.

The City Manager shall have the aforementioned authority beginning the day after the ~~Agenda Committee~~ Agenda & Rules Committee meeting for the last regular meeting before a Council recess and this authority shall extend ~~through up to the deadline for submission of staff reports for date of the first Agenda & Rules Committee meeting for the first regular meeting~~ after the Council recess.

Commented [NML17]: The existing definition left a significant gap that did not allow City Manager action on administratively urgent items

Commented [NML18]: Edit from July 15, 2019 Agenda & Rules Committee meeting

The City Manager shall make a full and complete report to the City Council at its first regularly scheduled meeting following the period of recess of actions taken by the City Manager pursuant to this section, at which time the City Council may make such findings as may be required and confirm said actions of the City Manager.

H. Pledge of Allegiance to the Flag

At the first meeting of each year following the August recess and at any subsequent meeting if specifically requested before the meeting by any member of the Council in order to commemorate an occasion of national significance, the first item on the ~~program~~ Ceremonial Calendar will be the Pledge of Allegiance.

I. Ad Hoc Subcommittees

From time to time the Council or the Mayor may appoint several of its members but fewer than the existing quorum of the present body to serve as an ad hoc subcommittee. Only Council ~~members~~ may ~~become~~ be members of the ad hoc subcommittee; however, the subcommittee shall seek input and advice from ~~the~~ residents, related commissions, and other groups as appropriate to the charge or responsibilities of such Subcommittee. Ad Hoc Subcommittees must be reviewed annually by the Council to determine if the subcommittee is to continue.

Commented [HS19]: Depending on the charge or responsibilities of an Ad Hoc Subcommittee, it may not be necessary or appropriate to consult with all the groups/bodies listed. Adding this language allows some flexibility; as written it requires every ad hoc subcommittee to engage in all of the consultation activities listed.

Upon creation of an ad hoc subcommittee, the Council shall allow it to operate with the following parameters:

1. A specific charge or outline of responsibilities shall be established by the Council.
2. A target date must be established for a report back to the Council.
3. Maximum life of the subcommittee shall be one year, with annual review and possible extension by the Council.

Subcommittees shall conduct their meetings in ~~public and in accessible~~ locations that are open to the public and meet accessibility requirements under the Americans with Disabilities Act. Meetings may be held at privately owned facilities provided that the location is open to all that wish to attend and that there is no requirement for purchase to attend. Agendas for subcommittee meetings must be posted in the same manner as the agendas for regular Council meetings except that subcommittee agendas may be posted with 24-hour notice. The public will be permitted to comment on agenda items but public comments may be limited to one minute if deemed necessary by the Committee Chair. Agendas and minutes of the meetings must be maintained and made available upon request.

Commented [NML20]: Edit from July 15, 2019 Agenda & Rules Committee meeting

II. MEETINGS

~~City staff may attend and participate in subcommittee meetings. Depending on the desires of the subcommittee members, City staff may participate the same as members of the public, or may be called upon to offer insights or provide information during discussion.~~

~~Ad hoc subcommittees will be staffed by City Council legislative staff. As part of the ad hoc subcommittee process, City staff will undertake a high-level, preliminary analysis of potential legal issues, costs, timelines, and staffing demands associated with the item(s) under consideration. Staff analysis at ad hoc subcommittees is limited to the points above as the recommendation, program, or project has not yet been approved to proceed by the full Council.~~

Subcommittees must be comprised of at least two members. If only two members are appointed, then both must be present in order for the subcommittee meeting to be held. In other words, the quorum for a two-member subcommittee is always two.

~~Certain requirements listed above may not apply to a~~ Ad hoc subcommittees ~~may seeking legal advice and assistance from the City Attorney or meeting with the City Manager or his/her designees for purposes of real estate or labor negotiations.~~ convene a closed session meeting pursuant to the conditions and regulations imposed by the Brown Act.

Commented [NML21]: Staff proposed language based on discussion at July 15, 2019 Agenda & Rules Committee meeting. This language mirrors the language used for Policy Committees Charter III, Section G

Commented [NML22]: Staff proposed language based on discussion at July 15, 2019 Agenda & Rules Committee meeting.

III. AGENDA

III. AGENDA

A. Declaration of Policy

No ordinance, resolution, or item of business shall be introduced, discussed or acted upon before the Council at its meeting without prior thereto its having been published on the agenda of the meeting and posted in accordance with Section III.D.2. Exceptions to this rule are limited to circumstances listed in Section III.D.4.b and items ~~carried over~~ continued from a previous meeting and published on a revised agenda.

Commented [NML23]: Additional clarification

B. Definitions

For purposes of this section, the terms listed herein shall be defined as follows:

1. "Agenda Item" means an item placed on the agenda (on either the Consent Calendar or as a Report For Action) for a vote of the Council by ~~the Mayor or any Councilmember~~ council member, the City Manager, the Auditor, or any board/commission/committee created by the City Council, or any Report For Information which may be acted upon if ~~the Mayor or a Councilmember~~ council member so requests. For purposes of this section, appeals shall be considered action items. All information from the City Manager concerning any item to be acted upon by the Council shall be submitted as a report on the agenda and not as an off-agenda memorandum and shall be available for public review, except to the extent such report is privileged and thus confidential such as an attorney client communication concerning a litigation matter.

~~Council agenda items are limited to a maximum of three Co-Sponsors (in addition to the Primary Author) four Authors and Co-Sponsors, in any combination that includes at least one Author.~~

Commented [NML24]: Must have certainty at the time of submission and throughout the process to properly monitor participation in policy committee meetings per the Brown Act. New language for designation of co-sponsors from the July 15, 2019 Agenda & Rules Committee meeting – removed limitation on when co-sponsors could be added and changed it to limit the addition of co-sponsors to discretion of the primary author.

Authors must be listed in the original item as submitted by the Primary Author. Co-Sponsors may only be added in the following manner:

- In the original item as submitted by the Primary Author
- In a revised item submitted by the Primary Author at the Agenda & Rules Committee
- By verbal request of the Primary Author at the Agenda & Rules Committee
- In a revised item submitted by the Primary Author in Supplemental Reports and Communications Packet #1 or #2
- By verbal or written request of the Mayor or any Councilmember at the Policy Committee meeting or meeting of the full council at which the item is considered

Agenda items shall contain all relevant documentation, including the information listed below, following as applicable:

- a) A descriptive title that adequately informs the public of the subject matter and general nature of the item or report ~~and action requested;~~

III. AGENDA

- b) Whether the matter is to be presented on the Consent Calendar or the Action Calendar or as a Report for Information;
- c) Recommendation of the [City Manager report author that describes the action to be taken on the item](#), if applicable; ~~(these provisions shall not apply to Mayor and Council items.);~~
- d) Fiscal impacts of the recommendation;
- e) A description of the current situation and its effects;
- f) Background information as needed;
- g) Rationale for recommendation;
- h) Alternative actions considered;
- i) For awards of contracts; the abstract of bids and the Affirmative Action Program of the low bidder in those cases where such is required (these provisions shall not apply to Mayor and Council items.);

Commented [NML25]: Required by the Brown Act for all agenda items.

j) Person or persons to contact for further information, with telephone number.

k) Additional information and analysis as required. It is recommended that reports include the ~~recommended~~ points of analysis in the Council Report Guidelines in Appendix B.

Commented [NML26]: SUPP 1 – redundant word deleted

~~j) If the author of any report believes additional background information, beyond the basic report, is necessary to Council understanding of the subject, a separate compilation of such background information may be developed and copies will be available for Council and for public review in the City Clerk Department, and the City Clerk shall provide limited distribution of such background information depending upon quantity of pages to be duplicated. In such case the agenda item distributed with the packet shall so indicate.~~

Commented [NML27]: Outdated. We publish all materials except for the full administrative record of ZAB appeal.

2. "Author" means the Mayor or other Councilmembers who actually authored an item by contributing to the ideas, research, writing or other material elements.

3. "Primary Author" means the Mayor or Councilmember first Author listed on the item. The Primary Author is the sole contact for the City Manager with respect to the item. Communication with other Authors and Co-Sponsors, if any, is the responsibility of the Primary Author. ~~the Mayor or Councilmember that initiated, authored, and submitted a council agenda item.~~

34. "Co-Sponsor" means the Mayor or other Councilmembers who wish to indicate their strong support for the item, but are not Authors, and are designated by the Primary Author to be co-sponsors of the council agenda item.

III. AGENDA

1.4. "Agenda" means the compilation of the descriptive titles of agenda items submitted to the City Clerk, arranged in the sequence established in Section III.E hereof.

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2.5. "Packet" means the agenda plus all its corresponding duplicated agenda items.

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3.6. "Emergency Matter" arises when prompt action is necessary due to the disruption or threatened disruption of public facilities and a majority of the Council determines that:

1-a) A work stoppage or other activity which severely impairs public health, safety, or both;

2-b) A crippling disaster, which severely impairs public health, safety or both. Notice of the Council's proposed consideration of any such emergency matter shall be given in the manner required by law for such an emergency pursuant to Government Code Section 54956.5.

4.7. "Continued Business" Items carried over from a prior agenda of a meeting occurring less than 11 days earlier, as uncompleted items.

5.8. "Old Business" Items carried over from a prior agenda of a meeting as uncompleted items occurring more than 11 days earlier.

Commented [NML28]: Per Open Government Ordinance

C. Procedure for Bringing Matters Before City Council

a) 1. Persons Who Can Place Matters on the Agenda.

Matters may be placed on the agenda by the Mayor or any Councilmember, the City Manager, the Auditor, or any board/commission/committee created by the City Council. All items, other than board and commission items shall be subject to review by the Agenda & Rules Committee, which shall be a standing committee of the City Council. The Agenda Committee shall consist of the Mayor and two councilmembers, nominated by the Mayor and approved by the Council. A third council member, nominated by the Mayor and approved by the Council, will serve as an alternate on the Committee in the event that an Agenda Committee member cannot attend a meeting.

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Commented [NML29]: Superseded by policy committee section below

The Agenda & Rules Committee shall meet 15 days prior to each City Council meeting and shall approve the agenda of that City Council meeting. Pursuant to BMC Section 1.04.080, if the 15th day prior to the Council meeting falls on a holiday, the Committee will meet the next business day. The Agenda & Rules Committee packet, including a draft agenda and Councilmember, Auditor, and Commission reports shall be distributed by 5:00 p.m. 4 days before the Agenda & Rules Committee meeting.

Commented [NML30]: Clarification

The Agenda Committee shall have the powers set forth below.

III. AGENDA

~~4. Items Authored by a Councilmember or the Auditor. As to items authored by the Mayor, a Councilmember, or the Auditor, the Agenda Committee shall review the item and may recommend that the matter be referred to a commission, to the City Manager, or back to the author for adherence to required form or for additional analysis as required in Section III.B.2, or suggest other appropriate action including scheduling the matter for a later meeting to allow for appropriate revisions.~~

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~~The author of a "referred" item must inform the City Clerk within 24 hours of the adjournment of the Agenda Committee meeting whether he or she prefers to: 1) hold the item for a future meeting pending modifications as suggested by the Committee; 2) have the item appear on the Council agenda under consideration as originally submitted; 3) pull the item completely; or 4) re-submit the item with revisions as requested by the Agenda Committee within 24 hours of the adjournment of the Agenda Committee meeting for the Council agenda under consideration.~~

Commented [NML31]: Current practice

~~In the event that the City Clerk does not receive guidance from the author of the referred item within 24 hours of the Agenda Committee's adjournment, the recommendation of the Agenda Committee will take effect.~~

~~Items held for a future meeting to allow for modifications will be placed on the next available Council meeting agenda at the time that the revised version is submitted to the City Clerk. If changes made to the item extend beyond the scope of the Agenda Committee referral recommendations, the item must be re-submitted as a new Council item.~~

Commented [NML32]: Unecessary. If the item is being submitted for a future meeting, it is a "new" item.

~~For authors of referred items that select option 2) above, the referred item will automatically be placed at the end of the Action Calendar under the heading "Referred Items". The Agenda Committee shall specify the reason for the referral from the categories listed below. This reason shall be printed with the item on the agenda.~~

Commented [NML33]: No longer needed with the policy committee system.

- ~~Reason 1 — Significant Lack of Background or Supporting Information~~
- ~~Reason 2 — Significant Grammatical or Readability Issues~~

~~The Agenda & Rules Committee shall have the powers set forth below.~~

Commented [NML34]: SUPP 1 – change as described in the Supp 1 Cover Memo

III. AGENDA

a) **Items Authored by the Mayor, a Councilmember, or the Auditor.** As to items authored by the Mayor, a Councilmember, or the Auditor, the Agenda & Rules Committee shall review the item and may take the following actions:

- i. Refer the item to a commission for further analysis (Primary Author may decline and request Policy Committee assignment).
- ii. Refer the item to the City Manager for further analysis (Primary Author may decline and request Policy Committee assignment).
- iii. Refer the item back to the author for adherence to required form or for additional analysis as required in Section III.B.1, (Primary Author may decline and request Policy Committee assignment).
- iv. Refer the item to a Policy Committee.
- v. Schedule the item for the agenda under consideration or one of the next three full Council agendas.

For referrals under Chapter III.C.1.a.iii the Primary Author must inform the City Clerk within 24 hours of the adjournment of the Agenda & Rules Committee meeting whether they prefer to:

- 1) re-submit the item for a future meeting with modifications as suggested by the Agenda & Rules Committee; or
- 2) pull the item completely; or
- 3) re-submit the item with revisions as requested by the Agenda & Rules Committee within 24 hours of the adjournment of the Agenda & Rules Committee meeting for the Council agenda under consideration; or
- 4) accept the referral of the Agenda & Rules Committee in sub paragraphs i, ii, or iii.

If the Primary Author requests a Policy Committee assignment, the item will appear on the next draft agenda presented to the Agenda & Rules Committee for assignment.

In the event that the City Clerk does not receive guidance from the Primary Author of the referred item within 24 hours of the Agenda & Rules Committee's adjournment, the item will appear on the next draft agenda for consideration by the Agenda & Rules Committee.

III. AGENDA

Items held for a future meeting to allow for modifications will be placed on the next available Council meeting agenda at the time that the revised version is submitted to the City Clerk.

a)b) Items Authored by the City Manager. The Agenda Committee~~Agenda & Rules Committee~~ shall review agenda descriptions of items authored by the City Manager. The Committee can recommend that the matter be referred to a commission or back to the City Manager for adherence to required form, additional analysis as required in Section III.B.2, or suggest other appropriate action including scheduling the matter for a later meeting to allow for appropriate revisions.

If the City Manager determines that the matter should proceed notwithstanding the Agenda Committee~~Agenda & Rules Committee~~'s action, it will be placed on the agenda as directed by the Manager. All City Manager items placed on the Council agenda against the ~~referral~~ recommendation of the Agenda Committee~~Agenda & Rules Committee~~ ~~of revised items that have not been resubmitted to the Agenda Committee~~ will automatically be placed on the Action Calendar.

2-c) Items Authored by Boards and Commissions. Council items submitted by boards and commissions are subject to City Manager review and must follow procedures and timelines for submittal of reports as described in the Commissioners' Manual. The content of commission items is not subject to review by the Agenda Committee~~Agenda & Rules Committee~~.

i) For a commission item that does not require a companion report from the City ~~Manager~~Manager, the Agenda Committee~~Agenda & Rules Committee~~ may act on an agendized commission report in the following manner:

a-1. Move a commission report from the Consent Calendar to the Action Calendar or from the Action Calendar to the Consent Calendar.

b-2. Re-schedule the commission report to appear on one of the next three regular Council meeting agendas that occur after the regular meeting under consideration. Commission reports submitted in response to a Council referral shall receive higher priority for scheduling.

c-3. Allow the item to proceed as submitted.

ii) For any commission report that requires a companion report, the Agenda Committee~~Agenda & Rules Committee~~ ~~may~~will schedule the item on a Council agenda. The Committee must schedule the the commission item for a meeting occurring not sooner than 60 days and not later than 120 days from the date of the meeting under consideration by the Agenda Committee~~Agenda & Rules Committee~~. A commission

Commented [NML35]: Inconsistent with current practices. Staff reports are still in review and are not printed in the Agenda & Rules Committee packet.

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III. AGENDA

report submitted with a complete companion report may be scheduled pursuant to subparagraph c.i. above.

~~3-d)~~ The Agenda Committee~~Agenda & Rules Committee~~ shall have the authority to re-order the items on the Action Calendar regardless of the default sequence prescribed in Chapter III, Section E ~~of the Rules of Procedures and Order~~.

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~~b)2.~~ **Scheduling Public Hearings Mandated by State, Federal, or Local Statute.**

The City Clerk may schedule a public hearing at an available time and date in those cases where State, Federal or local statute mandates the City Council hold a public hearing.

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~~e)3.~~ **Submission of Agenda Items.**

~~1-a)~~ **City Manager Items.** Except for Continued Business and Old Business, as a condition to placing an item on the agenda, agenda items from departments, including agenda items from commissions, shall be furnished to the City Clerk at a time established by the City Manager.

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~~2-b)~~ **Council and Auditor Items.** The deadline for reports submitted by the Auditor, Mayor and City Council is 5:00 p.m. on Monday, 22 days before each Council meeting.

~~3-c)~~ **Time Critical Items.** A Time Critical item is defined as a matter that is considered urgent by the sponsor and that has a deadline for action that is prior to the next meeting of the Council and for which a report prepared by the City Manager, Auditor, Mayor or ~~Councilmember~~council member is received by the City Clerk after established deadlines and is not included on the ~~Agenda Committee~~Agenda & Rules Committee's published agenda.

The author of the report shall bring any reports submitted as Time Critical to the meeting of the ~~Agenda Committee~~Agenda & Rules Committee. Time Critical items must be accompanied by complete reports and statements of financial implications. If the ~~Agenda Committee~~Agenda & Rules Committee finds the matter to meet the definition of Time Critical, the ~~Agenda Committee~~Agenda & Rules Committee may place the matter on the Agenda on either the Consent or Action Calendar.

~~4-d)~~ The City Clerk may not accept any agenda item after the adjournment of the ~~Agenda Committee~~Agenda & Rules Committee meeting, except for items carried over by the City Council from a prior City Council meeting occurring less than 11 days earlier, which may include supplemental or revised reports, and reports concerning actions taken by boards and commissions that are required by law or ordinance to be presented to the Council within a deadline that does not permit compliance with the agenda timelines in BMC Chapter 2.06 or these rules.

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d)4. **Submission of Supplemental and Revised Agenda Material.**

Berkeley Municipal Code Section 2.06.070 allows for the submission of supplemental and revised agenda material. Supplemental and revised material cannot be substantially new or only tangentially related to an agenda item. Supplemental material must be specifically related to the item in the Agenda Packet. Revised material should be presented as revised versions of the report or item printed in the Agenda Packet. Supplemental and revised material may be submitted for consideration as follows:

a) Supplemental and revised agenda material shall be submitted to the City Clerk no later than 5:00 p.m. seven calendar days prior to the City Council meeting at which it is to be considered. Supplemental and revised items that are received by the deadline shall be distributed to Council in a supplemental reports packet and posted to the City's website no later than 5:00 p.m. five calendar days prior to the meeting. Copies of the supplemental packet shall also be made available in the office of the City Clerk and in the main branch of the Berkeley Public Library. Such material may be considered by the Council without the need for a determination that the good of the City clearly outweighs the lack of time for citizen review or City Council-member evaluation.

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b) Supplemental and revised agenda material submitted to the City Clerk after 5:00 p.m. seven days before the meeting and no later than 12:00 p.m. one day prior to the City Council meeting at which it is to be considered shall be distributed to Council in a supplemental reports packet and posted to the City's website no later than 5:00 p.m. one day prior to the meeting. Copies of the supplemental packet shall also be made available in the office of the City Clerk and in the main branch of the Berkeley Public Library. Such material may be considered by the Council without the need for a determination that the good of the City clearly outweighs the lack of time for citizen review or City Council evaluation.

Commented [NML36]: Per Open Government Ordinance

1.

2.c) After 5:12:00 p.m. ~~seven~~ one calendar days prior to the meeting, supplemental or revised reports may be submitted for consideration by delivering a minimum of 42 copies of the supplemental/revised material to the City Clerk for distribution at the meeting. Each copy must be accompanied by a completed supplemental/revised material cover page, using the form provided by the City Clerk. Revised reports must reflect a comparison with the original item using track changes formatting. The material may be considered only if the City Council, by a two-thirds roll call vote, makes a factual determination that the good of the City clearly outweighs the lack of time for citizen review or City Council-member evaluation of the material. Supplemental and revised material must be distributed and a factual determination made prior to the commencement of public comment on the agenda item in order for the material to be considered.

III. AGENDA

e)5. Scheduling a Presentation.

~~Presentations from staff are either submitted as an Agenda Item or are requested by the City Manager. Presentations from outside agencies and the public are coordinated with the Mayor's Office. The Agenda & Rules Committee may adjust the schedule of presentations as needed to best manage the Council Agenda. The Agenda & Rules Committee may request a presentation by staff in consultation with the City Manager.~~

Commented [NML37]: Reflects current practice, which is much less formal than deleted text.

Commented [NML38]: SUPP 1 – Reflects current practice.

~~Any request for a presentation to the Council will be submitted as an agenda item and follow the time lines for submittal of agenda reports. The agenda item should include general information regarding the purpose and content of the presentation; information on the presenters; contact information; and the length of the presentation. The request may state a preference for a date before the Council. The Agenda Committee will review the request and recommend a presentation date and allotted time based on the Council's schedule.~~

~~The City Clerk will notify the presenters of the date and time of the presentation and will coordinate use of any presentation equipment and receipt of additional written material.~~

i.D. Packet Preparation and Posting

a)1. Preparation of the Packet.

Not later than the thirteenth day prior to said meeting, the City Clerk shall prepare the packet, which shall include the agenda plus all its corresponding duplicated agenda items. No item shall be considered if not included in the packet, except as provided for in Section III.C.4 and Section III.D.4. ~~Reports carried over, as Continued Business or Old Business need not be reproduced again.~~

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Commented [NML39]: Inconsistent with OGO

b)2. Distribution and Posting of Agenda.

- a) The City Clerk shall post each agenda of the City Council regular meeting no later than 11 days prior to the meeting and shall post each agenda of a special meeting at least 24 hours in advance of the meeting in the official bulletin board. The City Clerk shall maintain an affidavit indicating the location, date and time of posting each agenda.
- b) The City Clerk shall also post agendas and annotated agendas of all City Council meetings and notices of public hearings on the City's website.
- c) No later than 11 days prior to a regular meeting, copies of the agenda shall be mailed by the City Clerk to any resident of the City of Berkeley who so requests in writing. Copies shall also be available free of charge in the City Clerk Department.

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e)3. Distribution of the Agenda Packet.

The Agenda Packet shall consist of the Agenda and all supporting documents for agenda items. No later than 11 days prior to a regular meeting, the City Clerk shall:

- i.a)** distribute the Agenda Packet to each member of the City Council;

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III. AGENDA

- ~~ii-b)~~ post the Agenda Packet to the City's website;
- ~~iii-c)~~ place copies of the Agenda Packet in viewing binders in the office of the City Clerk and in the main branch of the Berkeley Public Library; and
- ~~iv-d)~~ make the Agenda Packet available to members of the press.

~~d)4.~~ **Failure to Meet Deadlines.**

- a) The City Clerk shall not accept any agenda item or revised agenda item after the deadlines established.
- b) Matters not included on the published agenda may be discussed and acted upon as otherwise authorized by State law or providing the Council finds one of the following conditions is met:
 - ~~a-e)~~ A majority of the Council determines that the subject meets the criteria of "Emergency" as defined in Section III.B.5.
 - ~~b-e)~~ Two thirds of the Council determines that there is a need to take immediate action and that the need for action came to the attention of the City subsequent to the posting of the agenda as required by law.
- c) Matters listed on the printed agenda but for which supporting materials are not received by the City Council on the eleventh day prior to said meeting as part of the agenda packet, shall not be discussed or acted upon.

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E. Agenda Sequence and Order of Business

The Council agenda for a regular business meeting is to be arranged in the following order:

- ~~a)1.~~ Preliminary Matters: (Ceremonial, Comments from the City Manager, Comments from the City Auditor, Non-Agenda Public Comment)
- ~~b)2.~~ Consent Calendar
- ~~c)3.~~ Action Calendar
 - ~~1-a)~~ Appeals
 - ~~2-b)~~ Public Hearings
 - ~~3-c)~~ Continued Business
 - ~~4-d)~~ Old Business
 - ~~5-e)~~ New Business
 - ~~6.~~ Referred Items
- ~~4.~~ Information Reports
- ~~d)5.~~ Non-Agenda Public Comment
- ~~e)6.~~ Adjournment Communications
- ~~f)7.~~ Communications Adjournment

Commented [NML40]: Edits to reflect current order

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III. AGENDA

Action items may be reordered at the discretion of the Chair with the consent of Council.

The [Agenda Committee](#) shall have the authority to re-order the items on the Action Calendar regardless of the default sequence prescribed in this section.

F. Closed Session Documents

This section establishes a policy for the distribution of, and access to, confidential closed session documents by the Mayor and Members of the City Council.

i)1. Confidential closed session materials shall be kept in binders numbered from one to nine and assigned to the Mayor (#9) and each Councilmember (#1 to #8 by district). The binders will contain confidential closed session materials related to Labor Negotiations, Litigation, and Real Estate matters.

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ii)2. The binders will be maintained by City staff and retained in the Office of the City Attorney in a secure manner. City staff will bring the binders to each closed session for their use by the Mayor and Councilmembers. At other times, the binders will be available to the Mayor and Councilmembers during regular business hours for review in the City Attorney's Office. The binders may not be removed from the City Attorney's Office or the location of any closed session meeting by the Mayor or Councilmembers. City staff will collect the binders at the end of each closed session meeting and return them to the City Attorney's Office.

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iii)3. Removal of confidential materials from a binder is prohibited.

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iv)4. Duplication of the contents of a binder by any means is prohibited.

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v)5. Confidential materials shall be retained in the binders for at least two years.

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vi)6. This policy does not prohibit the distribution of materials by staff to the Mayor and Councilmembers in advance of a closed session or otherwise as needed, but such materials shall also be included in the binders unless it is impracticable to do so.

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[G. Regulations Governing City Council Policy Committees](#)

Commented [NML41]: Regulations from the Policy Committee resolution are inserted in red text; changes to the resolution language are in track changes

1A. Legislative Item Process

All agenda items begin with submission to the [Agenda Committee](#).

III. AGENDA

Full Council Track

Items under this category are exempt from ~~Agenda Committee~~ Agenda & Rules Committee discretion to refer them to a Policy Committee. Items in this category may be submitted for the agenda of any scheduled regular meeting pursuant to established deadlines (same as existing deadlines). Types of Full Council Track items are listed below.

- 4.a. Items submitted by the City Manager and City Auditor
- 5.b. Items submitted by Boards and Commissions
- 6.c. Resolutions on Legislation and Electoral Issues relating to Outside Agencies/Jurisdictions
- 7.d. Position Letters ~~and/or Resolutions~~ of Support/Opposition
- 8.e. Donations from ~~the Mayor and~~ Councilmember District Office Budgets
- 9.f. Referrals to the Budget Process
- 10.g. Proclamations
- 11.h. Sponsorship of Events
- 12.i. Information Reports
- 13.j. Presentations from Outside Agencies and Organizations
- k. Ceremonial Items
- 14.l. ~~Committee~~ and Regional Body Appointments

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Commented [NML42]: Clarification

~~Notwithstanding the exemption stated above, the Agenda Committee, at its discretion, may route a Full Council Track item submitted by a Councilmember to a policy committee if the item has 1) a significant lack of background or supporting information, or 2) significant grammatical or readability issues.~~

Commented [NML44]: Change made at September 16, 2019 Agenda & Rules Committee; integrated into next paragraph

~~The ~~Agenda Committee~~ Agenda & Rules Committee has discretion to determine if an item submitted by the Mayor or a Councilmember falls under a Full Council Track exception or if it will be processed as a Policy Committee Track item. If an item submitted by the Mayor or a Councilmember has 1) a significant lack of background or supporting information, or 2) significant grammatical or readability issues the Agenda & Rules committee may refer the item to a Policy Committee.~~

Commented [NML45]: SUPP 1 – this sentence is unnecessary given the current authority of the Agenda & Rules Committee to refer any item to a policy committee

Policy Committee Track

Items submitted by the Mayor or Councilmembers with moderate to significant administrative, operational, budgetary, resource, or programmatic impacts will go first to the ~~Agenda Committee~~ Agenda & Rules Committee on a draft City Council agenda (on a list).

Commented [NML46]: Clarification

~~The ~~Agenda Committee~~ Agenda & Rules Committee must refer an item to a Policy Committee at the first meeting that the item appears before the ~~Agenda-~~~~

III. AGENDA

~~Committee~~Agenda & Rules Committee. ~~The Agenda Committee~~Agenda & Rules Committee may only assign the item to a single ~~Policy~~Policy ~~Committee~~Committee.

For a Policy Committee Track item, the ~~Agenda Committee~~Agenda & Rules Committee, at its discretion, may either route item directly to 1) the agenda currently under consideration, 2) one of the next three full Council Agendas (based on completeness of the item, lack of potential controversy, minimal impacts, etc.), or 3) to a ~~Policy~~Policy ~~Committee~~Committee.

Time Critical Track

A Time Critical item is defined as a matter that is considered urgent by the sponsor and that has a deadline for action that is prior to the next meeting of the Council and for which a report prepared by the Mayor or ~~Councilmember~~council member is received by the City Clerk after established deadlines and is not included on the ~~Agenda Committee~~Agenda & Rules Committee's published agenda.

The ~~Agenda Committee~~Agenda & Rules Committee retains final discretion to determine the time critical nature of an item.

- a) Time Critical items submitted on the Full Council Track deadlines, that would otherwise be assigned to the Policy Committee Track, may bypass ~~Policy~~Policy ~~Committee~~Committee review if determined to be time critical. If such an item is deemed not to be time critical, it ~~may~~will be referred to a Policy Committee.
- b) Time Critical items on the Full Council Track or Policy Committee Track that are submitted at a meeting of the ~~Agenda Committee~~Agenda & Rules Committee may go directly on a council agenda if determined to be time critical.

B2. Council Referrals to Committees

The full Council may refer any agenda item to a ~~Policy~~Policy ~~Committee~~Committee by majority vote.

3. Participation Rules for Policy Committees Pursuant to the Brown Act

- a. ~~The quorum of a three-member~~Policy ~~Committee~~Committee is always two members. A majority vote of the committee (two 'yes' votes) is required to pass a motion.
- b. Two Policy Committee members may not discuss any item that has been referred to the Policy Committee outside of an open and noticed meeting.
- c. Notwithstanding paragraph (b) above, two members of a Policy Committee may ~~co-author~~be listed as Authors or Co-Sponsors on an item provided that one of the ~~Authors or Co-Sponsors will not serve as a committee member for consideration of the item, and shall not participate in the committee's discussion of, or action on the item. For purposes of the item, the appointed alternate, who also can not be an Author or Co-Sponsor.~~will serve as a committee member in place of the non-participating ~~co-author~~Author or Co-Sponsor.

Commented [NML47]: New requirements due to re-evaluation of Brown Act applicability to policy committees

III. AGENDA

d. All three members of a Policy Committee may not be ~~co-authors~~ Authors or Co-Sponsors of an item that will be heard by the committee.

e. Only one ~~co~~ Author or Co-Sponsor who is not a member of the Policy Committee may attend the committee meeting to participate in discussion of the item.

f. If two or more non-committee members are present for any item or meeting, then all non-committee members may act only as observers and may not participate in discussion. If an author who is not a member of the committee is present to participate in the discussion of their item, no other non-committee member Councilmembers, nor the Mayor, may attend as observers.

Commented [NML48]: SUPP 1 – added for clarification

Commented [NML49]: SUPP 1 – added for clarification

g. An item may be considered by only one Policy Committee before it goes to the full Council.

C4. Functions of the Committees

Committees shall have the following qualities/components:

- a. All committees are Brown Act bodies with noticed public meetings and public comment. Regular meeting agendas will be posted at least 72 hours in advance of the meeting.
- b. Minutes shall be available online.
- c. Committees shall adopt regular meeting schedules, generally meeting once or twice per month; special meetings may be called when necessary, in accordance with the Brown Act.
- d. Generally, meetings will be held at 2180 Milvia Street in publicly accessible meeting rooms that can accommodate the committee members, public attendees, and staff.
- e. Members are recommended by the Mayor and approved by the full Council no later than January 31 of each year. Members continue to serve until successors are appointed and approved.

f. Chairs are elected by the Committee at the first regular meeting of the Committee after the annual approval of Committee members by the City Council. In the absence of the Chair, the committee member with the longest tenure on the Council will preside.

~~f-g.~~ The Chair, or a quorum of the Committee may call a meeting or cancel a meeting of the Policy Committee.

Commented [NML50]: Clarification of authority; reflects Charter

g-h. Committees will review items for completeness in accordance with Section III.B.2 of the City Council Rules of Procedure and Order and alignment with Strategic Plan goals.

III. AGENDA

i. Reports leaving a Policy Committee must adequately include budget implications, administrative feasibility, basic legal concerns, and staff resource demands in order to allow for informed consideration by the full Council.

h.i. ~~Per Brown Act regulations, any such revised or supplemental materials must be direct revisions or supplements to the item that was published in the agenda packet.~~

Commented [NML51]: Added for transparency and to avoid violations arising from submission of materials only tangentially related to the agendized items

Commented [NML52]: SUPP 1 – added for clarification

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Items referred to a Policy Committee from the ~~Agenda Committee~~ Agenda & Rules Committee or from the City Council must be agendized for a committee meeting within 60 days of the referral date.

Within 120 days of the referral date, the committee must vote to either (1) accept the author's request that the item remain in committee until a date certain (more than one extension may be requested by the author); or (2) send the item to the ~~Agenda Committee~~ Agenda & Rules Committee to be placed on a Council Agenda with a Committee recommendation consisting of one of the four options listed below.

1. Positive Recommendation (recommending Council pass the item as proposed),
2. Qualified Positive Recommendation (recommending Council pass the item with some changes),
3. Qualified Negative Recommendation (recommending Council reject the item unless certain changes are made) or
4. Negative Recommendation (recommending the item not be approved).

The Policy Committee's ~~will include their~~ recommendation will be included in a new separate section of the report template for that purpose.

~~A Policy Committee may not refer an item under its consideration to a city board or commission.~~

Commented [NML53]: Clarification of authority. Commissions are advisory to the Full Council

~~The original Council author~~ Primary Author of an item referred to a Policy Committee is responsible for revisions and resubmission of the item back to the full Council. Items originating from the City Manager are revised and submitted by the appropriate city staff. Items from Commissions are revised and resubmitted by the members of the Policy Committee. Items and Recommendations originating from the Policy Committee are submitted to the ~~agenda process~~ City Clerk by the members of the committee.

Commented [NML54]: Clarification of responsibility for shepherding items through process

Commented [NML55]: SUPP 1 – added for clarification

~~A policy committee may refer an item to another policy committee for review. The total time for review by all policy committees is limited to the initial 120-day deadline.~~

Commented [NML56]: Inconsistent with Brown Act – review by two committees would result in an illegal serial meeting

If a Policy Committee does not take final action by the 120-day deadline, the item is returned to the ~~Agenda Committee~~ Agenda & Rules Committee and appears on the next available Council agenda. ~~The Agenda Committee~~ Agenda & Rules Committee may leave

III. AGENDA

the item on the agenda under consideration or place it on the next Council agenda. Items appearing on a City Council agenda due to lack of action by a Policy Committee may not be referred to a Policy Committee and must remain on the full Council agenda for consideration.

Commented [NML57]: Closes "endless loop" loophole

Policy Committees may add discussion topics that are within their purview to their agenda with the concurrence of a majority of the Committee. These items are not subject to the 120-day deadline for action. Non-legislative or discussion items may be added to the Policy Committee agenda by members of the Committee with the concurrence of a quorum of the Committee.

Commented [NML58]: SUPP 1 – This paragraph was re-worded for clarity

Once the item is voted out of a Policy Committee, the final item will be resubmitted to the agenda process by the author, and it will return to the Agenda Committee Agenda & Rules Committee on the next available agenda. The Agenda Committee Agenda & Rules Committee may leave the item on the agenda under consideration or place it on the following Council agenda. Only items that receive a Positive Recommendation can be placed on the Consent Calendar.

Commented [NML59]: Clarification

The lead author may request expedited committee review for items referred to a committee. Criteria for expedited review is generally to meet a deadline for action (e.g. grant deadline, specific event date, etc.). If the committee agrees to the request, the deadline for final committee action is 45 days from the date the committee approves expedited review item first appeared on the committee agenda.

5D. Number and Make-up of Committees

Six committees are authorized, each comprised of three Councilmembers, with a fourth Councilmember appointed as an alternate. Each Councilmember and the Mayor will serve on two committees. The Mayor shall be a member of the Agenda and Rules Committee. The committees are as follows:

Commented [NML60]: This will allow two members of a policy committee to co-author an item. The Alternate will substitute for one of the co-authors while the item is heard by the policy committee.

SUPP 1 – comma added after Councilmembers

1. Agenda and Rules Committee
2. Budget and Finance Committee
3. Facilities, Infrastructure, Transportation, Environment, and Sustainability
4. Health, Life Enrichment, Equity, and Community
5. Land Use, Housing, and Economic Development
6. Public Safety

The Agenda Committee Agenda & Rules Committee shall establish the Policy Committee topic groupings, and may adjust said groupings periodically thereafter in order to evenly distribute expected workloads of various committees.

III. AGENDA

All standing Policy Committees of the City Council are considered "legislative bodies" under the Brown Act and must conduct all business in accordance with the Brown Act.

Commented [NML61]: Clarification

6E. Role of City Staff at Committee Meetings

Committees will be staffed by appropriate City Departments and personnel. As part of the committee process, staff will undertake a high-level, preliminary analysis of potential legal issues, costs, timelines, and staffing demands associated with the item. Staff analysis at the Policy Committee level is limited to the points above as the recommendation, program, or project has not yet been approved to proceed by the full Council.

IV. CONDUCT OF MEETING

A. Comments from the Public

Public comment will be taken in the following order:

- An initial ten-minute period of public comment on non-agenda items, after the commencement of the meeting and immediately after Ceremonial Matters and City Manager Comments.
- Public comment on the Consent and Information Calendars.
- Public comment on action items, appeals and/or public hearings as they are taken up under procedures set forth in the sections governing each below.
- Public comment on non-agenda items from any speakers who did not speak during the first round of non-agenda public comment at the beginning of the meeting.

Speakers are permitted to yield their time to one other speaker, however no one speaker shall have more than four minutes. A speaker wishing to yield their time shall [stand and identify themselves](#), shall be recognized by the chair, and announce publicly their intention to yield their time. Disabled persons shall have priority seating in the front row of the public seating area.

A member of the public may only speak once at public comment on any single item, unless called upon by the Mayor or a Councilmember to answer a specific inquiry.

~~7.1.~~ **Public Comment on Consent Calendar and Information Items.**

The Council will first determine whether to move items on the agenda for “Action” or “Information” to the “Consent Calendar,” or move “Consent Calendar” items to “Action.” Items that remain on the “Consent Calendar” are voted on in one motion as a group. “Information” items are not discussed or acted upon at the Council meeting unless they are moved to “Action” or “Consent.”

The Council will then take public comment on any items that are either on the amended Consent Calendar or the Information Calendar. A speaker may only speak once during the period for public comment on Consent Calendar and Information items. No additional items can be moved onto the Consent Calendar once public comment has commenced.

At any time during, or immediately after, public comment on Information and Consent items, [the Mayor or](#) any Councilmember may move any Information or Consent item to “Action.” Following this, the Council will vote on the items remaining on the Consent Calendar in one motion.

For items moved to the Action Calendar from the Consent Calendar or Information Calendar, persons who spoke on the item during the Consent Calendar public comment period may speak again at the time the matter is taken up during the Action Calendar.

IV. CONDUCT OF MEETING

2. Public Comment on Action Items.

After the initial ten minutes of public comment on non-agenda items and public comment and action on consent items, the public may comment on each remaining item listed on the agenda for action as the item is taken up.

The Presiding Officer will request that persons wishing to speak, line up at the podium to be recognized and to determine the number of persons interested in speaking at that time.

If ten or fewer persons are interested in speaking, each speaker may speak for two minutes. If there are more than ten persons interested in speaking, the Presiding Officer may limit the public comment for all speakers to one minute per speaker. Speakers are permitted to yield their time to one other speaker, however no one speaker shall have more than four minutes.

[This procedure also applies to public hearings except those types of public hearings specifically provided for in this section, below.](#)

Commented [NML62]: SUPP 1 – added for clarification

3. Appeals Appearing on Action Calendar.

With the exception of appeals from decisions of the Zoning Adjustments Board and Landmarks Preservation Commission, appeals from decisions of City commissions appear on the “Action” section of the Council Agenda. Council determines whether to affirm the action of the commission, set a public hearing, or remand the matter to the commission. Appeals of proposed special assessment liens shall also appear on the “Action” section of the Council Agenda. Appeals from decisions of the Zoning Adjustments Board and Landmarks Preservation Commission are automatically set for public hearing and appear on the “Public Hearings” section of the Council Agenda.

Time shall be provided for public comment for persons representing both sides of the action/appeal and each side will be allocated seven minutes to present their comments on the appeal. Where the appellant is not the applicant, the appellants [of a single appeal](#) collectively shall have seven minutes to comment and the applicant shall have seven minutes to comment. [If there are multiple appeals filed, each appellant or group of appellants shall have seven minutes to comment.](#) Where the appellant is the applicant, the applicant/appellant shall have seven minutes to comment and the persons supporting the action of the board or commission on appeal shall have seven minutes to comment. In the case of an appeal of proposed special assessment lien, the appellant shall have seven minutes to comment.

Commented [NML63]: Reflects existing due process standards

After the conclusion of the seven-minute comment periods, members of the public may comment on the appeal. Comments from members of the public regarding appeals shall be limited to one minute per speaker. Any person that addressed the Council during one of the seven-minute periods may not speak again during the public comment period on the appeal. Speakers may yield their time to one other speaker, however, no speaker shall have more than two minutes. Each side shall be informed of this public comment procedure at the time the Clerk notifies the parties of the date the appeal will appear on the Council agenda.

IV. CONDUCT OF MEETING

4. Public Comment on Non Agenda Matters.

Immediately following Ceremonial Matters and the City Manager Comments and prior to the Consent Calendar, persons will be selected by lottery to address matters not on the Council agenda. If five or fewer persons submit speaker cards for the lottery, each person selected will be allotted two minutes each. If more than five persons submit speaker cards for the lottery, up to ten persons will be selected to address matters not on the Council agenda and each person selected will be allotted one minute each. Persons wishing to address the Council on matters not on the Council agenda during the initial ten-minute period for such comment, must submit a speaker card to the City Clerk in person at the meeting location and prior to commencement of that meeting.

The remainder of the speakers wishing to address the Council on non-agenda items will be heard at the end of the agenda. Speaker cards are not required for this second round of public comment on non-agenda matters.

Persons submitting speaker cards are not required to list their actual name, however they must list some identifying information or alternate name in order to be called to speak.

For the second round of public comment on non-agenda matters, the Presiding Officer retains the authority to limit the number of speakers by subject. The Presiding Officer will generally request that persons wishing to speak, line up at the podium to be recognized to determine the number of persons interested in speaking at that time. Each speaker will be entitled to speak for two minutes each unless the Presiding Officer determines that one-minute is appropriate given the number of speakers.

~~According to the current Rules and Procedures~~Pursuant to this document, no Council meeting shall continue past 11:00 p.m. unless a two-thirds majority of the Council votes to extend the meeting to discuss specified items. If any agenda item remains unfinished at 11:00 p.m. or the expiration of any extension after 11:00 p.m., it will be referred to the ~~Agenda Committee~~[Agenda & Rules Committee](#) for scheduling pursuant to Chapter II, Section F. In that event, the meeting shall be automatically extended for up to fifteen (15) minutes for public comment on non-agenda items.

5. Ralph M. Brown Act Pertaining to Public Comments.

The "Brown Act" prohibits the Council from discussing or taking action on an issue raised during Public Comment, unless it is specifically listed on the agenda. However, the Council may refer a matter to the City Manager.

B. Consent Calendar

There shall be a Consent Calendar on all regular meeting agendas on which shall be included those matters which the Mayor, Councilmembers, boards, commissions, City Auditor and City Manager deem to be of such nature that no debate or inquiry will be necessary at the Council meetings. Ordinances for second reading may be included in the Consent Calendar.

IV. CONDUCT OF MEETING

It is the policy of the Council that [the Mayor or Councilmembers](#) wishing to ask questions concerning Consent Calendar items should ask questions of the contact person identified prior to the Council meeting so that the need for discussion of consent calendar items can be minimized.

Consent Calendar items may be moved to the Action Calendar by the Council. Action items may be reordered at the discretion of the Chair with the consent of Council.

C. Information Reports Called Up for Discussion

Reports for Information designated for discussion at the request of [the Mayor or any Councilmember](#) shall be added to the appropriate section of [the Reports for Action Calendar](#) and may be acted upon at that meeting or carried over as pending business until discussed or withdrawn. The agenda will indicate that at the request of [Mayor or any Councilmember](#) a Report for Information may be acted upon by the Council.

D. Written Communications

[Letters](#) [Written communications](#) from the public will not appear on the Council agenda as individual matters for discussion but will be distributed as part of the Council agenda packet with a cover sheet identifying the author and subject matter and will be listed under "Communications." _

All such communications must have been received by the City Clerk no later than 5:00 p.m. fifteen days prior to the meeting in order to be included on the agenda.

In instances where an individual forwards more than three pages of email messages not related to actionable items on the Council agenda to the Council to be reproduced in the "Communications" section of the Council packet, the City Clerk will not reproduce the entire email(s) but instead refer the public to the City's website or a hard copy of the email(s) on file in the City Clerk Department.

All communications shall be simply deemed received without any formal action by the Council. [The Mayor or Any Councilmember](#) may refer a communication to [staff](#) [the City Manager](#) for action, if appropriate, or prepare a consent or action item for placement on a future agenda.

[Communications related to an item on the agenda that are received after 5:00 p.m. fifteen days before the meeting are published as provided for in Chapter III.C.4.](#)

E. Public Hearings for Land Use, Zoning, Landmarks, and Public Nuisance Matters

The City Council, in setting the time and place for a public hearing, may limit the amount of time to be devoted to public presentations. Staff shall introduce the public hearing item and present their comments.

Following any staff presentation, each member of the City Council shall verbally disclose all ex parte contacts concerning the subject of the hearing. Members shall also submit a report of such contacts in writing prior to the commencement of the hearing. Such reports shall include a brief statement describing the name, date, place, and content of the contact. Written reports shall be available for public review

Commented [NML64]: SUPP 1 – Clarification and updating of language

Commented [NML65]: Clarification per OGO

IV. CONDUCT OF MEETING

in the office of the City Clerk prior to the meeting and placed in a file available for public viewing at the meeting.

This is followed by five-minute presentations each by the appellant and applicant. Where the appellant is not the applicant, the appellants of a single appeal collectively shall have five minutes to comment and the applicant shall have five minutes to comment. If there are multiple appeals filed, each appellant or group of appellants shall have five minutes to comment. Where the appellant is the applicant, the applicant/appellant shall have five minutes to comment and the persons supporting the action of the board or commission on appeal shall have five minutes to comment. In the case of a public nuisance determination, the representative(s) of the subject property shall have five minutes to present.

Commented [NML66]: Same as above

The Presiding Officer will request that persons wishing to speak, line up at the podium to be recognized and to determine the number of persons interested in speaking at that time.

If ten or fewer persons are interested in speaking, each speaker may speak for two minutes. If there are more than ten persons interested in speaking, the Presiding Officer may limit the public comment for all speakers to one minute per speaker. Any person that addressed the Council during one of the five-minute periods may not speak again during the public comment period on the appeal. Speakers are permitted to yield their time to one other speaker, however no one speaker shall have more than four minutes. The Presiding Officer may with the consent of persons representing both sides of an issue allocate a block of time to each side to present their issue.

Commented [NML67]: Current practice. Matches existing language for appeals above.

F. Work Sessions

The City Council may schedule a matter for general Council discussion and direction to staff. Official/formal action on a work session item will be scheduled on a subsequent agenda under the Action portion of the Council agenda.

In general, public comment at Council work sessions will be heard after the staff presentation, for a limited amount of time to be determined by the Presiding Officer.

The Presiding Officer will request that persons wishing to speak, line up at the podium to be recognized and to determine the number of persons interested in speaking at that time. If ten or fewer persons are interested in speaking, each speaker may speak for two minutes. If there are more than ten persons interested in speaking, the Presiding Officer may limit the public comment for all speakers to one minute per speaker. Speakers are permitted to yield their time to one other speaker, however no one speaker shall have more than four minutes.

After Council discussion, if time permits, the Presiding Officer may allow additional public comment. During this time, each speaker will receive one minute. Persons who spoke during the prior public comment time may be permitted to speak again.

G. Public Discussions

Commented [NML68]: Unnecessary. A "public discussion" must still occur at a noticed meeting which is regulated by the Brown Act, OGO, and this document.

IV. CONDUCT OF MEETING

~~The City Council may, from time to time, schedule a matter for public discussion and may limit the amount of time to be devoted to said discussions. At the time the public discussion is scheduled, the City Council may seek comment from others if they so determine.~~

H. Protocol

People addressing the Council may first give their name in an audible tone of voice for the record. All remarks shall be addressed to the Council as a body and not to any member thereof. No one other than the Council and the person having the floor shall be permitted to enter into any discussion, either directly or through a member of the Council, without the permission of the Presiding Officer. No question shall be asked of a ~~Councilmember~~council member except through the Presiding Officer.

V. PROCEDURAL MATTERS

A. Persons Authorized to Sit at Tables

No person, except City officials, their representatives and representatives of boards and commissions shall be permitted to sit at the tables in the front of the Council Chambers without the express consent of the Council.

B. Decorum

No person shall disrupt the orderly conduct of the Council meeting. Prohibited disruptive behavior includes but is not limited to shouting, making disruptive noises, such as boos or hisses, creating or participating in a physical disturbance, speaking out of turn or in violation of applicable rules, preventing or attempting to prevent others who have the floor from speaking, preventing others from observing the meeting, entering into or remaining in an area of the meeting room that is not open to the public, or approaching the Council Dais without consent. Any ~~written communications addressed to the Council shall be delivered to the City Clerk for distribution to the Council. message to or contact with any member of the Council while the Council is in session shall be through the City Clerk.~~

Commented [NML69]: Clarification that Clerk forwards written communications only, not verbal messages

C. Enforcement of Decorum

When the public demonstrates a lack of order and decorum, the presiding officer shall call for order and inform the person(s) that the conduct is violating the Rules of Order and Procedure and provide a warning to the person(s) to cease the disruptive behavior. Should the person(s) fail to cease and desist the disruptive conduct, the presiding officer may call a five (5) minute recess to allow the disruptions to cease.

If the meeting cannot be continued due to continued disruptive conduct, the presiding officer may have any law enforcement officer on duty remove or place any person who violates the order and decorum of the meeting under arrest and cause that person to be prosecuted under the provisions of applicable law.

D. Precedence of Motions

When a question ~~or motion~~ is before the Council, ~~no motion shall be entertained~~ except:

Commented [NML70]: SUPP 1 - clarification

~~4-1.~~ To adjourn,

~~5-2.~~ To fix the hour of adjournment,

~~6-3.~~ To lay on the table,

~~7-4.~~ For the previous question,

~~8-5.~~ To postpone to a certain day,

~~9-6.~~ To refer,

~~10-7.~~ To amend,

~~11-8.~~ To substitute, and

V. PROCEDURAL MATTERS

~~12.9.~~ To postpone indefinitely.

These motions shall have precedence in order indicated. Any such motion, except a motion to ~~adjourn, amend, or substitute,~~ shall be put to a vote without debate.

Commented [NML71]: Motion to adjourn is not debatable pursuant to Roberts Rules

E. Roberts Rules of Order

Roberts Rules of Order have been adopted by the City Council and apply in all cases except the precedence of motions in Section V.D shall ~~supercede~~ supersede.

F. Rules of Debate**1. Presiding Officer May Debate.**

The presiding officer may debate from the chair; subject only to such limitations of debate as are by these rules imposed on all members, and shall not be deprived of any of the rights and privileges as a member of the Council by reason of that person acting as the presiding officer.

2. Getting the Floor - Improper References to be avoided.

Members desiring to speak shall address the Chair, and upon recognition by the presiding officer, shall confine themselves to the question under debate.

3. Interruptions.

A member, once recognized, shall not be interrupted when speaking unless it is to call a member to order, or as herein otherwise provided. If a member, while speaking, were called to order, that member shall cease speaking until the question of order is determined, and, if in order, the member shall be permitted to proceed.

4. Privilege of Closing Debate.

The ~~Mayor or Councilmember~~ council member moving the adoption of an ordinance or resolution shall have the privilege of closing the debate. When a motion to call a question is passed, the ~~Mayor or Councilmember~~ council member moving adoption of an ordinance, resolution or other action shall have three minutes to conclude the debate.

5. Motion to Reconsider.

A motion to reconsider any action taken by the Council may be made only during the same session on the day such action is taken. It may be made either immediately during the same session, or at a recessed or adjourned session thereof. Such motion must be made ~~and seconded by a member~~ one of the prevailing sides, and may be made at any time and have precedence over all other motions or while a member has the floor; it shall be debatable. Nothing herein shall be construed to prevent any member of the Council from making or remaking the same or other motion at a subsequent meeting of the Council.

Commented [NML72]: Must happen at the same meeting, not just the same day.

Commented [NML73]: Inconsistent with Roberts Rules. Requiring a seconder to be on the prevailing side could infringe on a single member's right to reconsider their vote.

6. Repeal or Amendment of Action Requiring a Vote of Two-Thirds of Council, or Greater.

Any ordinance or resolution which is passed and which, as part of its terms, requires a vote of two-thirds of the Council or more in order to pass a motion pursuant to such an ordinance or resolution, shall require the vote of the same percent of the Council to repeal or amend the ordinance or resolution.

V. PROCEDURAL MATTERS

G. Debate Limited

1. ~~Except as provided in Section V.F.b hereof, eC~~ Consideration of each matter coming before the Council shall be limited to 20 minutes from the time the matter is first taken up, at the end of which period consideration of such matter shall terminate and the matter shall be dropped to the foot of the agenda, immediately ahead of ~~Good of the City Information Reports~~; provided that either of the following two not debatable motions shall be in order:
 - a) A motion to extend consideration which, if passed, shall commence a new twenty-minute period for consideration; or
 - b) If there are one or more motions on the floor, ~~the a motion for the~~ previous question, which, if passed ~~by a 2/3 vote~~, shall require an immediate vote on pending motions.
2. The time limit set forth in subparagraph ~~a-1~~ hereof shall not be applicable to any public hearing, public discussion, Council discussion or other especially set matter for which a period of time has been specified (in which case such specially set time shall be the limit for consideration) or which by applicable law (e.g. hearings of appeals, etc.), the matter must proceed to its conclusion.
3. In the interest of expediting the business of the City, failure by the Chair or any ~~Councilmember~~~~council member~~ to call attention to the expiration of the time allowed for consideration of a matter, by point of order or otherwise, shall constitute unanimous consent to the continuation of consideration of the matter beyond the allowed time; provided, however, that the Chair or any ~~Councilmember~~~~council member~~ may at any time thereafter call attention to the expiration of the time allowed, in which case the Council shall proceed to the next item of business, unless one of the motions referred to in ~~subparagraph Section a-1D~~ hereof is made and is passed.

Commented [NML74]: SUPP 1 – changes to b) added for clarification

H. Motion to Lay on Table

A motion to lay on the table shall preclude all amendments or debate of the subject under consideration. If the motion shall prevail, the consideration of the subject may be resumed only upon a motion of a member voting with the majority and with consent of two-thirds of the members present.

I. Division of Question

If the question contains two or more propositions, which can be divided, the presiding officer may, and upon request of a member shall, divide the same.

J. Addressing the Council

~~Any person desiring to address the Council shall first secure the permission of the presiding officer to do so.~~ Under the following headings of business, unless the presiding officer rules otherwise, any ~~qualified and~~ interested person shall have the right to address the Council in accordance with the following conditions and upon obtaining recognition by the presiding officer:

Commented [NML75]: Exactly restated later in same paragraph

Commented [NML76]: Not sure what could be meant by "qualified"

1. Written Communications.

V. PROCEDURAL MATTERS

Interested parties or their authorized representatives may address the Council ~~by in the form of~~ written communications in regard to matters of concern to them ~~by submitting their written communications at the meeting, or prior to the meeting pursuant to the deadlines in Chapter III.C.4.~~

~~Communications~~ pertaining to an item on the agenda which are received by the City Clerk after the deadline for inclusion in the Council Agenda packet and through 5:00 p.m. seven calendar days prior to the meeting shall be compiled into a supplemental communications packet. The supplemental communications packet shall be made available to the City Council, public and members of the press no later than five days prior to the meeting.

Commented [NML77]: Described elsewhere and unnecessary here.

~~Communications received by the City Clerk after the aforementioned deadline and by noon on the day of a Council meeting shall be duplicated by the City Clerk and submitted to the City Council at the meeting if related to an item which is on the agenda for that meeting. Communications submitted at the Council meeting will be included in the public viewing binder and in the Clerk Department the day following the meeting.~~

2. **Public Hearings.**

Interested persons or their authorized representatives may address the Council by reading protests, petitions, or communications relating to matters then under consideration.

3. **Public Comment.**

Interested persons may address the Council on any issue concerning City business during the period assigned to Public Comment.

K. Addressing the Council After Motion Made

When a motion is pending before the Council, no person other than ~~the Mayor or a Councilmember~~ council member shall address the Council without first securing the permission of the presiding officer or Council to do so.

VI. FACILITIES

VI. FACILITIES

A. Council Chamber Capacity

~~Council Chamber~~ Attendance at council meetings shall be limited to the posted seating capacity of the meeting location~~thereof~~. Entrance to the ~~City Hall~~ meeting location will be appropriately regulated by the City Manager on occasions when the ~~Council Chamber~~ capacity is likely to be exceeded. While the Council is in session, members of the public shall not remain standing in the ~~Council Chamber~~ meeting room except to address the Council, and sitting on the floor shall not be permitted. ~~The Council proceedings may be conveyed by loudspeaker to those who have been unable to enter the Council Chambers.~~

Commented [NML78]: Updated to reflect new locations of meetings and to not be as specific with regards to meeting locations

B. Alternate Facilities for Council Meetings

The City Council shall approve in advance a proposal that a Council meeting be held at a facility other than the ~~City Council Chambers~~ School District Board Room.

If the City Manager has reason to anticipate that the attendance for a meeting will be substantially greater than the capacity of the ~~City Council Chambers~~ Board Room and insufficient time exists to secure the approval of the City Council to hold the meeting at an alternate facility, the City Manager shall make arrangements for the use of a suitable alternate facility to which such meeting may be recessed and moved, if the City Council authorizes the action.

If a suitable alternate facility is not available, the City Council may reschedule the matter to a date when a suitable alternate facility will be available.

Alternate facilities are to be selected from those facilities previously approved by the City Council as suitable for meetings away from the ~~City Council Chambers~~ Board Room.

C. Signs, Objects, and Symbolic Materials

Objects and symbolic materials such as signs which do not have sticks or poles attached or otherwise create any fire or safety hazards will be allowed within the ~~Council Chamber~~ meeting location during Council meetings.

D. Fire Safety

Exits shall not be obstructed in any manner. Obstructions, including storage, shall not be placed in aisles or other exit ways. Hand carried items must be stored so that such items do not inhibit passage in aisles or other exit ways. Attendees are strictly prohibited from sitting in aisles and/or exit ways. Exit ways shall not be used in any way that will present a hazardous condition.

E. Overcrowding

Admittance of persons beyond the approved capacity of a place of assembly is prohibited. When the ~~Council Chambers~~ meeting location has have reached the posted maximum capacity, additional attendees shall be directed to the designated overflow area.

APPENDIX A. POLICY FOR NAMING AND RENAMING PUBLIC FACILITIES

Purpose

To establish a uniform policy regarding the naming and renaming of existing and future parks, streets, pathways and other public facilities.

Objective

B-A. To ensure that naming public facilities (such as parks, streets, recreation facilities, pathways, open spaces, public building, bridges or other structures) will enhance the values and heritage of the City of Berkeley and will be compatible with community interest.

Section 1 – Lead Commission

The City Council designates the following commissions as the ‘Lead Commissions’ in overseeing, evaluating, and ultimately advising the Council in any naming or renaming of a public facility. The lead commission shall receive and coordinate comment and input from other Commissions and the public as appropriate.

Board of Library Trustees

Parks and Recreation Commission –Parks, recreation centers, camps, plazas and public open spaces

Public Works Commission –Public buildings (other than recreation centers), streets and bridges or other structures in the public thoroughfare.

Waterfront Commission –Public facilities within the area of the City known as the Waterfront, as described in BMC 3.36.060.B.

Section 2 – General Policy

- A. Newly acquired or developed public facilities shall be named immediately after acquisition or development to ensure appropriate public identity.
- B. No public facility may be named for a living person, but this policy can be overridden with a 2/3 vote of the City Council.
- C. Public facilities that are renamed must follow the same criteria for naming new facilities. In addition, the historical significance and geographical reference of the established name should be considered when weighing and evaluating any name change.
- D. The City encourages the recognition of individuals for their service to the community in ways that include the naming of activities such as athletic events, cultural presentations, or annual festivals, which do not involve the naming or renaming of public facilities.
- E. Unless restricted by covenant, facilities named after an individual should not necessarily be considered a perpetual name.

Section 3 – Criteria for Naming of Public Facilities

When considering the naming of a new public facility or an unnamed portion or feature within an already named public facility (such as a room within the facility or a feature within an established park), or, the renaming of an existing public facility the following criteria shall be applied:

APPENDIX A. POLICY FOR NAMING AND RENAMING PUBLIC FACILITIES

- A. Public Facilities are generally easier to identify by reference to adjacent street names, distinct geographic or environmental features, or primary use activity. Therefore, the preferred practice is to give City-owned property a name of historical or geographical significance and to retain these names.
- B. No public facility may be named for a living person, but this policy can be overridden with a 2/3 vote of the City Council.
- C. The naming of a public facility or any parts thereof in recognition of an individual posthumously may only be considered if the individual had a positive effect on the community and has been deceased for more than 1 year.
- D. When a public facility provides a specific programmatic activity, it is preferred that the activity (e.g. skateboard park, baseball diamond) be included in the name of the park or facility.
- E. When public parks are located adjacent to elementary schools, a name that is the same as the adjacent school shall be considered.
- F. When considering the renaming of an existing public facility, in addition to applying criteria A-E above, proper weight should be given to the fact that: a name lends a site or property authenticity and heritage; existing names are presumed to have historic significance; and historic names give a community a sense of place and identity, continuing through time, and increases the sense of neighborhood and belonging.

Section 4 –Naming Standards Involving a Major Contribution

When a person, group or organization requests the naming or renaming of a public facility, all of the following conditions shall be met:

- A. An honoree will have made a major contribution towards the acquisition and/or development costs of a public facility or a major contribution to the City.
- B. The honoree has a record of outstanding service to their community
- C. Conditions of any donation that specifies that name of a public facility, as part of an agreement or deed, must be approved by the City Council, after review by and upon recommendation of the City Manager.

Section 5 –Procedures for Naming or Renaming of Public Facilities

- A. Any person or organization may make a written application to the City Manager requesting that a public facility or portion thereof, be named or renamed.
 - 1. Recommendations may also come directly of the City Boards or Commissions, the City Council, or City Staff.
- B. The City Manager shall refer the application to the appropriate lead commission as defined in Section 1 of the City's policy on naming of public facilities, for that commission's review, facilitation, and recommendation of disposition.
 - 1. The application shall contain the name or names of the persons or organization making the application and the reason for the requested naming or renaming.
- C. The lead commission shall review and consider the application, using the policies and criteria articulated to the City Policy on Naming and Renaming to make a recommendation to Council.
 - 1. All recommendations or suggestion will be given the same consideration without regard to the source of the nomination
- D. The lead commission shall hold a public hearing and notify the general public of any discussions regarding naming or renaming of a public facility.

APPENDIX A. POLICY FOR NAMING AND RENAMING PUBLIC FACILITIES

1. Commission action will be taking at the meeting following any public hearing on the naming or renaming.

E. The commission's recommendation shall be forwarded to Council for final consideration.

The City of Berkeley Policy for Naming and Renaming Public Facilities was adopted by the Berkeley City Council at the regular meeting of January 31, 2012.

APPENDIX B. GUIDELINES FOR DEVELOPING AND WRITING COUNCIL AGENDA ITEMS

These guidelines are derived from the requirements for Agenda items listed in the Berkeley City Council Rules of Procedure and Order, Chapter III, Sections B(1) and (2), reproduced below. In addition, Chapter III Section C(1)(a) of the Rules of Procedure and Order allows the ~~Agenda Committee~~ [Agenda & Rules Committee](#) to request that the author of an item provide “additional analysis” if the item as submitted evidences a “significant lack of background or supporting information” or “significant grammatical or readability issues.”

These guidelines provide a more detailed and comprehensive overview of elements of a complete Council item. While not all elements would be applicable to every type of Agenda item, they are intended to prompt authors to consider presenting items with as much relevant information and analysis as possible.

Chapter III, Sections (B)(1) and (2) of Council Rules of Procedure and Order:

~~3-2.~~ Agenda items shall contain all relevant documentation, including the following as Applicable:

- a. A descriptive title that adequately informs the public of the subject matter and general nature of the item or report and action requested;
- b. Whether the matter is to be presented on the Consent Calendar or the Action Calendar or as a Report for Information;
- c. Recommendation of the City Manager, if applicable (these provisions shall not apply to Mayor and Council items.);
- d. Fiscal impacts of the recommendation;
- e. A description of the current situation and its effects;
- f. Background information as needed;
- g. Rationale for recommendation;
- h. Alternative actions considered;
- i. For awards of contracts; the abstract of bids and the Affirmative Action Program of the low bidder in those cases where such is required (these provisions shall not apply to Mayor and Council items.);
- j. Person or persons to contact for further information, with telephone number.

If the author of any report believes additional background information, beyond the basic report, is necessary to Council understanding of the subject, a separate compilation of such background information may be developed and copies will be available for Council and for public review in the City Clerk Department, and the City Clerk shall provide limited distribution of such background information depending upon quantity of pages to be duplicated. In such case the agenda item distributed with the packet shall so indicate.

APPENDIX B. GUIDELINES FOR DEVELOPING AND WRITING COUNCIL AGENDA ITEMS

Guidelines for City Council Items:

1. Title
2. Consent/Action/Information Calendar
3. Recommendation
4. Summary Statement/Current situation and its effects
5. Background
6. Review of Existing Plans, Programs, Policies and Laws
7. Actions/Alternatives Considered
8. Consultation/Outreach Overview and Results
9. Rationale for Recommendation
10. Implementation, Administration and Enforcement
11. Environmental Sustainability
12. Fiscal Impacts
13. Outcomes and Evaluation
14. Contact Information
15. Attachments/Supporting Materials

1. Title

A descriptive title that adequately informs the public of the subject matter and general nature of the item or report and action requested.

2. Consent/Action/Information Calendar

Whether the matter is to be presented on the Consent Calendar or the Action Calendar or as a Report for Information.

3. Recommendation

Clear, succinct statement of action(s) to be taken. Recommendations can be further detailed within the item, by specific reference.

Common action options include:

- Adopt first reading of ordinance
- Adopt a resolution
- Referral to the City Manager (City Manager decides if it is a short term referral or is placed on the RRV ranking list)
- Direction to the City Manager (City Manager is directed to execute the recommendation right away, it is not placed on any referral list)
- Referral to a Commission or to a Standing or Ad Hoc Council Committee
- Referral to the budget process
- Send letter of support
- Accept, Approve, Modify or Reject a recommendation from a Commission or Committee
- Designate members of the Council to perform some action

4. Summary Statement/ “Current situation and its effects”

A short resume of the circumstances that give rise to the need for the recommended action(s).

- Briefly state the opportunity/problem/concern that has been identified, and the proposed solution.

- Example (fictional):

Winter rains are lasting longer than expected. Berkeley’s winter shelters are poised to close in three weeks, but forecasts suggest rain for another two months. If they do not remain open until the end of the rainy season, hundreds of people will be left in the rain 24/7. Therefore, this item seeks authorization to keep Berkeley’s winter shelters open until the end of April, and refers to the Budget Process \$40,000 to cover costs of an additional two months of shelter operations.

5. Background

A full discussion of the history, circumstances and concerns to be addressed by the item.

- For the above fictional example, Background would include *information and data about the number and needs of homeless individuals in Berkeley, the number and availability of permanent shelter beds that meet their needs, the number of winter shelter beds that would be lost with closure, the impacts of such closure on this population, the weather forecasts, etc.*

6. Review of Existing Plans, Programs, Policies and Laws

Review, identify and discuss relevant/applicable Plans, Programs, Policies and Laws, and how the proposed actions conform with, compliment, are supported by, differ from or run contrary to them. What gaps were found that need to be filled? What existing policies, programs, plans and laws need to be changed/supplemented/improved/repealed? What is missing altogether that needs to be addressed?

Review of all pertinent/applicable sections of:

- The City Charter
- Berkeley Municipal Code
- Administrative Regulations
- Council Resolutions
- Staff training manuals

Review of all applicable City Plans:

- The General Plan
- Area Plans
- The Climate Action Plan
- Resilience Plan
- Equity Plan

APPENDIX B. GUIDELINES FOR DEVELOPING AND WRITING COUNCIL AGENDA ITEMS

- Capital Improvements Plan
- Zero Waste Plan
- Bike Plan
- Pedestrian Plan
- Other relevant precedents and plans

Review of the City's Strategic Plan

Review of similar legislation previously introduced/passed by Council

Review of County, State and Federal laws/policies/programs/plans, if applicable

7. Actions/Alternatives Considered

- What solutions/measures have **other jurisdictions** adopted that serve as models/cautionary tales?
- What solutions/measures are recommended by **advocates, experts, organizations**?
- What is the range of actions considered, and what are some of their major pros and cons?
- Why were other solutions not as feasible/advisable?

8. Consultation/Outreach Overview and Results

- Review/list external and internal stakeholders that were consulted
 - **External:** constituents, communities, neighborhood organizations, businesses and not for profits, advocates, people with lived experience, faith organizations, industry groups, people/groups that might have concerns about the item, etc.
 - **Internal:** staff who would implement policies, the City Manager and/or deputy CM, Department Heads, City Attorney, Clerk, etc.
- What reports, articles, books, websites and other materials were consulted?
- What was learned from these sources?
- What changes or approaches did they advocate for that were accepted or rejected?

9. Rationale for Recommendation

A clear and concise statement as to whether the item proposes actions that:

- Conform to, clarify or extend existing Plans, Programs, Policies and Laws
- Change/Amend existing Plans, Programs, Policies and Laws in **minor** ways
- Change/Amend existing Plans, Programs, Policies and Laws in **major** ways
- Create an exception to existing Plans, Programs, Policies and Laws
- Reverse/go contrary to or against existing Plans, Programs, Policies and Laws

Argument/summary of argument in support of recommended actions. The argument likely has already been made via the information and analysis already presented,

APPENDIX B. GUIDELINES FOR DEVELOPING AND WRITING COUNCIL AGENDA ITEMS

but should be presented/restated/summarized. Plus, further elaboration of terms for recommendations, if any.

10. Implementation, Administration and Enforcement

Discuss how the recommended action(s) would be implemented, administered and enforced. What staffing (internal or via contractors/consultants) and materials/facilities are likely required for implementation?

11. Environmental Sustainability

Discuss the impacts of the recommended action(s), if any, on the environment and the recommendation's positive and/or negative implications with respect to the City's Climate Action, Resilience, and other sustainability goals.

12. Fiscal Impacts

Review the recommended action's potential to generate funds or savings for the City in the short and long-term, as well as the potential direct and indirect costs.

13. Outcomes and Evaluation

State the specific outcomes expected, if any (i.e., "*it is expected that 100 homeless people will be referred to housing every year*") and what reporting or evaluation is recommended.

14. Contact Information

15. Attachments/Supporting Materials



Office of the City Manager

REVISED AGENDA MATERIAL

Meeting Date: November 12, 2019

Item Number: 26

Item Description: City Council Rules of Procedure and Order Revisions

Supplemental/Revision Submitted By: Mark Numainville, City Clerk

It was brought to my attention by a Councilmember that some of the provisions of Chapter III.C.1.a regarding the powers of the Agenda & Rules Committee were unclear and inconsistent with other provisions related to policy committees.

The proposed amendment attempts to clarify the provisions of Chapter III.C.1.a given the authority granted to the Agenda & Rules Committee by Resolution 68,726-N.S. while maintaining adequate discretion and control of the primary author of a Council item.

The new language proposed for Council consideration is in the version attached to this cover memo; track changes pages 13-14, and clean version pages 11-12. The original wording of this section is on page 875 of the packet (clean version) and page 916 of the packet (track changes version).

In addition, I have incorporated some non-substantive corrections/clarifications to the proposed amendments based on suggestions from Councilmembers. These edits are annotated in the attached track changes version of the ROP amendments. These new annotated edits all begin with "SUPP 1" in the comment bubble.

The clean version in this supplemental replaces Exhibit A to the resolution in the agenda packet.

Supplements or Revisions submitted pursuant to BMC § 2.06.070 may only be revisions of the original report included in the Agenda Packet.

The Berkeley City Council Rules of Procedure and Order

Adopted by Resolution No. ~~##,###~~-N.S.
Effective November 12, 2019

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I. DUTIES

I. DUTIES

A. Duties of Mayor

The Mayor shall preside at the meetings of the Council and shall preserve strict order and decorum at all regular and special meetings of the Council. The Mayor shall state every question coming before the Council, announce the decision of the Council on all subjects, and decide all questions of order, subject, however, to an appeal to the Council, in which event a majority vote of the Council shall govern and conclusively determine such question of order. In the Mayor's absence, the Vice President of the Council (hereafter referred to as the Vice-Mayor) shall preside.

Commented [NML1]: Standard current practice per City Charter

B. Duties of Councilmembers

Promptly at the hour set by law on the date of each regular meeting, the members of the Council shall take their regular stations in the Council Chambers and the business of the Council shall be taken up for consideration and disposition.

C. Motions to be Stated by Chair

When a motion is made, it may be stated by the Chair or the City Clerk before debate.

D. Decorum by Councilmembers

While the Council is in session, the City Council will practice civility and decorum in their discussions and debate. Councilmembers will value each other's time and will preserve order and decorum. A member shall neither, by conversation or otherwise, delay or interrupt the proceedings of the Council, use personal, impertinent or slanderous remarks, nor disturb any other member while that member is speaking or refuse to obey the orders of the presiding officer or the Council, except as otherwise provided herein.

All Councilmembers have the opportunity to speak and agree to disagree but no Councilmember shall speak twice on any given subject unless all other Councilmembers have been given the opportunity to speak. The Presiding Officer may set a limit on the speaking time allotted to Councilmembers during Council discussion.

Commented [NML2]: Edit from July 15, 2019 Agenda & Rules Committee meeting

Commented [NML3]: SUPP 1 – changed to "a limit" to be more clear that the time is the same for all Councilmembers

The presiding officer has the affirmative duty to maintain order. The City Council will honor the role of the presiding officer in maintaining order. If a Councilmember believes the presiding officer is not maintaining order, the Councilmember may move that the Vice-Mayor, or another Councilmember if the Vice-Mayor is acting as the presiding officer at the time, enforce the rules of decorum and otherwise maintain order. If that motion receives a second and is approved by a majority of the Council, the Vice-Mayor, or other designated Councilmember, shall enforce the rules of decorum and maintain order.

E. Voting Disqualification

No member of the Council who is disqualified shall vote upon the matter on which the member is disqualified. Any member shall openly state or have the presiding officer announce the fact and nature of such disqualification in open meeting, and shall not be subject to further inquiry. Where no clearly disqualifying conflict of interest appears, the matter of disqualification may, at the request of the member affected, be

I. DUTIES

decided by the other members of the Council, by motion, and such decision shall determine such member's right and obligation to vote. A member who is disqualified by conflict of interest in any matter shall not remain in the Chamber during the debate and vote on such matter, but shall request and be given the presiding officer's permission to ~~absent~~ recuse themselves. Any member having a "remote interest" in any matter as provided in Government Code shall divulge the same before voting.

Commented [NML4]: Correct terminology

F. Requests for Technical Assistance and/or Reports

A majority vote of the Council shall be required to direct staff to provide technical assistance, develop a report, initiate staff research, or respond to requests for information or service generated by an individual council member.

G. City Council Policy for Naming and Renaming Public Facilities

~~The City Council Policy for Naming and Renaming Public Facilities adopted on January 31, 2012, and all its successors, is incorporated by reference into the City Council Rules of Procedure and included as Appendix A to this document.~~

Commented [NML5]: Edit from July 15, 2019 Agenda & Rules Committee meeting
Language is unnecessary here

II. MEETINGS

II. MEETINGS

A. Call to Order - Presiding Officer

The Mayor, or in the Mayor's absence, the Vice Mayor, shall take the chair precisely at the hour appointed by the meeting and shall immediately call the Council to order. Upon the arrival of the Mayor, the Vice Mayor shall immediately relinquish the chair, ~~at the conclusion of the business presently before the Council.~~ In the absence of the two officers specified in this section, the ~~Councilmember~~council member present with the longest period of Council service shall preside.

Commented [NML6]: Edit from July 15, 2019 Agenda & Rules Committee meeting
Mayor resume chair upon resuming place on dais
Commented [NML7]: Amended to standardize use throughout the document

B. Roll Call

Before the Council shall proceed with the business of the Council, the City Clerk shall call the roll of the members and the names of those present shall be entered in the minutes. The later arrival of any absentee shall also be entered in the minutes.

C. Quorum Call

During the course of the meeting, should the Chair note a Council quorum is lacking, the Chair shall call this fact to the attention of the City Clerk. The City Clerk shall issue a quorum call. If a quorum has not been restored within two minutes of a quorum call, the meeting shall be deemed automatically adjourned.

D. Council Meeting ~~Schedule~~Conduct of Business

~~The City Council shall hold a minimum of twenty four (24) meetings, or the amount needed to conduct City business in a timely manner, whichever is greater, each calendar year.~~

Commented [NML8]: Moved to more appropriate location below

~~Regular meetings of the City Council shall be held generally two to three Tuesdays of each month; the schedule to be established annually by Council resolution taking into consideration holidays and election dates.~~

~~Regular City Council meetings shall begin no later than 6:00 p.m.~~

The agenda for the regular business meetings shall include the following: Ceremonial Items (including comments from the City Auditor if requested); Comments from the City Manager; Comments from the Public; Consent Calendar; Action Calendar (Appeals, Public Hearings, Continued Business, Old Business, New Business); Information Reports; and Communication from the Public. Presentations and workshops may be included as part of the Action Calendar. ~~Items removed from the Consent Calendar will be moved to the Action Calendar.~~ The Chair will determine the order in which the item(s) will be heard with the consent of Council.

Commented [NML9]: Edit from July 15, 2019 Agenda & Rules Committee meeting

Commented [NML10]: Items removed from Consent may have many other actions taken and listing this single action is misleading.

Upon request by the Mayor or any ~~Councilmember~~council member, any item may be moved from the Consent Calendar or Information Calendar to the Action Calendar. Unless there is an objection by the Mayor or any ~~Councilmember~~council member, ~~at the~~ council member may also move an item from the Action Calendar to the Consent Calendar.

Commented [NML11]: Amended for clarity throughout document

Commented [NML12]: Edit from July 15, 2019 Agenda & Rules Committee meeting – changed "a Councilmember" to "the Council"

A public hearing that is not expected to be lengthy may be placed on the agenda for a regular business meeting. When a public hearing is expected to be contentious

II. MEETINGS

and lengthy and/or the Council's regular meeting schedule is heavily booked, the ~~Agenda Committee~~ Agenda & Rules Committee, in conjunction with the staff, will schedule a special meeting exclusively for the public hearing. No other matters shall be placed on the agenda for the special meeting. All public comment will be considered as part of the public hearing and no separate time will be set aside for public comment not related to the public hearing at this meeting.

Commented [NML13]: Amended to standardize use throughout the document

Except at meetings at which the budget is to be adopted, no public hearing may commence later than 10:00 p.m. unless there is a legal necessity to hold the hearing or make a decision at that meeting or the City Council determines by a two-thirds vote that there is a fiscal necessity to hold the hearing.

E. Adjournment

1. No Council meeting shall continue past 11:00 p.m. unless a two-thirds majority of the Council votes to extend the meeting to discuss specified items; and any motion to extend the meeting beyond 11:00 p.m. shall include a list of specific agenda items to be covered and shall specify in which order these items shall be handled.
2. Any items not completed at a regularly scheduled Council meeting may be continued to an Adjourned Regular Meeting by a two-thirds majority vote of the Council.

F. Unfinished Business

Any items not completed by formal action of the Council, and any items not postponed to a date certain, shall be considered Unfinished Business. All Unfinished Business shall be referred to the ~~Agenda Committee~~ Agenda & Rules Committee for scheduling for a Council meeting that occurs within 60 days from the date the item last appeared on a Council agenda. The 60 day period is tolled during a Council recess.

G. City Council Schedule and Recess Periods

Pursuant to the Open Government Ordinance, ~~the City Council shall hold a minimum of twenty-four (24) meetings, or the amount needed to conduct City business in a timely manner, whichever is greater, each calendar year.~~

Regular meetings of the City Council shall be held generally two to three Tuesdays of each month ~~except during recess periods; the schedule to be established annually by Council resolution taking into consideration holidays and election dates.~~

Commented [NML14]: SUPP 1 – Added for clarity

Regular City Council meetings shall begin no later than 6:00 p.m.

Commented [NML15]: Proposed addition regarding starting early for ceremonial items was removed at the July 15, 2019 Agenda & Rules Committee meeting

A recess period is defined as a period of time longer than 21 days without a regular ~~or special~~ meeting of the Council.

Commented [NML16]: Special meetings are as needed and are not factored in to the annual schedule that is adopted, which includes the recess periods.

When a recess period occurs, the City Manager is authorized to take such ministerial actions for matters of operational urgency as would normally be taken by the City Council during the period of recess except for those duties specifically reserved to the Council by the Charter, and including such emergency actions as are necessary for the immediate preservation of the public peace, health or safety; the authority to

II. MEETINGS

extend throughout the period of time established by the City Council for the period of recess.

The City Manager shall have the aforementioned authority beginning the day after the ~~Agenda Committee~~ Agenda & Rules Committee meeting for the last regular meeting before a Council recess and this authority shall extend ~~through up to the deadline for submission of staff reports for date of the first~~ through up to the date of the first ~~Agenda & Rules Committee~~ Agenda & Rules Committee meeting ~~for the first regular meeting~~ after the Council recess.

Commented [NML17]: The existing definition left a significant gap that did not allow City Manager action on administratively urgent items

Commented [NML18]: Edit from July 15, 2019 Agenda & Rules Committee meeting

The City Manager shall make a full and complete report to the City Council at its first regularly scheduled meeting following the period of recess of actions taken by the City Manager pursuant to this section, at which time the City Council may make such findings as may be required and confirm said actions of the City Manager.

H. Pledge of Allegiance to the Flag

At the first meeting of each year following the August recess and at any subsequent meeting if specifically requested before the meeting by any member of the Council in order to commemorate an occasion of national significance, the first item on the ~~program~~ Ceremonial Calendar will be the Pledge of Allegiance.

I. Ad Hoc Subcommittees

From time to time the Council or the Mayor may appoint several of its members but fewer than the existing quorum of the present body to serve as an ad hoc subcommittee. Only Council ~~members~~ may ~~become~~ be members of the ad hoc subcommittee; however, the subcommittee shall seek input and advice from ~~the~~ residents, related commissions, and other groups. Ad Hoc Subcommittees must be reviewed annually by the Council to determine if the subcommittee is to continue.

Upon creation of an ad hoc subcommittee, the Council shall allow it to operate with the following parameters:

1. A specific charge or outline of responsibilities shall be established by the Council.
2. A target date must be established for a report back to the Council.
3. Maximum life of the subcommittee shall be one year, with annual review and possible extension by the Council.

Subcommittees shall conduct their meetings in ~~public and in accessible~~ locations that are open to the public and meet accessibility requirements under the Americans with Disabilities Act. Meetings may be held at privately owned facilities provided that the location is open to all that wish to attend and that there is no requirement for purchase to attend. Agendas for subcommittee meetings must be posted in the same manner as the agendas for regular Council meetings except that subcommittee agendas may be posted with 24-hour notice. The public will be permitted to comment on agenda items but public comments may be limited to one minute if deemed necessary by the Committee Chair. Agendas and minutes of the meetings must be maintained and made available upon request.

Commented [NML19]: Edit from July 15, 2019 Agenda & Rules Committee meeting

II. MEETINGS

~~City staff may attend and participate in subcommittee meetings. Depending on the desires of the subcommittee members, City staff may participate the same as members of the public, or may be called upon to offer insights or provide information during discussion.~~

~~Ad hoc subcommittees will be staffed by City Council legislative staff. As part of the ad hoc subcommittee process, City staff will undertake a high-level, preliminary analysis of potential legal issues, costs, timelines, and staffing demands associated with the item(s) under consideration. Staff analysis at ad hoc subcommittees is limited to the points above as the recommendation, program, or project has not yet been approved to proceed by the full Council.~~

Subcommittees must be comprised of at least two members. If only two members are appointed, then both must be present in order for the subcommittee meeting to be held. In other words, the quorum for a two-member subcommittee is always two.

~~Certain requirements listed above may not apply to a~~ Ad hoc subcommittees ~~may seeking legal advice and assistance from the City Attorney or meeting with the City Manager or his/her designees for purposes of real estate or labor negotiations.~~ convene a closed session meeting pursuant to the conditions and regulations imposed by the Brown Act.

Commented [NML20]: Staff proposed language based on discussion at July 15, 2019 Agenda & Rules Committee meeting. This language mirrors the language used for Policy Committees Charter III, Section G

Commented [NML21]: Staff proposed language based on discussion at July 15, 2019 Agenda & Rules Committee meeting.

III. AGENDA

III. AGENDA

A. Declaration of Policy

No ordinance, resolution, or item of business shall be introduced, discussed or acted upon before the Council at its meeting without prior thereto its having been published on the agenda of the meeting and posted in accordance with Section III.D.2. Exceptions to this rule are limited to circumstances listed in Section III.D.4.b and items ~~carried over~~ continued from a previous meeting and published on a revised agenda.

Commented [NML22]: Additional clarification

B. Definitions

For purposes of this section, the terms listed herein shall be defined as follows:

1. "Agenda Item" means an item placed on the agenda (on either the Consent Calendar or as a Report For Action) for a vote of the Council by the Mayor or any Councilmember~~council member~~, the City Manager, the Auditor, or any board/commission/committee created by the City Council, or any Report For Information which may be acted upon if the Mayor or a Councilmember~~council member~~ so requests. For purposes of this section, appeals shall be considered action items. All information from the City Manager concerning any item to be acted upon by the Council shall be submitted as a report on the agenda and not as an off-agenda memorandum and shall be available for public review, except to the extent such report is privileged and thus confidential such as an attorney client communication concerning a litigation matter.

Council agenda items are limited to a maximum of three Co-Sponsors (in addition to the Primary Author). Co-Sponsors to Council reports may only be added in the following manner:

- In the original item as submitted by the Primary Author
- In a revised item submitted by the Primary Author at the Agenda & Rules Committee
- By verbal request of the Primary Author at the Agenda & Rules Committee
- In a revised item submitted by the Primary Author in Supplemental Reports and Communications Packet #1 or #2
- By verbal or written request of the Mayor or any Councilmember at the Policy Committee meeting or meeting of the full council at which the item is considered

Commented [NML23]: Must have certainty at the time of submission and throughout the process to properly monitor participation in policy committee meetings per the Brown Act. New language for designation of co-sponsors from the July 15, 2019 Agenda & Rules Committee meeting – removed limitation on when co-sponsors could be added and changed it to limit the addition of co-sponsors to discretion of the primary author.

Agenda items shall contain all relevant documentation, including the information listed below. ~~following as applicable:~~

- a) A descriptive title that adequately informs the public of the subject matter and general nature of the item or report ~~and action requested;~~
- b) Whether the matter is to be presented on the Consent Calendar or the Action Calendar or as a Report for Information;

III. AGENDA

- c) Recommendation of the City Manager report author that describes the action to be taken on the item, if applicable; ~~(these provisions shall not apply to Mayor and Council items.);~~
- d) Fiscal impacts of the recommendation;
- e) A description of the current situation and its effects;
- f) Background information as needed;
- g) Rationale for recommendation;
- h) Alternative actions considered;
- i) For awards of contracts; the abstract of bids and the Affirmative Action Program of the low bidder in those cases where such is required (these provisions shall not apply to Mayor and Council items.);
- j) Person or persons to contact for further information, with telephone number.
- k) Additional information and analysis as required. It is recommended that reports include the recommended points of analysis in the Council Report Guidelines in Appendix B.
- ~~j) If the author of any report believes additional background information, beyond the basic report, is necessary to Council understanding of the subject, a separate compilation of such background information may be developed and copies will be available for Council and for public review in the City Clerk Department, and the City Clerk shall provide limited distribution of such background information depending upon quantity of pages to be duplicated. In such case the agenda item distributed with the packet shall so indicate.~~

Commented [NML24]: Required by the Brown Act for all agenda items.

Commented [NML25]: SUPP 1 – redundant word deleted

Commented [NML26]: Outdated. We publish all materials except for the full administrative record of ZAB appeal.

2. "Primary Author" means the Mayor or Councilmember that initiated, authored, and submitted a council agenda item.

3. "Co-Sponsor" means the Mayor or other Councilmembers designated by the Primary Author to be co-sponsor of the council agenda item.

4.4. "Agenda" means the compilation of the descriptive titles of agenda items submitted to the City Clerk, arranged in the sequence established in Section III.E hereof.

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2.5. "Packet" means the agenda plus all its corresponding duplicated agenda items.

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3.6. "Emergency Matter" arises when prompt action is necessary due to the disruption or threatened disruption of public facilities and a majority of the Council determines that:

III. AGENDA

1-a) _____ A work stoppage or other activity which severely impairs public health, safety, or both;

2-b) _____ A crippling disaster, which severely impairs public health, safety or both. Notice of the Council's proposed consideration of any such emergency matter shall be given in the manner required by law for such an emergency pursuant to Government Code Section 54956.5.

4-7. "Continued Business" Items carried over from a prior agenda of a meeting occurring less than 11 days earlier, ~~as uncompleted items.~~

5-8. "Old Business" Items carried over from a prior agenda of a meeting ~~as uncompleted items occurring more than 11 days earlier.~~

Commented [NML27]: Per Open Government Ordinance

C. Procedure for Bringing Matters Before City Council

a)1. **Persons Who Can Place Matters on the Agenda.**

Matters may be placed on the agenda by ~~the Mayor or any Councilmember~~ council member, the City Manager, the Auditor, or any board/commission/committee created by the City Council. All items, other than board and commission items shall be subject to review by ~~an the Agenda Committee~~ Agenda & Rules Committee, which shall be a standing committee of the City Council. ~~The Agenda Committee shall consist of the Mayor and two councilmembers, nominated by the Mayor and approved by the Council. A third council member, nominated by the Mayor and approved by the Council, will serve as an alternate on the Committee in the event that an Agenda Committee member cannot attend a meeting.~~

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Commented [NML28]: Superseded by policy committee section below

The ~~Agenda Committee~~ Agenda & Rules Committee shall meet 15 days prior to each City Council meeting and shall approve the agenda of that City Council meeting. ~~Pursuant to BMC Section 1.04.080, if the 15th day prior to the Council meeting falls on a holiday, the Committee will meet the next business day.~~ The ~~Agenda Committee~~ Agenda & Rules Committee packet, including a draft agenda and Councilmember, Auditor, and Commission reports shall be distributed by 5:00 p.m. 4 days before the ~~Agenda Committee~~ Agenda & Rules Committee meeting.

Commented [NML29]: Clarification

~~The Agenda Committee shall have the powers set forth below.~~

~~1. Items Authored by a Councilmember or the Auditor. As to items authored by the Mayor, a Councilmember, or the Auditor, the Agenda Committee shall review the item and may recommend that the matter be referred to a commission, to the City Manager, or back to the author for adherence to required form or for additional analysis as required in Section III.B.2, or suggest other appropriate action including scheduling the matter for a later meeting to allow for appropriate revisions.~~

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~~The author of a "referred" item must inform the City Clerk within 24 hours of the adjournment of the Agenda Committee meeting whether he or she prefers to: 1) hold the item for a future meeting pending modifications as suggested by the Committee; 2) have the item appear on the Council agenda under consideration as originally submitted; 3) pull the item~~

III. AGENDA

~~completely; or 4) re-submit the item with revisions as requested by the Agenda Committee within 24 hours of the adjournment of the Agenda Committee meeting for the Council agenda under consideration.~~

Commented [NML30]: Current practice

~~In the event that the City Clerk does not receive guidance from the author of the referred item within 24 hours of the Agenda Committee's adjournment, the recommendation of the Agenda Committee will take effect.~~

~~Items held for a future meeting to allow for modifications will be placed on the next available Council meeting agenda at the time that the revised version is submitted to the City Clerk. If changes made to the item extend beyond the scope of the Agenda Committee referral recommendations, the item must be re-submitted as a new Council item.~~

Commented [NML31]: Unnecessary. If the item is being submitted for a future meeting, it is a "new" item.

~~For authors of referred items that select option 2) above, the referred item will automatically be placed at the end of the Action Calendar under the heading "Referred Items". The Agenda Committee shall specify the reason for the referral from the categories listed below. This reason shall be printed with the item on the agenda.~~

Commented [NML32]: No longer needed with the policy committee system.

- ~~Reason 1 — Significant Lack of Background or Supporting Information~~
- ~~Reason 2 — Significant Grammatical or Readability Issues~~

The Agenda & Rules Committee shall have the powers set forth below.

Commented [NML33]: SUPP 1 – change as described in the Supp 1 Cover Memo

- a) **Items Authored by the Mayor, a Councilmember, or the Auditor.** As to items authored by the Mayor, a Councilmember, or the Auditor, the Agenda & Rules Committee shall review the item and may take the following actions:
 - i. Refer the item to a commission for further analysis (Primary Author may decline and request Policy Committee assignment).
 - ii. Refer the item to the City Manager for further analysis (Primary Author may decline and request Policy Committee assignment).
 - iii. Refer the item back to the author for adherence to required form or for additional analysis as required in Section III.B.1. (Primary Author may decline and request Policy Committee assignment).

III. AGENDA

iv. Refer the item to a Policy Committee.

v. Schedule the item for the agenda under consideration or one of the next three full Council agendas.

For referrals under Chapter III.C.1.a.iii the Primary Author must inform the City Clerk within 24 hours of the adjournment of the Agenda & Rules Committee meeting whether they prefer to:

1) re-submit the item for a future meeting with modifications as suggested by the Agenda & Rules Committee; or

2) pull the item completely; or

3) re-submit the item with revisions as requested by the Agenda & Rules Committee within 24 hours of the adjournment of the Agenda & Rules Committee meeting for the Council agenda under consideration; or

4) accept the referral of the Agenda & Rules Committee in sub paragraphs i, ii, or iii.

If the Primary Author requests a Policy Committee assignment, the item will appear on the next draft agenda presented to the Agenda & Rules Committee for assignment.

In the event that the City Clerk does not receive guidance from the Primary Author of the referred item within 24 hours of the Agenda & Rules Committee's adjournment, the item will appear on the next draft agenda for consideration by the Agenda & Rules Committee.

Items held for a future meeting to allow for modifications will be placed on the next available Council meeting agenda at the time that the revised version is submitted to the City Clerk.

a)b) Items Authored by the City Manager. The ~~Agenda Committee~~Agenda & Rules Committee shall review agenda descriptions of items authored by the City Manager. The Committee can recommend that the matter be referred to a commission or back to the City Manager for adherence to required form, additional analysis as required in Section III.B.2, or suggest other appropriate action including scheduling the matter for a later meeting to allow for appropriate revisions.

If the City Manager determines that the matter should proceed notwithstanding the ~~Agenda Committee~~Agenda & Rules Committee's action, it will be placed on the agenda as directed by the Manager. All City Manager items placed on the Council agenda against the ~~referral~~ recommendation of the ~~Agenda Committee~~Agenda & Rules Committee or

III. AGENDA

~~revised items that have not been resubmitted to the Agenda Committee will~~ automatically be placed on the Action Calendar.

Commented [NML34]: Inconsistent with current practices. Staff reports are still in review and are not printed in the Agenda & Rules Committee packet.

~~2-c)~~ **Items Authored by Boards and Commissions.** Council items submitted by boards and commissions are subject to City Manager review and must follow procedures and timelines for submittal of reports as described in the Commissioners' Manual. The content of commission items is not subject to review by the ~~Agenda Committee~~ Agenda & Rules Committee.

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i) For a commission item that does not require a companion report from the City ~~Mananger~~ Manager, the ~~Agenda Committee~~ Agenda & Rules Committee may act on an agendaized commission report in the following manner:

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~~a-1.~~ 1. Move a commission report from the Consent Calendar to the Action Calendar or from the Action Calendar to the Consent Calendar.

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~~b-2.~~ 2. Re-schedule the commission report to appear on one of the next three regular Council meeting agendas that occur after the regular meeting under consideration. Commission reports submitted in response to a Council referral shall receive higher priority for scheduling.

~~c-3.~~ 3. Allow the item to proceed as submitted.

ii) For any commission report that requires a companion report, the ~~Agenda Committee~~ Agenda & Rules Committee ~~may~~ will schedule the item on a Council agenda. ~~The Committee must schedule the the~~ commission item for a meeting occurring not sooner than 60 days and not later than 120 days from the date of the meeting under consideration by the ~~Agenda Committee~~ Agenda & Rules Committee. A commission report submitted with a complete companion report may be scheduled pursuant to subparagraph c.i. above.

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~~3-d)~~ 4-d) The ~~Agenda Committee~~ Agenda & Rules Committee shall have the authority to re-order the items on the Action Calendar regardless of the default sequence prescribed in Chapter III, Section E ~~of the Rules of Procedures and Order~~.

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~~b)2.~~ 2. **Scheduling Public Hearings Mandated by State, Federal, or Local Statute.**

The City Clerk may schedule a public hearing at an available time and date in those cases where State, Federal or local statute mandates the City Council hold a public hearing.

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~~c)3.~~ 3. **Submission of Agenda Items.**

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III. AGENDA

1-a) City Manager Items. Except for Continued Business and Old Business, as a condition to placing an item on the agenda, agenda items from departments, including agenda items from commissions, shall be furnished to the City Clerk at a time established by the City Manager.

2-b) Council and Auditor Items. The deadline for reports submitted by the Auditor, Mayor and City Council is 5:00 p.m. on Monday, 22 days before each Council meeting.

3-c) Time Critical Items. A Time Critical item is defined as a matter that is considered urgent by the sponsor and that has a deadline for action that is prior to the next meeting of the Council and for which a report prepared by the City Manager, Auditor, Mayor or ~~Councilmember~~council member is received by the City Clerk after established deadlines and is not included on the ~~Agenda Committee~~Agenda & Rules Committee's published agenda.

The author of the report shall bring any reports submitted as Time Critical to the meeting of the ~~Agenda Committee~~Agenda & Rules Committee. Time Critical items must be accompanied by complete reports and statements of financial implications. If the ~~Agenda Committee~~Agenda & Rules Committee finds the matter to meet the definition of Time Critical, the ~~Agenda Committee~~Agenda & Rules Committee may place the matter on the Agenda on either the Consent or Action Calendar.

4-d) The City Clerk may not accept any agenda item after the adjournment of the ~~Agenda Committee~~Agenda & Rules Committee meeting, except for items carried over by the City Council from a prior City Council meeting occurring less than 11 days earlier, which may include supplemental or revised reports, and reports concerning actions taken by boards and commissions that are required by law or ordinance to be presented to the Council within a deadline that does not permit compliance with the agenda timelines in BMC Chapter 2.06 or these rules.

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d)4. Submission of Supplemental and Revised Agenda Material.

Berkeley Municipal Code Section 2.06.070 allows for the submission of supplemental and revised agenda material. Supplemental and revised material cannot be substantially new or only tangentially related to an agenda item. Supplemental material must be specifically related to the item in the Agenda Packet. Revised material should be presented as revised versions of the report or item printed in the Agenda Packet. Supplemental and revised material may be submitted for consideration as follows:

a) Supplemental and revised agenda material shall be submitted to the City Clerk no later than 5:00 p.m. seven calendar days prior to the City Council meeting at which it is to be considered. Supplemental and revised items that are received by the deadline shall be distributed to Council in a supplemental reports packet and posted to the City's website no later than 5:00 p.m. five calendar days prior to the meeting. Copies of the supplemental packet shall also be made available in the office of the City

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Clerk and in the main branch of the Berkeley Public Library. Such material may be considered by the Council without the need for a determination that the good of the City clearly outweighs the lack of time for citizen review or City Council-member evaluation.

b) Supplemental and revised agenda material submitted to the City Clerk after 5:00 p.m. seven days before the meeting and no later than 12:00 p.m. one day prior to the City Council meeting at which it is to be considered shall be distributed to Council in a supplemental reports packet and posted to the City's website no later than 5:00 p.m. one day prior to the meeting. Copies of the supplemental packet shall also be made available in the office of the City Clerk and in the main branch of the Berkeley Public Library. Such material may be considered by the Council without the need for a determination that the good of the City clearly outweighs the lack of time for citizen review or City Council evaluation.

Commented [NML35]: Per Open Government Ordinance

~~4.~~

~~2-c)~~ After ~~5~~12:00 p.m. ~~seven~~one calendar days prior to the meeting, supplemental or revised reports may be submitted for consideration by delivering a minimum of 42 copies of the supplemental/revised material to the City Clerk for distribution at the meeting. Each copy must be accompanied by a completed supplemental/revised material cover page, using the form provided by the City Clerk. Revised reports must reflect a comparison with the original item using track changes formatting. The material may be considered only if the City Council, by a two-thirds roll call vote, makes a factual determination that the good of the City clearly outweighs the lack of time for citizen review or City Council-member evaluation of the material. Supplemental and revised material must be distributed and a factual determination made prior to the commencement of public comment on the agenda item in order for the material to be considered.

~~e)5.~~ **Scheduling a Presentation.**

Presentations from staff are either submitted as an Agenda Item or are requested by the City Manager. Presentations from outside agencies and the public are coordinated with the Mayor's Office. The Agenda & Rules Committee may adjust the schedule of presentations as needed to best manage the Council Agenda. The Agenda & Rules Committee may request a presentation by staff in consultation with the City Manager.

Commented [NML36]: Reflects current practice, which is much less formal than deleted text.

Commented [NML37]: SUPP 1 – Reflects current practice.

~~Any request for a presentation to the Council will be submitted as an agenda item and follow the time lines for submittal of agenda reports. The agenda item should include general information regarding the purpose and content of the presentation; information on the presenters; contact information; and the length of the presentation. The request may state a preference for a date before the Council. The Agenda Committee will review the request and recommend a presentation date and allotted time based on the Council's schedule.~~

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The City Clerk will notify the presenters of the date and time of the presentation and will coordinate use of any presentation equipment and receipt of additional written material.

i.D. Packet Preparation and Posting

a)1. Preparation of the Packet.

Not later than the thirteenth day prior to said meeting, the City Clerk shall prepare the packet, which shall include the agenda plus all its corresponding duplicated agenda items. No item shall be considered if not included in the packet, except as provided for in Section III.C.4 and Section III.D.4. ~~Reports carried over, as Continued Business or Old Business need not be reproduced again.~~

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Commented [NML38]: Inconsistent with OGO

b)2. Distribution and Posting of Agenda.

- a) The City Clerk shall post each agenda of the City Council regular meeting no later than 11 days prior to the meeting and shall post each agenda of a special meeting at least 24 hours in advance of the meeting in the official bulletin board. The City Clerk shall maintain an affidavit indicating the location, date and time of posting each agenda.
- b) The City Clerk shall also post agendas and annotated agendas of all City Council meetings and notices of public hearings on the City's website.
- c) No later than 11 days prior to a regular meeting, copies of the agenda shall be mailed by the City Clerk to any resident of the City of Berkeley who so requests in writing. Copies shall also be available free of charge in the City Clerk Department.

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e)3. Distribution of the Agenda Packet.

The Agenda Packet shall consist of the Agenda and all supporting documents for agenda items. No later than 11 days prior to a regular meeting, the City Clerk shall:

- ~~i.a)~~ distribute the Agenda Packet to each member of the City Council;
- ~~ii.b)~~ post the Agenda Packet to the City's website;
- ~~iii.c)~~ place copies of the Agenda Packet in viewing binders in the office of the City Clerk and in the main branch of the Berkeley Public Library; and
- ~~iv.d)~~ make the Agenda Packet available to members of the press.

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III. AGENDA

~~4.~~ **Failure to Meet Deadlines.**

- a) The City Clerk shall not accept any agenda item or revised agenda item after the deadlines established.
- b) Matters not included on the published agenda may be discussed and acted upon as otherwise authorized by State law or providing the Council finds one of the following conditions is met:
 - ~~a.~~ A majority of the Council determines that the subject meets the criteria of "Emergency" as defined in Section III.B.5.
 - ~~b.~~ Two thirds of the Council determines that there is a need to take immediate action and that the need for action came to the attention of the City subsequent to the posting of the agenda as required by law.
- c) Matters listed on the printed agenda but for which support~~ing~~ materials are not received by the City Council on the eleventh day prior to said meeting as part of the agenda packet, shall not be discussed or acted upon.

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E. Agenda Sequence and Order of Business

The Council agenda for a regular business meeting is to be arranged in the following order:

- ~~a)1.~~ Preliminary Matters: (Ceremonial, Comments from the City Manager, ~~Comments from the City Auditor, Non-Agenda~~ Public Comment)
- ~~b)2.~~ Consent Calendar
- ~~c)3.~~ Action Calendar
 - ~~1-a)~~ Appeals
 - ~~2-b)~~ Public Hearings
 - ~~3-c)~~ Continued Business
 - ~~4-d)~~ Old Business
 - ~~5-e)~~ New Business
 - ~~6.~~ Referred Items
- ~~4.~~ Information Reports
- ~~d)5.~~ Non-Agenda Public Comment
- ~~e)6.~~ AdjournmentCommunications
- ~~f)7.~~ CommunicationsAdjournment

Commented [NML39]: Edits to reflect current order

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Action items may be reordered at the discretion of the Chair with the consent of Council.

The ~~Agenda Committee~~ Agenda & Rules Committee shall have the authority to re-order the items on the Action Calendar regardless of the default sequence prescribed in this section.

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F. Closed Session Documents

This section establishes a policy for the distribution of, and access to, confidential closed session documents by the Mayor and Members of the City Council.

1. Confidential closed session materials shall be kept in binders numbered from one to nine and assigned to the Mayor (#9) and each Councilmember (#1 to #8 by district). The binders will contain confidential closed session materials related to Labor Negotiations, Litigation, and Real Estate matters.

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2. The binders will be maintained by City staff and retained in the Office of the City Attorney in a secure manner. City staff will bring the binders to each closed session for their use by the Mayor and Councilmembers. At other times, the binders will be available to the Mayor and Councilmembers during regular business hours for review in the City Attorney's Office. The binders may not be removed from the City Attorney's Office or the location of any closed session meeting by the Mayor or Councilmembers. City staff will collect the binders at the end of each closed session meeting and return them to the City Attorney's Office.

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3. Removal of confidential materials from a binder is prohibited.

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4. Duplication of the contents of a binder by any means is prohibited.

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5. Confidential materials shall be retained in the binders for at least two years.

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6. This policy does not prohibit the distribution of materials by staff to the Mayor and Councilmembers in advance of a closed session or otherwise as needed, but such materials shall also be included in the binders unless it is impracticable to do so.

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G. Regulations Governing City Council Policy Committees

Commented [NML40]: Regulations from the Policy Committee resolution are inserted in red text; changes to the resolution language are in track changes

1A. Legislative Item Process

All agenda items begin with submission to the Agenda Committee Agenda & Rules Committee.

Full Council Track

Items under this category are exempt from Agenda Committee Agenda & Rules Committee discretion to refer them to a Policy Committee. Items in this category may be submitted for the agenda of any scheduled regular meeting pursuant to established deadlines (same as existing deadlines). Types of Full Council Track items are listed below.

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- 4.a. Items submitted by the City Manager and City Auditor
- 5.b. Items submitted by Boards and Commissions
- 6.c. Resolutions on Legislation and Electoral Issues relating to Outside Agencies/Jurisdictions
- 7.d. Position Letters and/or Resolutions of Support/Opposition
- 8.e. Donations from the Mayor and Councilmember District Office Budgets
- 9.f. Referrals to the Budget Process
- 10.g. Proclamations
- 11.h. Sponsorship of Events
- 12.i. Information Reports
- 13.j. Presentations from Outside Agencies and Organizations
- k. Ceremonial Items
- 14.l. Committee and Regional Body Appointments

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Commented [NML41]: Clarification

Commented [NML42]: Standard administrative item

~~Notwithstanding the exemption stated above, the Agenda Committee, at its discretion, may route a Full Council Track item submitted by a Councilmember to a policy committee if the item has 1) a significant lack of background or supporting information, or 2) significant grammatical or readability issues.~~

Commented [NML43]: Change made at September 16, 2019 Agenda & Rules Committee; integrated into next paragraph

~~The Agenda Committee Agenda & Rules Committee has discretion to determine if an item submitted by the Mayor or a Councilmember falls under a Full Council Track exception or if it will be processed as a Policy Committee Track item. If an item submitted by the Mayor or a Councilmember has 1) a significant lack of background or supporting information, or 2) significant grammatical or readability issues the Agenda & Rules committee may refer the item to a Policy Committee.~~

Commented [NML44]: SUPP 1 – this sentence is unnecessary given the current authority of the Agenda & Rules Committee to refer any item to a policy committee

Policy Committee Track

Items submitted by the Mayor or Councilmembers with moderate to significant administrative, operational, budgetary, resource, or programmatic impacts will go first to the Agenda Committee Agenda & Rules Committee on a draft City Council agenda (on a list).

Commented [NML45]: Clarification

The Agenda Committee Agenda & Rules Committee must refer an item to a Policy Committee at the first meeting that the item appears before the Agenda Committee Agenda & Rules Committee. The Agenda Committee Agenda & Rules Committee may only assign the item to a single Policy Committee.

For a Policy Committee Track item, the Agenda Committee Agenda & Rules Committee, at its discretion, may either route item directly to 1) the agenda currently under consideration, 2) one of the next three full Council Agendas (based on completeness of the item, lack of potential controversy, minimal impacts, etc.), or 3) to a Policy Committee.

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Time Critical Track

A Time Critical item is defined as a matter that is considered urgent by the sponsor and that has a deadline for action that is prior to the next meeting of the Council and for which a report prepared by the Mayor or ~~Councilmember~~council member is received by the City Clerk after established deadlines and is not included on the ~~Agenda Committee~~Agenda & Rules Committee's published agenda.

The ~~Agenda Committee~~Agenda & Rules Committee retains final discretion to determine the time critical nature of an item.

- a) Time Critical items submitted on the Full Council Track deadlines, that would otherwise be assigned to the Policy Committee Track, may bypass ~~P~~policy Committee review if determined to be time critical. If such an item is deemed not to be time critical, it ~~may~~will be referred to a Policy Committee.
- b) Time Critical items on the Full Council Track or Policy Committee Track that are submitted at a meeting of the ~~Agenda Committee~~Agenda & Rules Committee may go directly on a council agenda if determined to be time critical.

B2. Council Referrals to Committees

The full Council may refer any agenda item to a ~~P~~policy Committee by majority vote.

3. Participation Rules for Policy Committees Pursuant to the Brown Act

- a. The quorum of a three-member ~~P~~policy Committee is always two members. A majority vote of the committee (two 'yes' votes) is required to pass a motion.
- b. Two Policy Committee members may not discuss any item that has been referred to the Policy Committee outside of an open and noticed meeting.
- c. Notwithstanding paragraph (b) above, two members of a Policy Committee may co-author an item provided that one of the authors will not serve as a committee member for consideration of the item, and shall not participate in the committee's discussion of, or action on the item. For purposes of the item, the appointed alternate will serve as a committee member in place of the non-participating co-author.
- d. All three members of a Policy Committee may not be co-authors of an item that will be heard by the committee.
- e. Only one co-author who is not a member of the Policy Committee may attend the committee meeting to participate in discussion of the item.

Commented [NML46]: New requirements due to re-evaluation of Brown Act applicability to policy committees

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f. If two or more non-committee members are present for any item or meeting, then all non-committee members may act only as observers and may not participate in discussion. If an author who is not a member of the committee is present to participate in the discussion of their item, no other non-committee member Councilmembers, nor the Mayor, may attend as observers.

Commented [NML47]: SUPP 1 – added for clarification

Commented [NML48]: SUPP 1 – added for clarification

g. An item may be considered by only one Policy Committee before it goes to the full Council.

C4. Functions of the Committees

Committees shall have the following qualities/components:

- a. All committees are Brown Act bodies with noticed public meetings and public comment. Regular meeting agendas will be posted at least 72 hours in advance of the meeting.
- b. Minutes shall be available online.
- c. Committees shall adopt regular meeting schedules, generally meeting once or twice per month; special meetings may be called when necessary, in accordance with the Brown Act.
- d. Generally, meetings will be held at 2180 Milvia Street in publicly accessible meeting rooms that can accommodate the committee members, public attendees, and staff.
- e. Members are recommended by the Mayor and approved by the full Council no later than January 31 of each year. Members continue to serve until successors are appointed and approved.

f. Chairs are elected by the Committee at the first regular meeting of the Committee after the annual approval of Committee members by the City Council. In the absence of the Chair, the committee member with the longest tenure on the Council will preside.

f.g. The Chair, or a quorum of the Committee may call a meeting or cancel a meeting of the Policy Committee.

Commented [NML49]: Clarification of authority; reflects Charter

g-h. Committees will review items for completeness in accordance with Section III.B.2 of the City Council Rules of Procedure and Order and alignment with Strategic Plan goals.

i. Reports leaving a Policy Committee must adequately include budget implications, administrative feasibility, basic legal concerns, and staff resource demands in order to allow for informed consideration by the full Council.

h-j. Per Brown Act regulations, any such revised or supplemental materials must be direct revisions or supplements to the item that was published in the agenda packet.

Commented [NML50]: Added for transparency and to avoid violations arising from submission of materials only tangentially related to the agendized items

Commented [NML51]: SUPP 1 – added for clarification

Formatted: Strikethrough

Items referred to a Policy Committee from the Agenda Committee ~~Agenda & Rules Committee~~ or from the City Council must be agendized for a committee meeting within 60 days of the referral date.

III. AGENDA

Within 120 days of the referral date, the committee must vote to either (1) accept the author’s request that the item remain in committee until a date certain (more than one extension may be requested by the author); or (2) send the item to the ~~Agenda-Committee~~Agenda & Rules Committee to be placed on a Council Agenda with a Committee recommendation consisting of one of the four options listed below.

1. Positive Recommendation (recommending Council pass the item as proposed),
2. Qualified Positive Recommendation (recommending Council pass the item with some changes),
3. Qualified Negative Recommendation (recommending Council reject the item unless certain changes are made) or
4. Negative Recommendation (recommending the item not be approved).

The Policy Committee’s ~~will include their~~ recommendation will be included in a ~~new~~separate section of the report template for that purpose.

~~A~~ Policy Committee may not refer an item under its consideration to a city board or commission.

Commented [NML52]: Clarification of authority. Commissions are advisory to the Full Council

~~The~~ original Council author of an item referred to a Policy Committee is responsible for revisions and resubmission of the item back to the full Council. Items originating from the City Manager are revised and submitted by the appropriate city staff. Items from Commissions are revised and resubmitted by the members of the Policy Committee. ~~Items and Recommendations originating from the Policy Committee are submitted to the agenda process City Clerk by the members of the committee.~~

Commented [NML53]: Clarification of responsibility for shepherding items through process

~~A~~ policy committee may refer an item to another policy committee for review. The total time for review by all policy committees is limited to the initial 120-day deadline.

Commented [NML55]: Inconsistent with Brown Act – review by two committees would result in an illegal serial meeting

If a ~~P~~policy ~~C~~committee does not take final action by the 120-day deadline, the item is returned to the ~~Agenda-Committee~~Agenda & Rules Committee and appears on the next available Council agenda. The ~~Agenda-Committee~~Agenda & Rules Committee may leave the item on the agenda under consideration or place it on the next Council agenda. ~~Items~~ appearing on a City Council agenda due to lack of action by a Policy Committee may not be referred to a Policy Committee and must remain on the full Council agenda for consideration.

Commented [NML56]: Closes “endless loop” loophole

~~Policy~~ Committees may add discussion topics that are within their purview to their agenda with the concurrence of a majority of the Committee. These items are not subject to the 120-day deadline for action. ~~Non-legislative or discussion items may be added to the Policy Committee agenda by members of the Committee with the concurrence of a quorum of the Committee.~~

Commented [NML57]: SUPP 1 – This paragraph was re-worded for clarity

III. AGENDA

Once the item is voted out of a Policy Committee, ~~the final item will be resubmitted to the agenda process by the author, and it will return to the Agenda Committee~~ Agenda & Rules Committee on the next available agenda. The ~~Agenda Committee~~ Agenda & Rules Committee may leave the item on the agenda under consideration or place it on the following Council agenda. Only items that receive a Positive Recommendation can be placed on the Consent Calendar.

Commented [NML58]: Clarification

The lead author may request expedited committee review for items referred to a committee. Criteria for expedited review is generally to meet a deadline for action (e.g. grant deadline, specific event date, etc.). If the committee agrees to the request, the deadline for final committee action is 45 days from the date the ~~committee approves expedited review.~~ item first appeared on the committee agenda.

5D. Number and Make-up of Committees

Six committees are authorized, each comprised of three ~~Councilmembers,~~ with a fourth Councilmember appointed as an alternate. Each Councilmember and the Mayor will serve on two committees. ~~The Mayor shall be a member of the Agenda and Rules Committee.~~ The committees are as follows:

Commented [NML59]: This will allow two members of a policy committee to co-author an item. The Alternate will substitute for one of the co-authors while the item is heard by the policy committee.

SUPP 1 – comma added after Councilmembers

1. Agenda and Rules Committee
2. Budget and Finance Committee
3. Facilities, Infrastructure, Transportation, Environment, and Sustainability
4. Health, Life Enrichment, Equity, and Community
5. Land Use, Housing, and Economic Development
6. Public Safety

The ~~Agenda Committee~~ Agenda & Rules Committee shall establish the ~~P~~policy ~~C~~committee topic groupings, and may adjust said groupings periodically thereafter in order to evenly distribute expected workloads of various committees.

~~All~~ standing Policy Committees of the City Council are considered “legislative bodies” under the Brown Act and must conduct all business in accordance with the Brown Act.

Commented [NML60]: Clarification

6E. Role of City Staff at Committee Meetings

Committees will be staffed by appropriate City Departments and personnel. As part of the committee process, staff will undertake a high-level, preliminary analysis of potential ~~legal issues,~~ costs, timelines, and staffing demands associated with the item. Staff analysis at the Policy Committee level is limited to the points above as the recommendation, program, or project has not yet been approved to proceed by the full Council.

IV. CONDUCT OF MEETING

A. Comments from the Public

Public comment will be taken in the following order:

- An initial ten-minute period of public comment on non-agenda items, after the commencement of the meeting and immediately after Ceremonial Matters and City Manager Comments.
- Public comment on the Consent and Information Calendars.
- Public comment on action items, appeals and/or public hearings as they are taken up under procedures set forth in the sections governing each below.
- Public comment on non-agenda items from any speakers who did not speak during the first round of non-agenda public comment at the beginning of the meeting.

Speakers are permitted to yield their time to one other speaker, however no one speaker shall have more than four minutes. A speaker wishing to yield their time shall [stand and identify themselves](#), shall be recognized by the chair, and announce publicly their intention to yield their time. Disabled persons shall have priority seating in the front row of the public seating area.

A member of the public may only speak once at public comment on any single item, unless called upon by the Mayor or a Councilmember to answer a specific inquiry.

7-1. Public Comment on Consent Calendar and Information Items.

The Council will first determine whether to move items on the agenda for "Action" or "Information" to the "Consent Calendar," or move "Consent Calendar" items to "Action." Items that remain on the "Consent Calendar" are voted on in one motion as a group. "Information" items are not discussed or acted upon at the Council meeting unless they are moved to "Action" or "Consent."

The Council will then take public comment on any items that are either on the amended Consent Calendar or the Information Calendar. A speaker may only speak once during the period for public comment on Consent Calendar and Information items. No additional items can be moved onto the Consent Calendar once public comment has commenced.

At any time during, or immediately after, public comment on Information and Consent items, [the Mayor or](#) any Councilmember may move any Information or Consent item to "Action." Following this, the Council will vote on the items remaining on the Consent Calendar in one motion.

For items moved to the Action Calendar from the Consent Calendar or Information Calendar, persons who spoke on the item during the Consent Calendar public comment period may speak again at the time the matter is taken up during the Action Calendar.

IV. CONDUCT OF MEETING

2. Public Comment on Action Items.

After the initial ten minutes of public comment on non-agenda items and public comment and action on consent items, the public may comment on each remaining item listed on the agenda for action as the item is taken up.

The Presiding Officer will request that persons wishing to speak, line up at the podium to be recognized and to determine the number of persons interested in speaking at that time.

If ten or fewer persons are interested in speaking, each speaker may speak for two minutes. If there are more than ten persons interested in speaking, the Presiding Officer may limit the public comment for all speakers to one minute per speaker. Speakers are permitted to yield their time to one other speaker, however no one speaker shall have more than four minutes.

[This procedure also applies to public hearings except those types of public hearings specifically provided for in this section, below.](#)

Commented [NML61]: SUPP 1 – added for clarification

3. Appeals Appearing on Action Calendar.

With the exception of appeals from decisions of the Zoning Adjustments Board and Landmarks Preservation Commission, appeals from decisions of City commissions appear on the “Action” section of the Council Agenda. Council determines whether to affirm the action of the commission, set a public hearing, or remand the matter to the commission. Appeals of proposed special assessment liens shall also appear on the “Action” section of the Council Agenda. Appeals from decisions of the Zoning Adjustments Board and Landmarks Preservation Commission are automatically set for public hearing and appear on the “Public Hearings” section of the Council Agenda.

Time shall be provided for public comment for persons representing both sides of the action/appeal and each side will be allocated seven minutes to present their comments on the appeal. Where the appellant is not the applicant, the appellants [of a single appeal](#) collectively shall have seven minutes to comment and the applicant shall have seven minutes to comment. [If there are multiple appeals filed, each appellant or group of appellants shall have seven minutes to comment.](#) Where the appellant is the applicant, the applicant/appellant shall have seven minutes to comment and the persons supporting the action of the board or commission on appeal shall have seven minutes to comment. In the case of an appeal of proposed special assessment lien, the appellant shall have seven minutes to comment.

Commented [NML62]: Reflects existing due process standards

After the conclusion of the seven-minute comment periods, members of the public may comment on the appeal. Comments from members of the public regarding appeals shall be limited to one minute per speaker. Any person that addressed the Council during one of the seven-minute periods may not speak again during the public comment period on the appeal. Speakers may yield their time to one other speaker, however, no speaker shall have more than two minutes. Each side shall be informed of this public comment procedure at the time the Clerk notifies the parties of the date the appeal will appear on the Council agenda.

IV. CONDUCT OF MEETING

4. Public Comment on Non Agenda Matters.

Immediately following Ceremonial Matters and the City Manager Comments and prior to the Consent Calendar, persons will be selected by lottery to address matters not on the Council agenda. If five or fewer persons submit speaker cards for the lottery, each person selected will be allotted two minutes each. If more than five persons submit speaker cards for the lottery, up to ten persons will be selected to address matters not on the Council agenda and each person selected will be allotted one minute each. Persons wishing to address the Council on matters not on the Council agenda during the initial ten-minute period for such comment, must submit a speaker card to the City Clerk in person at the meeting location and prior to commencement of that meeting.

The remainder of the speakers wishing to address the Council on non-agenda items will be heard at the end of the agenda. Speaker cards are not required for this second round of public comment on non-agenda matters.

Persons submitting speaker cards are not required to list their actual name, however they must list some identifying information or alternate name in order to be called to speak.

For the second round of public comment on non-agenda matters, the Presiding Officer retains the authority to limit the number of speakers by subject. The Presiding Officer will generally request that persons wishing to speak, line up at the podium to be recognized to determine the number of persons interested in speaking at that time. Each speaker will be entitled to speak for two minutes each unless the Presiding Officer determines that one-minute is appropriate given the number of speakers.

~~According to the current Rules and Procedures Pursuant to this document,~~ no Council meeting shall continue past 11:00 p.m. unless a two-thirds majority of the Council votes to extend the meeting to discuss specified items. If any agenda item remains unfinished at 11:00 p.m. or the expiration of any extension after 11:00 p.m., it will be referred to the ~~Agenda Committee~~ [Agenda & Rules Committee](#) for scheduling pursuant to Chapter II, Section F. In that event, the meeting shall be automatically extended for up to fifteen (15) minutes for public comment on non-agenda items.

5. Ralph M. Brown Act Pertaining to Public Comments.

The "Brown Act" prohibits the Council from discussing or taking action on an issue raised during Public Comment, unless it is specifically listed on the agenda. However, the Council may refer a matter to the City Manager.

B. Consent Calendar

There shall be a Consent Calendar on all regular meeting agendas on which shall be included those matters which the Mayor, ~~C~~eouncilmembers, boards, commissions, City Auditor and City Manager deem to be of such nature that no debate or inquiry will be necessary at the Council meetings. Ordinances for second reading may be included in the Consent Calendar.

IV. CONDUCT OF MEETING

It is the policy of the Council that [the Mayor or Councilmembers](#) wishing to ask questions concerning Consent Calendar items should ask questions of the contact person identified prior to the Council meeting so that the need for discussion of consent calendar items can be minimized.

Consent Calendar items may be moved to the Action Calendar by the Council. Action items may be reordered at the discretion of the Chair with the consent of Council.

C. Information Reports Called Up for Discussion

Reports for Information designated for discussion at the request of [the Mayor or any Councilmember](#) shall be added to the appropriate section of [the Reports for Action Calendar](#) and may be acted upon at that meeting or carried over as pending business until discussed or withdrawn. The agenda will indicate that at the request of [Mayor or any Councilmember](#) a Report for Information may be acted upon by the Council.

D. [Written](#) Communications

~~Letters~~[Written communications](#) from the public will not appear on the Council agenda as individual matters for discussion but will be distributed as part of the Council agenda packet with a cover sheet identifying the author and subject matter and will be listed under "Communications." _

All such communications must have been received by the City Clerk no later than 5:00 p.m. fifteen days prior to the meeting in order to be included on the agenda.

In instances where an individual forwards more than three pages of email messages not related to actionable items on the Council agenda to the Council to be reproduced in the "Communications" section of the Council packet, the City Clerk will not reproduce the entire email(s) but instead refer the public to the City's website or a hard copy of the email(s) on file in the City Clerk Department.

All communications shall be simply deemed received without any formal action by the Council. [The Mayor or A Councilmember](#) may refer a communication to ~~staff~~[the City Manager](#) for action, if appropriate, or prepare a consent or action item for placement on a future agenda.

[Communications related to an item on the agenda that are received after 5:00 p.m. fifteen days before the meeting are published as provided for in Chapter III.C.4.](#)

E. Public Hearings for Land Use, Zoning, Landmarks, and Public Nuisance Matters

The City Council, in setting the time and place for a public hearing, may limit the amount of time to be devoted to public presentations. Staff shall introduce the public hearing item and present their comments.

Following any staff presentation, each member of the City Council shall verbally disclose all ex parte contacts concerning the subject of the hearing. Members shall also submit a report of such contacts in writing prior to the commencement of the hearing. Such reports shall include a brief statement describing the name, date, place, and content of the contact. Written reports shall be available for public review

Commented [NML63]: SUPP 1 – Clarification and updating of language

Commented [NML64]: Clarification per OGO

IV. CONDUCT OF MEETING

in the office of the City Clerk prior to the meeting and placed in a file available for public viewing at the meeting.

This is followed by five-minute presentations each by the appellant and applicant. Where the appellant is not the applicant, the appellants [of a single appeal](#) collectively shall have five minutes to comment and the applicant shall have five minutes to comment. [If there are multiple appeals filed, each appellant or group of appellants shall have five minutes to comment.](#) Where the appellant is the applicant, the applicant/appellant shall have five minutes to comment and the persons supporting the action of the board or commission on appeal shall have five minutes to comment. In the case of a public nuisance determination, the representative(s) of the subject property shall have five minutes to present.

Commented [NML65]: Same as above

The Presiding Officer will request that persons wishing to speak, line up at the podium to be recognized and to determine the number of persons interested in speaking at that time.

If ten or fewer persons are interested in speaking, each speaker may speak for two minutes. If there are more than ten persons interested in speaking, the Presiding Officer may limit the public comment for all speakers to one minute per speaker. [Any person that addressed the Council during one of the five-minute periods may not speak again during the public comment period on the appeal.](#) Speakers are permitted to yield their time to one other speaker, however no one speaker shall have more than four minutes. The Presiding Officer may with the consent of persons representing both sides of an issue allocate a block of time to each side to present their issue.

Commented [NML66]: Current practice. Matches existing language for appeals above.

F. Work Sessions

The City Council may schedule a matter for general Council discussion and direction to staff. Official/formal action on a work session item will be scheduled on a subsequent agenda under the Action portion of the Council agenda.

In general, public comment at Council work sessions will be heard after the staff presentation, for a limited amount of time to be determined by the Presiding Officer.

The Presiding Officer will request that persons wishing to speak, line up at the podium to be recognized and to determine the number of persons interested in speaking at that time. If ten or fewer persons are interested in speaking, each speaker may speak for two minutes. If there are more than ten persons interested in speaking, the Presiding Officer may limit the public comment for all speakers to one minute per speaker. Speakers are permitted to yield their time to one other speaker, however no one speaker shall have more than four minutes.

After Council discussion, if time permits, the Presiding Officer may allow additional public comment. During this time, each speaker will receive one minute. Persons who spoke during the prior public comment time may be permitted to speak again.

G. [Public Discussions](#)

Commented [NML67]: Unnecessary. A "public discussion" must still occur at a noticed meeting which is regulated by the Brown Act, OGO, and this document.

IV. CONDUCT OF MEETING

~~The City Council may, from time to time, schedule a matter for public discussion and may limit the amount of time to be devoted to said discussions. At the time the public discussion is scheduled, the City Council may seek comment from others if they so determine.~~

H. Protocol

People addressing the Council may first give their name in an audible tone of voice for the record. All remarks shall be addressed to the Council as a body and not to any member thereof. No one other than the Council and the person having the floor shall be permitted to enter into any discussion, either directly or through a member of the Council, without the permission of the Presiding Officer. No question shall be asked of a ~~Councilmember~~ council member except through the Presiding Officer.

V. PROCEDURAL MATTERS

V. PROCEDURAL MATTERS

A. Persons Authorized to Sit at Tables

No person, except City officials, their representatives and representatives of boards and commissions shall be permitted to sit at the tables in the front of the Council Chambers without the express consent of the Council.

B. Decorum

No person shall disrupt the orderly conduct of the Council meeting. Prohibited disruptive behavior includes but is not limited to shouting, making disruptive noises, such as boos or hisses, creating or participating in a physical disturbance, speaking out of turn or in violation of applicable rules, preventing or attempting to prevent others who have the floor from speaking, preventing others from observing the meeting, entering into or remaining in an area of the meeting room that is not open to the public, or approaching the Council Dais without consent. Any written communications addressed to the Council shall be delivered to the City Clerk for distribution to the Council. ~~message to or contact with any member of the Council while the Council is in session shall be through the City Clerk.~~

Commented [NML68]: Clarification that Clerk forwards written communications only, not verbal messages

C. Enforcement of Decorum

When the public demonstrates a lack of order and decorum, the presiding officer shall call for order and inform the person(s) that the conduct is violating the Rules of Order and Procedure and provide a warning to the person(s) to cease the disruptive behavior. Should the person(s) fail to cease and desist the disruptive conduct, the presiding officer may call a five (5) minute recess to allow the disruptions to cease.

If the meeting cannot be continued due to continued disruptive conduct, the presiding officer may have any law enforcement officer on duty remove or place any person who violates the order and decorum of the meeting under arrest and cause that person to be prosecuted under the provisions of applicable law.

D. Precedence of Motions

When a question or motion is before the Council, no motion shall be entertained except:

Commented [NML69]: SUPP 1 - clarification

~~4-1.~~ To adjourn,

~~5-2.~~ To fix the hour of adjournment,

~~6-3.~~ To lay on the table,

~~7-4.~~ For the previous question,

~~8-5.~~ To postpone to a certain day,

~~9-6.~~ To refer,

~~10-7.~~ To amend,

~~11-8.~~ To substitute, and

~~42.9.~~ To postpone indefinitely.

These motions shall have precedence in order indicated. Any such motion, except a motion to ~~adjourn~~, amend, or substitute, shall be put to a vote without debate.

Commented [NML70]: Motion to adjourn is not debatable pursuant to Roberts Rules

E. Roberts Rules of Order

Roberts Rules of Order have been adopted by the City Council and apply in all cases except the precedence of motions in Section V.D shall ~~supercede~~supersede.

F. Rules of Debate

1. Presiding Officer May Debate.

The presiding officer may debate from the chair; subject only to such limitations of debate as are by these rules imposed on all members, and shall not be deprived of any of the rights and privileges as a member of the Council by reason of that person acting as the presiding officer.

2. Getting the Floor - Improper References to be avoided.

Members desiring to speak shall address the Chair, and upon recognition by the presiding officer, shall confine themselves to the question under debate.

3. Interruptions.

A member, once recognized, shall not be interrupted when speaking unless it is to call a member to order, or as herein otherwise provided. If a member, while speaking, were called to order, that member shall cease speaking until the question of order is determined, and, if in order, the member shall be permitted to proceed.

4. Privilege of Closing Debate.

The ~~Mayor or Councilmember~~council member moving the adoption of an ordinance or resolution shall have the privilege of closing the debate. When a motion to call a question is passed, the ~~Mayor or Councilmember~~council member moving adoption of an ordinance, resolution or other action shall have three minutes to conclude the debate.

5. Motion to Reconsider.

A motion to reconsider any action taken by the Council may be made only ~~during the same session on the day~~ such action is taken. It may be made either immediately during the same session, or at a recessed or adjourned session thereof. Such motion must be made ~~and seconded~~ by a member ~~one of~~ the prevailing sides, and may be made at any time and have precedence over all other motions or while a member has the floor; it shall be debatable. Nothing herein shall be construed to prevent any member of the Council from making or remaking the same or other motion at a subsequent meeting of the Council.

Commented [NML71]: Must happen at the same meeting, not just the same day.

Commented [NML72]: Inconsistent with Roberts Rules. Requiring a seconder to be on the prevailing side could infringe on a single member's right to reconsider their vote.

V. PROCEDURAL MATTERS

6. Repeal or Amendment of Action Requiring a Vote of Two-Thirds of Council, or Greater.

Any ordinance or resolution which is passed and which, as part of its terms, requires a vote of two-thirds of the Council or more in order to pass a motion pursuant to such an ordinance or resolution, shall require the vote of the same percent of the Council to repeal or amend the ordinance or resolution.

G. Debate Limited

1. ~~Except as provided in Section V.F.b hereof, c~~ Consideration of each matter coming before the Council shall be limited to 20 minutes from the time the matter is first taken up, at the end of which period consideration of such matter shall terminate and the matter shall be dropped to the foot of the agenda, immediately ahead of [Good of the City Information Reports](#); provided that either of the following two not debatable motions shall be in order:
 - a) A motion to extend consideration which, if passed, shall commence a new twenty-minute period for consideration; or
 - b) If there are one or more motions on the floor, ~~the a motion for the~~ previous question, which, if passed [by a 2/3 vote](#), shall require an immediate vote on pending motions.
2. The time limit set forth in subparagraph ~~a-1~~ hereof shall not be applicable to any public hearing, public discussion, Council discussion or other especially set matter for which a period of time has been specified (in which case such specially set time shall be the limit for consideration) or which by applicable law (e.g. hearings of appeals, etc.), the matter must proceed to its conclusion.
3. In the interest of expediting the business of the City, failure by the Chair or any ~~Councilmember~~~~council member~~ to call attention to the expiration of the time allowed for consideration of a matter, by point of order or otherwise, shall constitute unanimous consent to the continuation of consideration of the matter beyond the allowed time; provided, however, that the Chair or any ~~Councilmember~~~~council member~~ may at any time thereafter call attention to the expiration of the time allowed, in which case the Council shall proceed to the next item of business, unless one of the motions referred to in ~~subparagraph Section a.1D~~ hereof is made and is passed.

Commented [NML73]: SUPP 1 – changes to b) added for clarification

H. Motion to Lay on Table

A motion to lay on the table shall preclude all amendments or debate of the subject under consideration. If the motion shall prevail, the consideration of the subject may be resumed only upon a motion of a member voting with the majority and with consent of two-thirds of the members present.

I. Division of Question

If the question contains two or more propositions, which can be divided, the presiding officer may, and upon request of a member shall, divide the same.

J. Addressing the Council

~~Any person desiring to address the Council shall first secure the permission of the presiding officer to do so.~~ Under the following headings of business, unless the presiding officer rules otherwise, any ~~qualified and~~ interested person shall have the right to address the Council in accordance with the following conditions and upon obtaining recognition by the presiding officer:

Commented [NML74]: Exactly restated later in same paragraph

Commented [NML75]: Not sure what could be meant by "qualified"

1. Written Communications.

V. PROCEDURAL MATTERS

Interested parties or their authorized representatives may address the Council by in the form of written communications in regard to matters of concern to them by submitting their written communications at the meeting, or prior to the meeting pursuant to the deadlines in Chapter III.C.4.

~~Communications pertaining to an item on the agenda which are received by the City Clerk after the deadline for inclusion in the Council Agenda packet and through 5:00 p.m. seven calendar days prior to the meeting shall be compiled into a supplemental communications packet. The supplemental communications packet shall be made available to the City Council, public and members of the press no later than five days prior to the meeting.~~

~~Communications received by the City Clerk after the aforementioned deadline and by noon on the day of a Council meeting shall be duplicated by the City Clerk and submitted to the City Council at the meeting if related to an item which is on the agenda for that meeting. Communications submitted at the Council meeting will be included in the public viewing binder and in the Clerk Department the day following the meeting.~~

Commented [NML76]: Described elsewhere and unnecessary here.

2. Public Hearings.

Interested persons or their authorized representatives may address the Council by reading protests, petitions, or communications relating to matters then under consideration.

3. Public Comment.

Interested persons may address the Council on any issue concerning City business during the period assigned to Public Comment.

K. Addressing the Council After Motion Made

When a motion is pending before the Council, no person other than the Mayor or a Councilmember~~council member~~ shall address the Council without first securing the permission of the presiding officer or Council to do so.

VI. FACILITIES

A. Council Chamber Capacity

~~Council Chamber~~ Attendance at council meetings shall be limited to the posted seating capacity of the meeting location thereof. Entrance to the ~~City Hall~~ meeting location will be appropriately regulated by the City Manager on occasions when the ~~Council Chamber~~ capacity is likely to be exceeded. While the Council is in session, members of the public shall not remain standing in the ~~Council Chamber~~ meeting room except to address the Council, and sitting on the floor shall not be permitted. ~~The Council proceedings may be conveyed by loudspeaker to those who have been unable to enter the Council Chambers.~~

Commented [NML77]: Updated to reflect new locations of meetings and to not be as specific with regards to meeting locations

B. Alternate Facilities for Council Meetings

The City Council shall approve in advance a proposal that a Council meeting be held at a facility other than the ~~City Council Chambers~~ School District Board Room.

If the City Manager has reason to anticipate that the attendance for a meeting will be substantially greater than the capacity of the ~~City Council Chambers~~ Board Room and insufficient time exists to secure the approval of the City Council to hold the meeting at an alternate facility, the City Manager shall make arrangements for the use of a suitable alternate facility to which such meeting may be recessed and moved, if the City Council authorizes the action.

If a suitable alternate facility is not available, the City Council may reschedule the matter to a date when a suitable alternate facility will be available.

Alternate facilities are to be selected from those facilities previously approved by the City Council as suitable for meetings away from the ~~City Council Chambers~~ Board Room.

C. Signs, Objects, and Symbolic Materials

Objects and symbolic materials such as signs which do not have sticks or poles attached or otherwise create any fire or safety hazards will be allowed within the ~~Council Chamber~~ meeting location during Council meetings.

D. Fire Safety

Exits shall not be obstructed in any manner. Obstructions, including storage, shall not be placed in aisles or other exit ways. Hand carried items must be stored so that such items do not inhibit passage in aisles or other exit ways. Attendees are strictly prohibited from sitting in aisles and/or exit ways. Exit ways shall not be used in any way that will present a hazardous condition.

E. Overcrowding

Admittance of persons beyond the approved capacity of a place of assembly is prohibited. When the ~~Council Chambers~~ meeting location has have reached the posted maximum capacity, additional attendees shall be directed to the designated overflow area.

APPENDIX A. POLICY FOR NAMING AND RENAMING PUBLIC FACILITIES

Purpose

To establish a uniform policy regarding the naming and renaming of existing and future parks, streets, pathways and other public facilities.

Objective

B.A. To ensure that naming public facilities (such as parks, streets, recreation facilities, pathways, open spaces, public building, bridges or other structures) will enhance the values and heritage of the City of Berkeley and will be compatible with community interest.

Section 1 – Lead Commission

The City Council designates the following commissions as the ‘Lead Commissions’ in overseeing, evaluating, and ultimately advising the Council in any naming or renaming of a public facility. The lead commission shall receive and coordinate comment and input from other Commissions and the public as appropriate.

Board of Library Trustees

Parks and Recreation Commission –Parks, recreation centers, camps, plazas and public open spaces

Public Works Commission –Public buildings (other than recreation centers), streets and bridges or other structures in the public thoroughfare.

Waterfront Commission –Public facilities within the area of the City known as the Waterfront, as described in BMC 3.36.060.B.

Section 2 – General Policy

- A. Newly acquired or developed public facilities shall be named immediately after acquisition or development to ensure appropriate public identity.
- B. No public facility may be named for a living person, but this policy can be overridden with a 2/3 vote of the City Council.
- C. Public facilities that are renamed must follow the same criteria for naming new facilities. In addition, the historical significance and geographical reference of the established name should be considered when weighing and evaluating any name change.
- D. The City encourages the recognition of individuals for their service to the community in ways that include the naming of activities such as athletic events, cultural presentations, or annual festivals, which do not involve the naming or renaming of public facilities.
- E. Unless restricted by covenant, facilities named after an individual should not necessarily be considered a perpetual name.

Section 3 – Criteria for Naming of Public Facilities

When considering the naming of a new public facility or an unnamed portion or feature within an already named public facility (such as a room within the facility or a feature within an established park), or, the renaming of an existing public facility the following criteria shall be applied:

APPENDIX A. POLICY FOR NAMING AND RENAMING PUBLIC FACILITIES

- A. Public Facilities are generally easier to identify by reference to adjacent street names, distinct geographic or environmental features, or primary use activity. Therefore, the preferred practice is to give City-owned property a name of historical or geographical significance and to retain these names.
- B. No public facility may be named for a living person, but this policy can be overridden with a 2/3 vote of the City Council.
- C. The naming of a public facility or any parts thereof in recognition of an individual posthumously may only be considered if the individual had a positive effect on the community and has been deceased for more than 1 year.
- D. When a public facility provides a specific programmatic activity, it is preferred that the activity (e.g. skateboard park, baseball diamond) be included in the name of the park or facility.
- E. When public parks are located adjacent to elementary schools, a name that is the same as the adjacent school shall be considered.
- F. When considering the renaming of an existing public facility, in addition to applying criteria A-E above, proper weight should be given to the fact that: a name lends a site or property authenticity and heritage; existing names are presumed to have historic significance; and historic names give a community a sense of place and identity, continuing through time, and increases the sense of neighborhood and belonging.

Section 4 –Naming Standards Involving a Major Contribution

When a person, group or organization requests the naming or renaming of a public facility, all of the following conditions shall be met:

- A. An honoree will have made a major contribution towards the acquisition and/or development costs of a public facility or a major contribution to the City.
- B. The honoree has a record of outstanding service to their community
- C. Conditions of any donation that specifies that name of a public facility, as part of an agreement or deed, must be approved by the City Council, after review by and upon recommendation of the City Manager.

Section 5 –Procedures for Naming or Renaming of Public Facilities

- A. Any person or organization may make a written application to the City Manager requesting that a public facility or portion thereof, be named or renamed.
 - 1. Recommendations may also come directly of the City Boards or Commissions, the City Council, or City Staff.
- B. The City Manager shall refer the application to the appropriate lead commission as defined in Section 1 of the City's policy on naming of public facilities, for that commission's review, facilitation, and recommendation of disposition.
 - 1. The application shall contain the name or names of the persons or organization making the application and the reason for the requested naming or renaming.
- C. The lead commission shall review and consider the application, using the policies and criteria articulated to the City Policy on Naming and Renaming to make a recommendation to Council.
 - 1. All recommendations or suggestion will be given the same consideration without regard to the source of the nomination
- D. The lead commission shall hold a public hearing and notify the general public of any discussions regarding naming or renaming of a public facility.

APPENDIX A. POLICY FOR NAMING AND RENAMING PUBLIC FACILITIES

1. Commission action will be taking at the meeting following any public hearing on the naming or renaming.
- E. The commission's recommendation shall be forwarded to Council for final consideration.

The City of Berkeley Policy for Naming and Renaming Public Facilities was adopted by the Berkeley City Council at the regular meeting of January 31, 2012.

APPENDIX B. GUIDELINES FOR DEVELOPING AND WRITING COUNCIL AGENDA ITEMS

These guidelines are derived from the requirements for Agenda items listed in the Berkeley City Council Rules of Procedure and Order, Chapter III, Sections B(1) and (2), reproduced below. In addition, Chapter III Section C(1)(a) of the Rules of Procedure and Order allows the ~~Agenda Committee~~ [Agenda & Rules Committee](#) to request that the author of an item provide “additional analysis” if the item as submitted evidences a “significant lack of background or supporting information” or “significant grammatical or readability issues.”

These guidelines provide a more detailed and comprehensive overview of elements of a complete Council item. While not all elements would be applicable to every type of Agenda item, they are intended to prompt authors to consider presenting items with as much relevant information and analysis as possible.

Chapter III, Sections (B)(1) and (2) of Council Rules of Procedure and Order:

- ~~3-2.~~ 3-2. Agenda items shall contain all relevant documentation, including the following as Applicable:
- a. A descriptive title that adequately informs the public of the subject matter and general nature of the item or report and action requested;
 - b. Whether the matter is to be presented on the Consent Calendar or the Action Calendar or as a Report for Information;
 - c. Recommendation of the City Manager, if applicable (these provisions shall not apply to Mayor and Council items.);
 - d. Fiscal impacts of the recommendation;
 - e. A description of the current situation and its effects;
 - f. Background information as needed;
 - g. Rationale for recommendation;
 - h. Alternative actions considered;
 - i. For awards of contracts; the abstract of bids and the Affirmative Action Program of the low bidder in those cases where such is required (these provisions shall not apply to Mayor and Council items.);
 - j. Person or persons to contact for further information, with telephone number. If the author of any report believes additional background information, beyond the basic report, is necessary to Council understanding of the subject, a separate compilation of such background information may be developed and copies will be available for Council and for public review in the City Clerk Department, and the City Clerk shall provide limited distribution of such background information depending upon quantity of pages to be duplicated. In such case the agenda item distributed with the packet shall so indicate.

APPENDIX B. GUIDELINES FOR DEVELOPING AND WRITING COUNCIL AGENDA ITEMS

Guidelines for City Council Items:

1. Title
 2. Consent/Action/Information Calendar
 3. Recommendation
 4. Summary Statement/Current situation and its effects
 5. Background
 6. Review of Existing Plans, Programs, Policies and Laws
 7. Actions/Alternatives Considered
 8. Consultation/Outreach Overview and Results
 9. Rationale for Recommendation
 10. Implementation, Administration and Enforcement
 11. Environmental Sustainability
 12. Fiscal Impacts
 13. Outcomes and Evaluation
 14. Contact Information
 15. Attachments/Supporting Materials
-

1. Title

A descriptive title that adequately informs the public of the subject matter and general nature of the item or report and action requested.

2. Consent/Action/Information Calendar

Whether the matter is to be presented on the Consent Calendar or the Action Calendar or as a Report for Information.

3. Recommendation

Clear, succinct statement of action(s) to be taken. Recommendations can be further detailed within the item, by specific reference.

Common action options include:

- Adopt first reading of ordinance
- Adopt a resolution
- Referral to the City Manager (City Manager decides if it is a short term referral or is placed on the RRV ranking list)
- Direction to the City Manager (City Manager is directed to execute the recommendation right away, it is not placed on any referral list)
- Referral to a Commission or to a Standing or Ad Hoc Council Committee
- Referral to the budget process
- Send letter of support
- Accept, Approve, Modify or Reject a recommendation from a Commission or Committee
- Designate members of the Council to perform some action

4. Summary Statement/ “Current situation and its effects”

A short resume of the circumstances that give rise to the need for the recommended action(s).

- Briefly state the opportunity/problem/concern that has been identified, and the proposed solution.
- Example (fictional):
Winter rains are lasting longer than expected. Berkeley’s winter shelters are poised to close in three weeks, but forecasts suggest rain for another two months. If they do not remain open until the end of the rainy season, hundreds of people will be left in the rain 24/7. Therefore, this item seeks authorization to keep Berkeley’s winter shelters open until the end of April, and refers to the Budget Process \$40,000 to cover costs of an additional two months of shelter operations.

5. Background

A full discussion of the history, circumstances and concerns to be addressed by the item.

- For the above fictional example, Background would include *information and data about the number and needs of homeless individuals in Berkeley, the number and availability of permanent shelter beds that meet their needs, the number of winter shelter beds that would be lost with closure, the impacts of such closure on this population, the weather forecasts, etc.*

6. Review of Existing Plans, Programs, Policies and Laws

Review, identify and discuss relevant/applicable Plans, Programs, Policies and Laws, and how the proposed actions conform with, compliment, are supported by, differ from or run contrary to them. What gaps were found that need to be filled? What existing policies, programs, plans and laws need to be changed/supplemented/improved/repealed? What is missing altogether that needs to be addressed?

Review of all pertinent/applicable sections of:

- The City Charter
- Berkeley Municipal Code
- Administrative Regulations
- Council Resolutions
- Staff training manuals

Review of all applicable City Plans:

- The General Plan
- Area Plans
- The Climate Action Plan
- Resilience Plan
- Equity Plan

APPENDIX B. GUIDELINES FOR DEVELOPING AND WRITING COUNCIL AGENDA ITEMS

- Capital Improvements Plan
- Zero Waste Plan
- Bike Plan
- Pedestrian Plan
- Other relevant precedents and plans

Review of the City's Strategic Plan

Review of similar legislation previously introduced/passed by Council

Review of County, State and Federal laws/policies/programs/plans, if applicable

7. Actions/Alternatives Considered

- What solutions/measures have **other jurisdictions** adopted that serve as models/cautionary tales?
- What solutions/measures are recommended by **advocates, experts, organizations**?
- What is the range of actions considered, and what are some of their major pros and cons?
- Why were other solutions not as feasible/advisable?

8. Consultation/Outreach Overview and Results

- Review/list external and internal stakeholders that were consulted
 - **External:** constituents, communities, neighborhood organizations, businesses and not for profits, advocates, people with lived experience, faith organizations, industry groups, people/groups that might have concerns about the item, etc.
 - **Internal:** staff who would implement policies, the City Manager and/or deputy CM, Department Heads, City Attorney, Clerk, etc.
- What reports, articles, books, websites and other materials were consulted?
- What was learned from these sources?
- What changes or approaches did they advocate for that were accepted or rejected?

9. Rationale for Recommendation

A clear and concise statement as to whether the item proposes actions that:

- Conform to, clarify or extend existing Plans, Programs, Policies and Laws
- Change/Amend existing Plans, Programs, Policies and Laws in **minor** ways
- Change/Amend existing Plans, Programs, Policies and Laws in **major** ways
- Create an exception to existing Plans, Programs, Policies and Laws
- Reverse/go contrary to or against existing Plans, Programs, Policies and Laws

Argument/summary of argument in support of recommended actions. The argument likely has already been made via the information and analysis already presented,

but should be presented/restated/summarized. Plus, further elaboration of terms for recommendations, if any.

10. Implementation, Administration and Enforcement

Discuss how the recommended action(s) would be implemented, administered and enforced. What staffing (internal or via contractors/consultants) and materials/facilities are likely required for implementation?

11. Environmental Sustainability

Discuss the impacts of the recommended action(s), if any, on the environment and the recommendation's positive and/or negative implications with respect to the City's Climate Action, Resilience, and other sustainability goals.

12. Fiscal Impacts

Review the recommended action's potential to generate funds or savings for the City in the short and long-term, as well as the potential direct and indirect costs.

13. Outcomes and Evaluation

State the specific outcomes expected, if any (i.e., "*it is expected that 100 homeless people will be referred to housing every year*") and what reporting or evaluation is recommended.

14. Contact Information

15. Attachments/Supporting Materials

The Berkeley City Council Rules of Procedure and Order

Adopted by Resolution No. ~~##,###~~–N.S.
Effective November 12, 2019

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I. DUTIES

A. Duties of Mayor

The Mayor shall preside at the meetings of the Council and shall preserve strict order and decorum at all regular and special meetings of the Council. The Mayor shall state every question coming before the Council, announce the decision of the Council on all subjects, and decide all questions of order, subject, however, to an appeal to the Council, in which event a majority vote of the Council shall govern and conclusively determine such question of order. In the Mayor's absence, the Vice President of the Council (hereafter referred to as the Vice-Mayor) shall preside.

B. Duties of Councilmembers

Promptly at the hour set by law on the date of each regular meeting, the members of the Council shall take their regular stations in the Council Chambers and the business of the Council shall be taken up for consideration and disposition.

C. Motions to be Stated by Chair

When a motion is made, it may be stated by the Chair or the City Clerk before debate.

D. Decorum by Councilmembers

While the Council is in session, the City Council will practice civility and decorum in their discussions and debate. Councilmembers will value each other's time and will preserve order and decorum. A member shall neither, by conversation or otherwise, delay or interrupt the proceedings of the Council, use personal, impertinent or slanderous remarks, nor disturb any other member while that member is speaking or refuse to obey the orders of the presiding officer or the Council, except as otherwise provided herein.

All Councilmembers have the opportunity to speak and agree to disagree but no Councilmember shall speak twice on any given subject unless all other Councilmembers have been given the opportunity to speak. The Presiding Officer may set a limit on the speaking time allotted to Councilmembers during Council discussion.

The presiding officer has the affirmative duty to maintain order. The City Council will honor the role of the presiding officer in maintaining order. If a Councilmember believes the presiding officer is not maintaining order, the Councilmember may move that the Vice-Mayor, or another Councilmember if the Vice-Mayor is acting as the presiding officer at the time, enforce the rules of decorum and otherwise maintain order. If that motion receives a second and is approved by a majority of the Council, the Vice-Mayor, or other designated Councilmember, shall enforce the rules of decorum and maintain order.

E. Voting Disqualification

No member of the Council who is disqualified shall vote upon the matter on which the member is disqualified. Any member shall openly state or have the presiding officer announce the fact and nature of such disqualification in open meeting, and shall not be subject to further inquiry. Where no clearly disqualifying conflict of interest appears, the matter of disqualification may, at the request of the member affected, be

decided by the other members of the Council, by motion, and such decision shall determine such member's right and obligation to vote. A member who is disqualified by conflict of interest in any matter shall not remain in the Chamber during the debate and vote on such matter, but shall request and be given the presiding officer's permission to recuse themselves. Any member having a "remote interest" in any matter as provided in Government Code shall divulge the same before voting.

F. Requests for Technical Assistance and/or Reports

A majority vote of the Council shall be required to direct staff to provide technical assistance, develop a report, initiate staff research, or respond to requests for information or service generated by an individual council member.

II. MEETINGS

A. Call to Order - Presiding Officer

The Mayor, or in the Mayor's absence, the Vice Mayor, shall take the chair precisely at the hour appointed by the meeting and shall immediately call the Council to order. Upon the arrival of the Mayor, the Vice Mayor shall immediately relinquish the chair. In the absence of the two officers specified in this section, the Councilmember present with the longest period of Council service shall preside.

B. Roll Call

Before the Council shall proceed with the business of the Council, the City Clerk shall call the roll of the members and the names of those present shall be entered in the minutes. The later arrival of any absentee shall also be entered in the minutes.

C. Quorum Call

During the course of the meeting, should the Chair note a Council quorum is lacking, the Chair shall call this fact to the attention of the City Clerk. The City Clerk shall issue a quorum call. If a quorum has not been restored within two minutes of a quorum call, the meeting shall be deemed automatically adjourned.

D. Council Meeting Conduct of Business

The agenda for the regular business meetings shall include the following: Ceremonial Items (including comments from the City Auditor if requested); Comments from the City Manager; Comments from the Public; Consent Calendar; Action Calendar (Appeals, Public Hearings, Continued Business, Old Business, New Business); Information Reports; and Communication from the Public. Presentations and workshops may be included as part of the Action Calendar. The Chair will determine the order in which the item(s) will be heard with the consent of Council.

Upon request by the Mayor or any Councilmember, any item may be moved from the Consent Calendar or Information Calendar to the Action Calendar. Unless there is an objection by the Mayor or any Councilmember, the Council may also move an item from the Action Calendar to the Consent Calendar.

A public hearing that is not expected to be lengthy may be placed on the agenda for a regular business meeting. When a public hearing is expected to be contentious and lengthy and/or the Council's regular meeting schedule is heavily booked, the Agenda & Rules Committee, in conjunction with the staff, will schedule a special meeting exclusively for the public hearing. No other matters shall be placed on the agenda for the special meeting. All public comment will be considered as part of the public hearing and no separate time will be set aside for public comment not related to the public hearing at this meeting.

Except at meetings at which the budget is to be adopted, no public hearing may commence later than 10:00 p.m. unless there is a legal necessity to hold the hearing or make a decision at that meeting or the City Council determines by a two-thirds vote that there is a fiscal necessity to hold the hearing.

E. Adjournment

1. No Council meeting shall continue past 11:00 p.m. unless a two-thirds majority of the Council votes to extend the meeting to discuss specified items; and any motion to extend the meeting beyond 11:00 p.m. shall include a list of specific agenda items to be covered and shall specify in which order these items shall be handled.
2. Any items not completed at a regularly scheduled Council meeting may be continued to an Adjourned Regular Meeting by a two-thirds majority vote of the Council.

F. Unfinished Business

Any items not completed by formal action of the Council, and any items not postponed to a date certain, shall be considered Unfinished Business. All Unfinished Business shall be referred to the Agenda & Rules Committee for scheduling for a Council meeting that occurs within 60 days from the date the item last appeared on a Council agenda. The 60 day period is tolled during a Council recess.

G. City Council Schedule and Recess Periods

Pursuant to the Open Government Ordinance, the City Council shall hold a minimum of twenty-four (24) meetings, or the amount needed to conduct City business in a timely manner, whichever is greater, each calendar year.

Regular meetings of the City Council shall be held generally two to three Tuesdays of each month except during recess periods; the schedule to be established annually by Council resolution taking into consideration holidays and election dates.

Regular City Council meetings shall begin no later than 6:00 p.m.

A recess period is defined as a period of time longer than 21 days without a regular meeting of the Council.

When a recess period occurs, the City Manager is authorized to take such ministerial actions for matters of operational urgency as would normally be taken by the City Council during the period of recess except for those duties specifically reserved to the Council by the Charter, and including such emergency actions as are necessary for the immediate preservation of the public peace, health or safety; the authority to extend throughout the period of time established by the City Council for the period of recess.

The City Manager shall have the aforementioned authority beginning the day after the Agenda & Rules Committee meeting for the last regular meeting before a Council recess and this authority shall extend up to the date of the Agenda & Rules Committee meeting for the first regular meeting after the Council recess.

The City Manager shall make a full and complete report to the City Council at its first regularly scheduled meeting following the period of recess of actions taken by the City Manager pursuant to this section, at which time the City Council may make such findings as may be required and confirm said actions of the City Manager.

H. Pledge of Allegiance to the Flag

At the first meeting of each year following the August recess and at any subsequent meeting if specifically requested before the meeting by any member of the Council in order to commemorate an occasion of national significance, the first item on the Ceremonial Calendar will be the Pledge of Allegiance.

I. Ad Hoc Subcommittees

From time to time the Council or the Mayor may appoint several of its members but fewer than the existing quorum of the present body to serve as an ad hoc subcommittee. Only Councilmembers may be members of the ad hoc subcommittee; however, the subcommittee shall seek input and advice from residents, related commissions, and other groups. Ad Hoc Subcommittees must be reviewed annually by the Council to determine if the subcommittee is to continue.

Upon creation of an ad hoc subcommittee, the Council shall allow it to operate with the following parameters:

1. A specific charge or outline of responsibilities shall be established by the Council.
2. A target date must be established for a report back to the Council.
3. Maximum life of the subcommittee shall be one year, with annual review and possible extension by the Council.

Subcommittees shall conduct their meetings in locations that are open to the public and meet accessibility requirements under the Americans with Disabilities Act. Meetings may be held at privately owned facilities provided that the location is open to all that wish to attend and that there is no requirement for purchase to attend. Agendas for subcommittee meetings must be posted in the same manner as the agendas for regular Council meetings except that subcommittee agendas may be posted with 24-hour notice. The public will be permitted to comment on agenda items but public comments may be limited to one minute if deemed necessary by the Committee Chair. Agendas and minutes of the meetings must be maintained and made available upon request.

Ad hoc subcommittees will be staffed by City Council legislative staff. As part of the ad hoc subcommittee process, City staff will undertake a high-level, preliminary analysis of potential legal issues, costs, timelines, and staffing demands associated with the item(s) under consideration. Staff analysis at ad hoc subcommittees is limited to the points above as the recommendation, program, or project has not yet been approved to proceed by the full Council.

Subcommittees must be comprised of at least two members. If only two members are appointed, then both must be present in order for the subcommittee meeting to be held. In other words, the quorum for a two-member subcommittee is always two.

Ad hoc subcommittees may convene a closed session meeting pursuant to the conditions and regulations imposed by the Brown Act.

III. AGENDA

A. Declaration of Policy

No ordinance, resolution, or item of business shall be introduced, discussed or acted upon before the Council at its meeting without prior thereto its having been published on the agenda of the meeting and posted in accordance with Section III.D.2. Exceptions to this rule are limited to circumstances listed in Section III.D.4.b and items continued from a previous meeting and published on a revised agenda.

B. Definitions

For purposes of this section, the terms listed herein shall be defined as follows:

1. "Agenda Item" means an item placed on the agenda (on either the Consent Calendar or as a Report For Action) for a vote of the Council by the Mayor or any Councilmember, the City Manager, the Auditor, or any board/commission/committee created by the City Council, or any Report For Information which may be acted upon if the Mayor or a Councilmember so requests. For purposes of this section, appeals shall be considered action items. All information from the City Manager concerning any item to be acted upon by the Council shall be submitted as a report on the agenda and not as an off-agenda memorandum and shall be available for public review, except to the extent such report is privileged and thus confidential such as an attorney client communication concerning a litigation matter. Council agenda items are limited to a maximum of three Co-Sponsors (in addition to the Primary Author). Co-Sponsors to Council reports may only be added in the following manner:

- In the original item as submitted by the Primary Author
- In a revised item submitted by the Primary Author at the Agenda & Rules Committee
- By verbal request of the Primary Author at the Agenda & Rules Committee
- In a revised item submitted by the Primary Author in Supplemental Reports and Communications Packet #1 or #2
- By verbal or written request of the Mayor or any Councilmember at the Policy Committee meeting or meeting of the full council at which the item is considered

Agenda items shall contain all relevant documentation, including the information listed below.

- a) A descriptive title that adequately informs the public of the subject matter and general nature of the item or report;
- b) Whether the matter is to be presented on the Consent Calendar or the Action Calendar or as a Report for Information;
- c) Recommendation of the report author that describes the action to be taken on the item, if applicable;
- d) Fiscal impacts of the recommendation;

- e) A description of the current situation and its effects;
 - f) Background information as needed;
 - g) Rationale for recommendation;
 - h) Alternative actions considered;
 - i) For awards of contracts; the abstract of bids and the Affirmative Action Program of the low bidder in those cases where such is required (these provisions shall not apply to Mayor and Council items.);
 - j) Person or persons to contact for further information, with telephone number.
 - k) Additional information and analysis as required. It is recommended that reports include the points of analysis in the Council Report Guidelines in Appendix B.
2. "Primary Author" means the Mayor or Councilmember that initiated, authored, and submitted a council agenda item.
3. "Co-Sponsor" means the Mayor or other Councilmembers designated by the Primary Author to be co-sponsor of the council agenda item.
4. "Agenda" means the compilation of the descriptive titles of agenda items submitted to the City Clerk, arranged in the sequence established in Section III.E hereof.
5. "Packet" means the agenda plus all its corresponding duplicated agenda items.
6. "Emergency Matter" arises when prompt action is necessary due to the disruption or threatened disruption of public facilities and a majority of the Council determines that:
- a) A work stoppage or other activity which severely impairs public health, safety, or both;
 - b) A crippling disaster, which severely impairs public health, safety or both. Notice of the Council's proposed consideration of any such emergency matter shall be given in the manner required by law for such an emergency pursuant to Government Code Section 54956.5.
7. "Continued Business" Items carried over from a prior agenda of a meeting occurring less than 11 days earlier.
8. "Old Business" Items carried over from a prior agenda of a meeting occurring more than 11 days earlier.

C. Procedure for Bringing Matters Before City Council

1. Persons Who Can Place Matters on the Agenda.

Matters may be placed on the agenda by the Mayor or any Councilmember, the City Manager, the Auditor, or any board/commission/committee created by the City Council. All items, other than board and commission items shall be subject to review by the Agenda & Rules Committee, which shall be a standing committee of the City Council.

The Agenda & Rules Committee shall meet 15 days prior to each City Council meeting and shall approve the agenda of that City Council meeting. Pursuant to BMC Section 1.04.080, if the 15th day prior to the Council meeting falls on a holiday, the Committee will meet the next business day. The Agenda & Rules Committee packet, including a draft agenda and Councilmember, Auditor, and Commission reports shall be distributed by 5:00 p.m. 4 days before the Agenda & Rules Committee meeting.

The Agenda & Rules Committee shall have the powers set forth below.

- a) **Items Authored by the Mayor, a Councilmember, or the Auditor.** As to items authored by the Mayor, a Councilmember, or the Auditor, the Agenda & Rules Committee shall review the item and may take the following actions:
 - i. Refer the item to a commission for further analysis (Primary Author may decline and request Policy Committee assignment).
 - ii. Refer the item to the City Manager for further analysis (Primary Author may decline and request Policy Committee assignment).
 - iii. Refer the item back to the author for adherence to required form or for additional analysis as required in Section III.B.1, (Primary Author may decline and request Policy Committee assignment).
 - iv. Refer the item to a Policy Committee.
 - v. Schedule the item for the agenda under consideration or one of the next three full Council agendas.

For referrals under Chapter III.C.1.a.iii the Primary Author must inform the City Clerk within 24 hours of the adjournment of the Agenda & Rules Committee meeting whether they prefer to:

- 1) re-submit the item for a future meeting with modifications as suggested by the Agenda & Rules Committee; or
- 2) pull the item completely; or

- 3) re-submit the item with revisions as requested by the Agenda & Rules Committee within 24 hours of the adjournment of the Agenda & Rules Committee meeting for the Council agenda under consideration; or
- 4) accept the referral of the Agenda & Rules Committee in sub paragraphs i, ii, or iii.

If the Primary Author requests a Policy Committee assignment, the item will appear on the next draft agenda presented to the Agenda & Rules Committee for assignment.

In the event that the City Clerk does not receive guidance from the Primary Author of the referred item within 24 hours of the Agenda & Rules Committee's adjournment, the item will appear on the next draft agenda for consideration by the Agenda & Rules Committee.

Items held for a future meeting to allow for modifications will be placed on the next available Council meeting agenda at the time that the revised version is submitted to the City Clerk.

- b) **Items Authored by the City Manager.** The Agenda & Rules Committee shall review agenda descriptions of items authored by the City Manager. The Committee can recommend that the matter be referred to a commission or back to the City Manager for adherence to required form, additional analysis as required in Section III.B.2, or suggest other appropriate action including scheduling the matter for a later meeting to allow for appropriate revisions.

If the City Manager determines that the matter should proceed notwithstanding the Agenda & Rules Committee's action, it will be placed on the agenda as directed by the Manager. All City Manager items placed on the Council agenda against the recommendation of the Agenda & Rules Committee will automatically be placed on the Action Calendar.

- c) **Items Authored by Boards and Commissions.** Council items submitted by boards and commissions are subject to City Manager review and must follow procedures and timelines for submittal of reports as described in the Commissioners' Manual. The content of commission items is not subject to review by the Agenda & Rules Committee.

- i) For a commission item that does not require a companion report from the City Manager, the Agenda & Rules Committee may act on an agendaized commission report in the following manner:
 1. Move a commission report from the Consent Calendar to the Action Calendar or from the Action Calendar to the Consent Calendar.

2. Re-schedule the commission report to appear on one of the next three regular Council meeting agendas that occur after the regular meeting under consideration. Commission reports submitted in response to a Council referral shall receive higher priority for scheduling.
 3. Allow the item to proceed as submitted.
 - ii) For any commission report that requires a companion report, the Agenda & Rules Committee may schedule the item on a Council agenda. The Committee must schedule the the commission item for a meeting occurring not sooner than 60 days and not later than 120 days from the date of the meeting under consideration by the Agenda & Rules Committee. A commission report submitted with a complete companion report may be scheduled pursuant to subparagraph c.i. above.
 - d) The Agenda & Rules Committee shall have the authority to re-order the items on the Action Calendar regardless of the default sequence prescribed in Chapter III, Section E.
2. **Scheduling Public Hearings Mandated by State, Federal, or Local Statute.**
The City Clerk may schedule a public hearing at an available time and date in those cases where State, Federal or local statute mandates the City Council hold a public hearing.
3. **Submission of Agenda Items.**
- a) **City Manager Items.** Except for Continued Business and Old Business, as a condition to placing an item on the agenda, agenda items from departments, including agenda items from commissions, shall be furnished to the City Clerk at a time established by the City Manager.
 - b) **Council and Auditor Items.** The deadline for reports submitted by the Auditor, Mayor and City Council is 5:00 p.m. on Monday, 22 days before each Council meeting.
 - c) **Time Critical Items.** A Time Critical item is defined as a matter that is considered urgent by the sponsor and that has a deadline for action that is prior to the next meeting of the Council and for which a report prepared by the City Manager, Auditor, Mayor or Councilmember is received by the City Clerk after established deadlines and is not included on the Agenda & Rules Committee's published agenda.

The author of the report shall bring any reports submitted as Time Critical to the meeting of the Agenda & Rules Committee. Time Critical items must be accompanied by complete reports and statements of financial implications. If the Agenda & Rules Committee finds the matter to meet the definition of Time Critical, the Agenda & Rules Committee may place the matter on the Agenda on either the Consent or Action Calendar.

- d) The City Clerk may not accept any agenda item after the adjournment of the Agenda & Rules Committee meeting, except for items carried over by the City Council from a prior City Council meeting occurring less than 11 days earlier, which may include supplemental or revised reports, and reports concerning actions taken by boards and commissions that are required by law or ordinance to be presented to the Council within a deadline that does not permit compliance with the agenda timelines in BMC Chapter 2.06 or these rules.

4. Submission of Supplemental and Revised Agenda Material.

Berkeley Municipal Code Section 2.06.070 allows for the submission of supplemental and revised agenda material. Supplemental and revised material cannot be substantially new or only tangentially related to an agenda item. Supplemental material must be specifically related to the item in the Agenda Packet. Revised material should be presented as revised versions of the report or item printed in the Agenda Packet. Supplemental and revised material may be submitted for consideration as follows:

- a) Supplemental and revised agenda material shall be submitted to the City Clerk no later than 5:00 p.m. seven calendar days prior to the City Council meeting at which it is to be considered. Supplemental and revised items that are received by the deadline shall be distributed to Council in a supplemental reports packet and posted to the City's website no later than 5:00 p.m. five calendar days prior to the meeting. Copies of the supplemental packet shall also be made available in the office of the City Clerk and in the main branch of the Berkeley Public Library. Such material may be considered by the Council without the need for a determination that the good of the City clearly outweighs the lack of time for citizen review or City Councilmember evaluation.
- b) Supplemental and revised agenda material submitted to the City Clerk after 5:00 p.m. seven days before the meeting and no later than 12:00 p.m. one day prior to the City Council meeting at which it is to be considered shall be distributed to Council in a supplemental reports packet and posted to the City's website no later than 5:00 p.m. one day prior to the meeting. Copies of the supplemental packet shall also be made available in the office of the City Clerk and in the main branch of the Berkeley Public Library. Such material may be considered by the Council without the need for a determination that the good of the City clearly outweighs the lack of time for citizen review or City Council evaluation.
- c) After 12:00 p.m. one calendar day prior to the meeting, supplemental or revised reports may be submitted for consideration by delivering a minimum of 42 copies of the supplemental/revised material to the City Clerk for distribution at the meeting. Each copy must be accompanied by a completed supplemental/revised material cover page, using the form provided by the City Clerk. Revised reports must reflect a comparison with the original item using track changes formatting. The material may be considered only if the City Council, by a two-thirds roll call vote, makes a

factual determination that the good of the City clearly outweighs the lack of time for citizen review or City Councilmember evaluation of the material. Supplemental and revised material must be distributed and a factual determination made prior to the commencement of public comment on the agenda item in order for the material to be considered.

5. Scheduling a Presentation.

Presentations from staff are either submitted as an Agenda Item or are requested by the City Manager. Presentations from outside agencies and the public are coordinated with the Mayor's Office. The Agenda & Rules Committee may adjust the schedule of presentations as needed to best manage the Council Agenda. The Agenda & Rules Committee may request a presentation by staff in consultation with the City Manager.

D. Packet Preparation and Posting

1. Preparation of the Packet.

Not later than the thirteenth day prior to said meeting, the City Clerk shall prepare the packet, which shall include the agenda plus all its corresponding duplicated agenda items. No item shall be considered if not included in the packet, except as provided for in Section III.C.4 and Section III.D.4.

2. Distribution and Posting of Agenda.

- a) The City Clerk shall post each agenda of the City Council regular meeting no later than 11 days prior to the meeting and shall post each agenda of a special meeting at least 24 hours in advance of the meeting in the official bulletin board. The City Clerk shall maintain an affidavit indicating the location, date and time of posting each agenda.
- b) The City Clerk shall also post agendas and annotated agendas of all City Council meetings and notices of public hearings on the City's website.
- c) No later than 11 days prior to a regular meeting, copies of the agenda shall be mailed by the City Clerk to any resident of the City of Berkeley who so requests in writing. Copies shall also be available free of charge in the City Clerk Department.

3. Distribution of the Agenda Packet.

The Agenda Packet shall consist of the Agenda and all supporting documents for agenda items. No later than 11 days prior to a regular meeting, the City Clerk shall:

- a) distribute the Agenda Packet to each member of the City Council;
- b) post the Agenda Packet to the City's website;
- c) place copies of the Agenda Packet in viewing binders in the office of the City Clerk and in the main branch of the Berkeley Public Library; and
- d) make the Agenda Packet available to members of the press.

4. Failure to Meet Deadlines.

- a) The City Clerk shall not accept any agenda item or revised agenda item after the deadlines established.
- b) Matters not included on the published agenda may be discussed and acted upon as otherwise authorized by State law or providing the Council finds one of the following conditions is met:
 - A majority of the Council determines that the subject meets the criteria of "Emergency" as defined in Section III.B.5.
 - Two thirds of the Council determines that there is a need to take immediate action and that the need for action came to the attention of the City subsequent to the posting of the agenda as required by law.
- c) Matters listed on the printed agenda but for which supporting materials are not received by the City Council on the eleventh day prior to said meeting as part of the agenda packet, shall not be discussed or acted upon.

E. Agenda Sequence and Order of Business

The Council agenda for a regular business meeting is to be arranged in the following order:

1. Preliminary Matters: (Ceremonial, Comments from the City Manager, Comments from the City Auditor, Non-Agenda Public Comment)
2. Consent Calendar
3. Action Calendar
 - a) Appeals
 - b) Public Hearings
 - c) Continued Business
 - d) Old Business
 - e) New Business
4. Information Reports
5. Non-Agenda Public Comment
6. Adjournment
7. Communications

Action items may be reordered at the discretion of the Chair with the consent of Council.

The Agenda & Rules Committee shall have the authority to re-order the items on the Action Calendar regardless of the default sequence prescribed in this section.

F. Closed Session Documents

This section establishes a policy for the distribution of, and access to, confidential closed session documents by the Mayor and Members of the City Council.

1. Confidential closed session materials shall be kept in binders numbered from one to nine and assigned to the Mayor (#9) and each Councilmember (#1 to #8 by district). The binders will contain confidential closed session materials related to Labor Negotiations, Litigation, and Real Estate matters.
2. The binders will be maintained by City staff and retained in the Office of the City Attorney in a secure manner. City staff will bring the binders to each closed session for their use by the Mayor and Councilmembers. At other times, the binders will be available to the Mayor and Councilmembers during regular business hours for review in the City Attorney's Office. The binders may not be removed from the City Attorney's Office or the location of any closed session meeting by the Mayor or Councilmembers. City staff will collect the binders at the end of each closed session meeting and return them to the City Attorney's Office.
3. Removal of confidential materials from a binder is prohibited.
4. Duplication of the contents of a binder by any means is prohibited.
5. Confidential materials shall be retained in the binders for at least two years.
6. This policy does not prohibit the distribution of materials by staff to the Mayor and Councilmembers in advance of a closed session or otherwise as needed, but such materials shall also be included in the binders unless it is impracticable to do so.

G. Regulations Governing City Council Policy Committees**1. Legislative Item Process**

All agenda items begin with submission to the Agenda & Rules Committee.

Full Council Track

Items under this category are exempt from Agenda & Rules Committee discretion to refer them to a Policy Committee. Items in this category may be submitted for the agenda of any scheduled regular meeting pursuant to established deadlines (same as existing deadlines). Types of Full Council Track items are listed below.

- a. Items submitted by the City Manager and City Auditor
- b. Items submitted by Boards and Commissions

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- c. Resolutions on Legislation and Electoral Issues relating to Outside Agencies/Jurisdictions
- d. Position Letters and/or Resolutions of Support/Opposition
- e. Donations from the Mayor and Councilmember District Office Budgets
- f. Referrals to the Budget Process
- g. Proclamations
- h. Sponsorship of Events
- i. Information Reports
- j. Presentations from Outside Agencies and Organizations
- k. Ceremonial Items
- l. Committee and Regional Body Appointments

The Agenda & Rules Committee has discretion to determine if an item submitted by the Mayor or a Councilmember falls under a Full Council Track exception or if it will be processed as a Policy Committee Track item.

Policy Committee Track

Items submitted by the Mayor or Councilmembers with moderate to significant administrative, operational, budgetary, resource, or programmatic impacts will go first to the Agenda & Rules Committee on a draft City Council agenda.

The Agenda & Rules Committee must refer an item to a Policy Committee at the first meeting that the item appears before the Agenda & Rules Committee. The Agenda & Rules Committee may only assign the item to a single Policy Committee.

For a Policy Committee Track item, the Agenda & Rules Committee, at its discretion, may either route item directly to 1) the agenda currently under consideration, 2) one of the next three full Council Agendas (based on completeness of the item, lack of potential controversy, minimal impacts, etc.), or 3) to a Policy Committee.

Time Critical Track

A Time Critical item is defined as a matter that is considered urgent by the sponsor and that has a deadline for action that is prior to the next meeting of the Council and for which a report prepared by the Mayor or Councilmember is received by the City Clerk after established deadlines and is not included on the Agenda & Rules Committee's published agenda.

The Agenda & Rules Committee retains final discretion to determine the time critical nature of an item.

- a) Time Critical items submitted on the Full Council Track deadlines, that would otherwise be assigned to the Policy Committee Track, may bypass Policy Committee review if determined to be time critical. If such an item is deemed not to be time critical, it may be referred to a Policy Committee.

- b) Time Critical items on the Full Council Track or Policy Committee Track that are submitted at a meeting of the Agenda & Rules Committee may go directly on a council agenda if determined to be time critical.

2. Council Referrals to Committees

The full Council may refer any agenda item to a Policy Committee by majority vote.

3. Participation Rules for Policy Committees Pursuant to the Brown Act

- a. The quorum of a three-member Policy Committee is always two members. A majority vote of the committee (two 'yes' votes) is required to pass a motion.
- b. Two Policy Committee members may not discuss any item that has been referred to the Policy Committee outside of an open and noticed meeting.
- c. Notwithstanding paragraph (b) above, two members of a Policy Committee may co-author an item provided that one of the authors will not serve as a committee member for consideration of the item, and shall not participate in the committee's discussion of, or action on the item. For purposes of the item, the appointed alternate will serve as a committee member in place of the non-participating co-author.
- d. All three members of a Policy Committee may not be co-authors of an item that will be heard by the committee.
- e. Only one co-author who is not a member of the Policy Committee may attend the committee meeting to participate in discussion of the item.
- f. If two or more non-committee members are present for any item or meeting, then all non-committee members may act only as observers and may not participate in discussion. If an author who is not a member of the committee is present to participate in the discussion of their item, no other non-committee member Councilmembers, nor the Mayor, may attend as observers.
- g. An item may be considered by only one Policy Committee before it goes to the full Council.

4. Functions of the Committees

Committees shall have the following qualities/components:

- a. All committees are Brown Act bodies with noticed public meetings and public comment. Regular meeting agendas will be posted at least 72 hours in advance of the meeting.

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- b. Minutes shall be available online.
- c. Committees shall adopt regular meeting schedules, generally meeting once or twice per month; special meetings may be called when necessary, in accordance with the Brown Act.
- d. Generally, meetings will be held at 2180 Milvia Street in publicly accessible meeting rooms that can accommodate the committee members, public attendees, and staff.
- e. Members are recommended by the Mayor and approved by the full Council no later than January 31 of each year. Members continue to serve until successors are appointed and approved.
- f. Chairs are elected by the Committee at the first regular meeting of the Committee after the annual approval of Committee members by the City Council. In the absence of the Chair, the committee member with the longest tenure on the Council will preside.
- g. The Chair, or a quorum of the Committee may call a meeting or cancel a meeting of the Policy Committee.
- h. Committees will review items for completeness in accordance with Section III.B.2 of the City Council Rules of Procedure and Order and alignment with Strategic Plan goals.
- i. Reports leaving a Policy Committee must adequately include budget implications, administrative feasibility, basic legal concerns, and staff resource demands in order to allow for informed consideration by the full Council.
- j. Per Brown Act regulations, any revised or supplemental materials must be direct revisions or supplements to the item that was published in the agenda packet.

Items referred to a Policy Committee from the Agenda & Rules Committee or from the City Council must be agendaized for a committee meeting within 60 days of the referral date.

Within 120 days of the referral date, the committee must vote to either (1) accept the author's request that the item remain in committee until a date certain (more than one extension may be requested by the author); or (2) send the item to the Agenda & Rules Committee to be placed on a Council Agenda with a Committee recommendation consisting of one of the four options listed below.

1. Positive Recommendation (recommending Council pass the item as proposed),
2. Qualified Positive Recommendation (recommending Council pass the item with some changes),
3. Qualified Negative Recommendation (recommending Council reject the item unless certain changes are made) or
4. Negative Recommendation (recommending the item not be approved).

The Policy Committee's recommendation will be included in a separate section of the report template for that purpose.

A Policy Committee may not refer an item under its consideration to a city board or commission.

The original Council author of an item referred to a Policy Committee is responsible for revisions and resubmission of the item back to the full Council. Items originating from the City Manager are revised and submitted by the appropriate city staff. Items from Commissions are revised and resubmitted by the members of the Policy Committee. Items and Recommendations originating from the Policy Committee are submitted to the City Clerk by the members of the committee.

If a Policy Committee does not take final action by the 120-day deadline, the item is returned to the Agenda & Rules Committee and appears on the next available Council agenda. The Agenda & Rules Committee may leave the item on the agenda under consideration or place it on the next Council agenda. Items appearing on a City Council agenda due to lack of action by a Policy Committee may not be referred to a Policy Committee and must remain on the full Council agenda for consideration.

Policy Committees may add discussion topics that are within their purview to their agenda with the concurrence of a majority of the Committee. These items are not subject to the 120-day deadline for action.

Once the item is voted out of a Policy Committee, the final item will be resubmitted to the agenda process by the author, and it will return to the Agenda & Rules Committee on the next available agenda. The Agenda & Rules Committee may leave the item on the agenda under consideration or place it on the following Council agenda. Only items that receive a Positive Recommendation can be placed on the Consent Calendar.

The lead author may request expedited committee review for items referred to a committee. Criteria for expedited review is generally to meet a deadline for action (e.g. grant deadline, specific event date, etc.). If the committee agrees to the request, the deadline for final committee action is 45 days from the date the committee approves expedited review.

5. Number and Make-up of Committees

Six committees are authorized, each comprised of three Councilmembers, with a fourth Councilmember appointed as an alternate. Each Councilmember and the Mayor will serve on two committees. The Mayor shall be a member of the Agenda and Rules Committee. The committees are as follows:

1. Agenda and Rules Committee
2. Budget and Finance Committee

3. Facilities, Infrastructure, Transportation, Environment, and Sustainability
4. Health, Life Enrichment, Equity, and Community
5. Land Use, Housing, and Economic Development
6. Public Safety

The Agenda & Rules Committee shall establish the Policy Committee topic groupings, and may adjust said groupings periodically thereafter in order to evenly distribute expected workloads of various committees.

All standing Policy Committees of the City Council are considered “legislative bodies” under the Brown Act and must conduct all business in accordance with the Brown Act.

6. Role of City Staff at Committee Meetings

Committees will be staffed by appropriate City Departments and personnel. As part of the committee process, staff will undertake a high-level, preliminary analysis of potential legal issues, costs, timelines, and staffing demands associated with the item. Staff analysis at the Policy Committee level is limited to the points above as the recommendation, program, or project has not yet been approved to proceed by the full Council.

IV. CONDUCT OF MEETING

A. Comments from the Public

Public comment will be taken in the following order:

- An initial ten-minute period of public comment on non-agenda items, after the commencement of the meeting and immediately after Ceremonial Matters and City Manager Comments.
- Public comment on the Consent and Information Calendars.
- Public comment on action items, appeals and/or public hearings as they are taken up under procedures set forth in the sections governing each below.
- Public comment on non-agenda items from any speakers who did not speak during the first round of non-agenda public comment at the beginning of the meeting.

Speakers are permitted to yield their time to one other speaker, however no one speaker shall have more than four minutes. A speaker wishing to yield their time shall identify themselves, shall be recognized by the chair, and announce publicly their intention to yield their time. Disabled persons shall have priority seating in the front row of the public seating area.

A member of the public may only speak once at public comment on any single item, unless called upon by the Mayor or a Councilmember to answer a specific inquiry.

1. Public Comment on Consent Calendar and Information Items.

The Council will first determine whether to move items on the agenda for “Action” or “Information” to the “Consent Calendar,” or move “Consent Calendar” items to “Action.” Items that remain on the “Consent Calendar” are voted on in one motion as a group. “Information” items are not discussed or acted upon at the Council meeting unless they are moved to “Action” or “Consent.”

The Council will then take public comment on any items that are either on the amended Consent Calendar or the Information Calendar. A speaker may only speak once during the period for public comment on Consent Calendar and Information items. No additional items can be moved onto the Consent Calendar once public comment has commenced.

At any time during, or immediately after, public comment on Information and Consent items, the Mayor or any Councilmember may move any Information or Consent item to “Action.” Following this, the Council will vote on the items remaining on the Consent Calendar in one motion.

For items moved to the Action Calendar from the Consent Calendar or Information Calendar, persons who spoke on the item during the Consent Calendar public comment period may speak again at the time the matter is taken up during the Action Calendar.

2. Public Comment on Action Items.

After the initial ten minutes of public comment on non-agenda items and public comment and action on consent items, the public may comment on each remaining item listed on the agenda for action as the item is taken up.

The Presiding Officer will request that persons wishing to speak, line up at the podium to be recognized and to determine the number of persons interested in speaking at that time.

If ten or fewer persons are interested in speaking, each speaker may speak for two minutes. If there are more than ten persons interested in speaking, the Presiding Officer may limit the public comment for all speakers to one minute per speaker. Speakers are permitted to yield their time to one other speaker, however no one speaker shall have more than four minutes.

This procedure also applies to public hearings except those types of public hearings specifically provided for in this section, below.

3. Appeals Appearing on Action Calendar.

With the exception of appeals from decisions of the Zoning Adjustments Board and Landmarks Preservation Commission, appeals from decisions of City commissions appear on the "Action" section of the Council Agenda. Council determines whether to affirm the action of the commission, set a public hearing, or remand the matter to the commission. Appeals of proposed special assessment liens shall also appear on the "Action" section of the Council Agenda. Appeals from decisions of the Zoning Adjustments Board and Landmarks Preservation Commission are automatically set for public hearing and appear on the "Public Hearings" section of the Council Agenda.

Time shall be provided for public comment for persons representing both sides of the action/appeal and each side will be allocated seven minutes to present their comments on the appeal. Where the appellant is not the applicant, the appellants of a single appeal collectively shall have seven minutes to comment and the applicant shall have seven minutes to comment. If there are multiple appeals filed, each appellant or group of appellants shall have seven minutes to comment. Where the appellant is the applicant, the applicant/appellant shall have seven minutes to comment and the persons supporting the action of the board or commission on appeal shall have seven minutes to comment. In the case of an appeal of proposed special assessment lien, the appellant shall have seven minutes to comment.

After the conclusion of the seven-minute comment periods, members of the public may comment on the appeal. Comments from members of the public regarding appeals shall be limited to one minute per speaker. Any person that addressed the Council during one of the seven-minute periods may not speak again during the public comment period on the appeal. Speakers may yield their time to one other speaker, however, no speaker shall have more than two minutes. Each side shall be informed of this public comment procedure at the time the Clerk notifies the parties of the date the appeal will appear on the Council agenda.

4. Public Comment on Non Agenda Matters.

Immediately following Ceremonial Matters and the City Manager Comments and prior to the Consent Calendar, persons will be selected by lottery to address matters not on the Council agenda. If five or fewer persons submit speaker cards for the lottery, each person selected will be allotted two minutes each. If more than five persons submit speaker cards for the lottery, up to ten persons will be selected to address matters not on the Council agenda and each person selected will be allotted one minute each. Persons wishing to address the Council on matters not on the Council agenda during the initial ten-minute period for such comment, must submit a speaker card to the City Clerk in person at the meeting location and prior to commencement of that meeting.

The remainder of the speakers wishing to address the Council on non-agenda items will be heard at the end of the agenda. Speaker cards are not required for this second round of public comment on non-agenda matters.

Persons submitting speaker cards are not required to list their actual name, however they must list some identifying information or alternate name in order to be called to speak.

For the second round of public comment on non-agenda matters, the Presiding Officer retains the authority to limit the number of speakers by subject. The Presiding Officer will generally request that persons wishing to speak, line up at the podium to be recognized to determine the number of persons interested in speaking at that time. Each speaker will be entitled to speak for two minutes each unless the Presiding Officer determines that one-minute is appropriate given the number of speakers.

Pursuant to this document, no Council meeting shall continue past 11:00 p.m. unless a two-thirds majority of the Council votes to extend the meeting to discuss specified items. If any agenda item remains unfinished at 11:00 p.m. or the expiration of any extension after 11:00 p.m., it will be referred to the Agenda & Rules Committee for scheduling pursuant to Chapter II, Section F. In that event, the meeting shall be automatically extended for up to fifteen (15) minutes for public comment on non-agenda items.

5. Ralph M. Brown Act Pertaining to Public Comments.

The "Brown Act" prohibits the Council from discussing or taking action on an issue raised during Public Comment, unless it is specifically listed on the agenda. However, the Council may refer a matter to the City Manager.

B. Consent Calendar

There shall be a Consent Calendar on all regular meeting agendas on which shall be included those matters which the Mayor, Councilmembers, boards, commissions, City Auditor and City Manager deem to be of such nature that no debate or inquiry will be necessary at the Council meetings. Ordinances for second reading may be included in the Consent Calendar.

It is the policy of the Council that the Mayor or Councilmembers wishing to ask questions concerning Consent Calendar items should ask questions of the contact person identified prior to the Council meeting so that the need for discussion of consent calendar items can be minimized.

Consent Calendar items may be moved to the Action Calendar by the Council. Action items may be reordered at the discretion of the Chair with the consent of Council.

C. Information Reports Called Up for Discussion

Reports for Information designated for discussion at the request of the Mayor or any Councilmember shall be added to the appropriate section of the Action Calendar and may be acted upon at that meeting or carried over as pending business until discussed or withdrawn. The agenda will indicate that at the request of Mayor or any Councilmember a Report for Information may be acted upon by the Council.

D. Written Communications

Written communications from the public will not appear on the Council agenda as individual matters for discussion but will be distributed as part of the Council agenda packet with a cover sheet identifying the author and subject matter and will be listed under "Communications." All such communications must have been received by the City Clerk no later than 5:00 p.m. fifteen days prior to the meeting in order to be included on the agenda.

In instances where an individual forwards more than three pages of email messages not related to actionable items on the Council agenda to the Council to be reproduced in the "Communications" section of the Council packet, the City Clerk will not reproduce the entire email(s) but instead refer the public to the City's website or a hard copy of the email(s) on file in the City Clerk Department.

All communications shall be simply deemed received without any formal action by the Council. The Mayor or a Councilmember may refer a communication to the City Manager for action, if appropriate, or prepare a consent or action item for placement on a future agenda.

Communications related to an item on the agenda that are received after 5:00 p.m. fifteen days before the meeting are published as provided for in Chapter III.C.4.

E. Public Hearings for Land Use, Zoning, Landmarks, and Public Nuisance Matters

The City Council, in setting the time and place for a public hearing, may limit the amount of time to be devoted to public presentations. Staff shall introduce the public hearing item and present their comments.

Following any staff presentation, each member of the City Council shall verbally disclose all ex parte contacts concerning the subject of the hearing. Members shall also submit a report of such contacts in writing prior to the commencement of the hearing. Such reports shall include a brief statement describing the name, date, place, and content of the contact. Written reports shall be available for public review

in the office of the City Clerk prior to the meeting and placed in a file available for public viewing at the meeting.

This is followed by five-minute presentations each by the appellant and applicant. Where the appellant is not the applicant, the appellants of a single appeal collectively shall have five minutes to comment and the applicant shall have five minutes to comment. If there are multiple appeals filed, each appellant or group of appellants shall have five minutes to comment. Where the appellant is the applicant, the applicant/appellant shall have five minutes to comment and the persons supporting the action of the board or commission on appeal shall have five minutes to comment. In the case of a public nuisance determination, the representative(s) of the subject property shall have five minutes to present.

The Presiding Officer will request that persons wishing to speak, line up at the podium to be recognized and to determine the number of persons interested in speaking at that time.

If ten or fewer persons are interested in speaking, each speaker may speak for two minutes. If there are more than ten persons interested in speaking, the Presiding Officer may limit the public comment for all speakers to one minute per speaker. Any person that addressed the Council during one of the five-minute periods may not speak again during the public comment period on the appeal. Speakers are permitted to yield their time to one other speaker, however no one speaker shall have more than four minutes. The Presiding Officer may with the consent of persons representing both sides of an issue allocate a block of time to each side to present their issue.

F. Work Sessions

The City Council may schedule a matter for general Council discussion and direction to staff. Official/formal action on a work session item will be scheduled on a subsequent agenda under the Action portion of the Council agenda.

In general, public comment at Council work sessions will be heard after the staff presentation, for a limited amount of time to be determined by the Presiding Officer.

The Presiding Officer will request that persons wishing to speak, line up at the podium to be recognized and to determine the number of persons interested in speaking at that time. If ten or fewer persons are interested in speaking, each speaker may speak for two minutes. If there are more than ten persons interested in speaking, the Presiding Officer may limit the public comment for all speakers to one minute per speaker. Speakers are permitted to yield their time to one other speaker, however no one speaker shall have more than four minutes.

After Council discussion, if time permits, the Presiding Officer may allow additional public comment. During this time, each speaker will receive one minute. Persons who spoke during the prior public comment time may be permitted to speak again.

H. Protocol

People addressing the Council may first give their name in an audible tone of voice for the record. All remarks shall be addressed to the Council as a body and not to any member thereof. No one other than the Council and the person having the floor shall be permitted to enter into any discussion, either directly or through a member of the Council, without the permission of the Presiding Officer. No question shall be asked of a Councilmember except through the Presiding Officer.

V. PROCEDURAL MATTERS

A. Persons Authorized to Sit at Tables

No person, except City officials, their representatives and representatives of boards and commissions shall be permitted to sit at the tables in the front of the Council Chambers without the express consent of the Council.

B. Decorum

No person shall disrupt the orderly conduct of the Council meeting. Prohibited disruptive behavior includes but is not limited to shouting, making disruptive noises, such as boos or hisses, creating or participating in a physical disturbance, speaking out of turn or in violation of applicable rules, preventing or attempting to prevent others who have the floor from speaking, preventing others from observing the meeting, entering into or remaining in an area of the meeting room that is not open to the public, or approaching the Council Dais without consent. Any written communications addressed to the Council shall be delivered to the City Clerk for distribution to the Council.

C. Enforcement of Decorum

When the public demonstrates a lack of order and decorum, the presiding officer shall call for order and inform the person(s) that the conduct is violating the Rules of Order and Procedure and provide a warning to the person(s) to cease the disruptive behavior. Should the person(s) fail to cease and desist the disruptive conduct, the presiding officer may call a five (5) minute recess to allow the disruptions to cease.

If the meeting cannot be continued due to continued disruptive conduct, the presiding officer may have any law enforcement officer on duty remove or place any person who violates the order and decorum of the meeting under arrest and cause that person to be prosecuted under the provisions of applicable law.

D. Precedence of Motions

When a question or motion is before the Council, no motion shall be entertained except:

1. To adjourn,
2. To fix the hour of adjournment,
3. To lay on the table,
4. For the previous question,
5. To postpone to a certain day,
6. To refer,
7. To amend,
8. To substitute, and
9. To postpone indefinitely.

These motions shall have precedence in order indicated. Any such motion, except a motion to amend or substitute, shall be put to a vote without debate.

E. Roberts Rules of Order

Roberts Rules of Order have been adopted by the City Council and apply in all cases except the precedence of motions in Section V.D shall supersede.

F. Rules of Debate**1. Presiding Officer May Debate.**

The presiding officer may debate from the chair; subject only to such limitations of debate as are by these rules imposed on all members, and shall not be deprived of any of the rights and privileges as a member of the Council by reason of that person acting as the presiding officer.

2. Getting the Floor - Improper References to be avoided.

Members desiring to speak shall address the Chair, and upon recognition by the presiding officer, shall confine themselves to the question under debate.

3. Interruptions.

A member, once recognized, shall not be interrupted when speaking unless it is to call a member to order, or as herein otherwise provided. If a member, while speaking, were called to order, that member shall cease speaking until the question of order is determined, and, if in order, the member shall be permitted to proceed.

4. Privilege of Closing Debate.

The Mayor or Councilmember moving the adoption of an ordinance or resolution shall have the privilege of closing the debate. When a motion to call a question is passed, the Mayor or Councilmember moving adoption of an ordinance, resolution or other action shall have three minutes to conclude the debate.

5. Motion to Reconsider.

A motion to reconsider any action taken by the Council may be made only during the same session such action is taken. It may be made either immediately during the same session, or at a recessed or adjourned session thereof. Such motion must be made by a member on the prevailing side, and may be made at any time and have precedence over all other motions or while a member has the floor; it shall be debatable. Nothing herein shall be construed to prevent any member of the Council from making or remaking the same or other motion at a subsequent meeting of the Council.

6. Repeal or Amendment of Action Requiring a Vote of Two-Thirds of Council, or Greater.

Any ordinance or resolution which is passed and which, as part of its terms, requires a vote of two-thirds of the Council or more in order to pass a motion pursuant to such an ordinance or resolution, shall require the vote of the same percent of the Council to repeal or amend the ordinance or resolution.

G. Debate Limited

1. Consideration of each matter coming before the Council shall be limited to 20 minutes from the time the matter is first taken up, at the end of which period consideration of such matter shall terminate and the matter shall be dropped to the foot of the agenda, immediately ahead of Information Reports; provided that either of the following two not debatable motions shall be in order:
 - a) A motion to extend consideration which, if passed, shall commence a new twenty-minute period for consideration; or
 - b) If there are one or more motions on the floor, a motion for the previous question, which, if passed by a 2/3 vote, shall require an immediate vote on pending motions.
2. The time limit set forth in subparagraph 1 hereof shall not be applicable to any public hearing, public discussion, Council discussion or other especially set matter for which a period of time has been specified (in which case such specially set time shall be the limit for consideration) or which by applicable law (e.g. hearings of appeals, etc.), the matter must proceed to its conclusion.
3. In the interest of expediting the business of the City, failure by the Chair or any Councilmember to call attention to the expiration of the time allowed for consideration of a matter, by point of order or otherwise, shall constitute unanimous consent to the continuation of consideration of the matter beyond the allowed time; provided, however, that the Chair or any Councilmember may at any time thereafter call attention to the expiration of the time allowed, in which case the Council shall proceed to the next item of business, unless one of the motions referred to in Section D hereof is made and is passed.

H. Motion to Lay on Table

A motion to lay on the table shall preclude all amendments or debate of the subject under consideration. If the motion shall prevail, the consideration of the subject may be resumed only upon a motion of a member voting with the majority and with consent of two-thirds of the members present.

I. Division of Question

If the question contains two or more propositions, which can be divided, the presiding officer may, and upon request of a member shall, divide the same.

J. Addressing the Council

Under the following headings of business, unless the presiding officer rules otherwise, any interested person shall have the right to address the Council in accordance with the following conditions and upon obtaining recognition by the presiding officer:

1. Written Communications.

Interested parties or their authorized representatives may address the Council in the form of written communications in regard to matters of concern to them by

submitting their written communications at the meeting, or prior to the meeting pursuant to the deadlines in Chapter III.C.4.

2. Public Hearings.

Interested persons or their authorized representatives may address the Council by reading protests, petitions, or communications relating to matters then under consideration.

3. Public Comment.

Interested persons may address the Council on any issue concerning City business during the period assigned to Public Comment.

K. Addressing the Council After Motion Made

When a motion is pending before the Council, no person other than the Mayor or a Councilmember shall address the Council without first securing the permission of the presiding officer or Council to do so.

VI. FACILITIES

A. Council Chamber Capacity

Attendance at council meetings shall be limited to the posted seating capacity of the meeting location. Entrance to the meeting location will be appropriately regulated by the City Manager on occasions when capacity is likely to be exceeded. While the Council is in session, members of the public shall not remain standing in the meeting room except to address the Council, and sitting on the floor shall not be permitted.

B. Alternate Facilities for Council Meetings

The City Council shall approve in advance a proposal that a Council meeting be held at a facility other than the School District Board Room.

If the City Manager has reason to anticipate that the attendance for a meeting will be substantially greater than the capacity of the Board Room and insufficient time exists to secure the approval of the City Council to hold the meeting at an alternate facility, the City Manager shall make arrangements for the use of a suitable alternate facility to which such meeting may be recessed and moved, if the City Council authorizes the action.

If a suitable alternate facility is not available, the City Council may reschedule the matter to a date when a suitable alternate facility will be available.

Alternate facilities are to be selected from those facilities previously approved by the City Council as suitable for meetings away from the Board Room.

C. Signs, Objects, and Symbolic Materials

Objects and symbolic materials such as signs which do not have sticks or poles attached or otherwise create any fire or safety hazards will be allowed within the meeting location during Council meetings.

D. Fire Safety

Exits shall not be obstructed in any manner. Obstructions, including storage, shall not be placed in aisles or other exit ways. Hand carried items must be stored so that such items do not inhibit passage in aisles or other exit ways. Attendees are strictly prohibited from sitting in aisles and/or exit ways. Exit ways shall not be used in any way that will present a hazardous condition.

E. Overcrowding

Admittance of persons beyond the approved capacity of a place of assembly is prohibited. When the meeting location has reached the posted maximum capacity, additional attendees shall be directed to the designated overflow area.

APPENDIX A. POLICY FOR NAMING AND RENAMING PUBLIC FACILITIES

Purpose

To establish a uniform policy regarding the naming and renaming of existing and future parks, streets, pathways and other public facilities.

Objective

- A. To ensure that naming public facilities (such as parks, streets, recreation facilities, pathways, open spaces, public building, bridges or other structures) will enhance the values and heritage of the City of Berkeley and will be compatible with community interest.

Section 1 – Lead Commission

The City Council designates the following commissions as the ‘Lead Commissions’ in overseeing, evaluating, and ultimately advising the Council in any naming or renaming of a public facility. The lead commission shall receive and coordinate comment and input from other Commissions and the public as appropriate.

Board of Library Trustees

Parks and Recreation Commission –Parks, recreation centers, camps, plazas and public open spaces

Public Works Commission –Public buildings (other than recreation centers), streets and bridges or other structures in the public thoroughfare.

Waterfront Commission –Public facilities within the area of the City known as the Waterfront, as described in BMC 3.36.060.B.

Section 2 – General Policy

- A. Newly acquired or developed public facilities shall be named immediately after acquisition or development to ensure appropriate public identity.
- B. No public facility may be named for a living person, but this policy can be overridden with a 2/3 vote of the City Council.
- C. Public facilities that are renamed must follow the same criteria for naming new facilities. In addition, the historical significance and geographical reference of the established name should be considered when weighing and evaluating any name change.
- D. The City encourages the recognition of individuals for their service to the community in ways that include the naming of activities such as athletic events, cultural presentations, or annual festivals, which do not involve the naming or renaming of public facilities.
- E. Unless restricted by covenant, facilities named after an individual should not necessarily be considered a perpetual name.

Section 3 – Criteria for Naming of Public Facilities

When considering the naming of a new public facility or an unnamed portion or feature within an already named public facility (such as a room within the facility or a feature within an established park), or, the renaming of an existing public facility the following criteria shall be applied:

- A. Public Facilities are generally easier to identify by reference to adjacent street names, distinct geographic or environmental features, or primary use activity. Therefore, the preferred practice is to give City-owned property a name of historical or geographical significance and to retain these names.
- B. No public facility may be named for a living person, but this policy can be overridden with a 2/3 vote of the City Council.
- C. The naming of a public facility or any parts thereof in recognition of an individual posthumously may only be considered if the individual had a positive effect on the community and has been deceased for more than 1 year.
- D. When a public facility provides a specific programmatic activity, it is preferred that the activity (e.g. skateboard park, baseball diamond) be included in the name of the park or facility.
- E. When public parks are located adjacent to elementary schools, a name that is the same as the adjacent school shall be considered.
- F. When considering the renaming of an existing public facility, in addition to applying criteria A-E above, proper weight should be given to the fact that: a name lends a site or property authenticity and heritage; existing names are presumed to have historic significance; and historic names give a community a sense of place and identity, continuing through time, and increases the sense of neighborhood and belonging.

Section 4 –Naming Standards Involving a Major Contribution

When a person, group or organization requests the naming or renaming of a public facility, all of the following conditions shall be met:

- A. An honoree will have made a major contribution towards the acquisition and/or development costs of a public facility or a major contribution to the City.
- B. The honoree has a record of outstanding service to their community
- C. Conditions of any donation that specifies that name of a public facility, as part of an agreement or deed, must be approved by the City Council, after review by and upon recommendation of the City Manager.

Section 5 –Procedures for Naming or Renaming of Public Facilities

- A. Any person or organization may make a written application to the City Manager requesting that a public facility or portion thereof, be named or renamed.
 - 1. Recommendations may also come directly of the City Boards or Commissions, the City Council, or City Staff.
- B. The City Manager shall refer the application to the appropriate lead commission as defined in Section 1 of the City's policy on naming of public facilities, for that commission's review, facilitation, and recommendation of disposition.
 - 1. The application shall contain the name or names of the persons or organization making the application and the reason for the requested naming or renaming.
- C. The lead commission shall review and consider the application, using the policies and criteria articulated to the City Policy on Naming and Renaming to make a recommendation to Council.
 - 1. All recommendations or suggestion will be given the same consideration without regard to the source of the nomination
- D. The lead commission shall hold a public hearing and notify the general public of any discussions regarding naming or renaming of a public facility.

1. Commission action will be taking at the meeting following any public hearing on the naming or renaming.
- E. The commission's recommendation shall be forwarded to Council for final consideration.

The City of Berkeley Policy for Naming and Renaming Public Facilities was adopted by the Berkeley City Council at the regular meeting of January 31, 2012.

APPENDIX B. GUIDELINES FOR DEVELOPING AND WRITING COUNCIL AGENDA ITEMS

These guidelines are derived from the requirements for Agenda items listed in the Berkeley City Council Rules of Procedure and Order, Chapter III, Sections B(1) and (2), reproduced below. In addition, Chapter III Section C(1)(a) of the Rules of Procedure and Order allows the Agenda & Rules Committee to request that the author of an item provide “additional analysis” if the item as submitted evidences a “significant lack of background or supporting information” or “significant grammatical or readability issues.”

These guidelines provide a more detailed and comprehensive overview of elements of a complete Council item. While not all elements would be applicable to every type of Agenda item, they are intended to prompt authors to consider presenting items with as much relevant information and analysis as possible.

Chapter III, Sections (B)(1) and (2) of Council Rules of Procedure and Order:

2. Agenda items shall contain all relevant documentation, including the following as Applicable:
 - a. A descriptive title that adequately informs the public of the subject matter and general nature of the item or report and action requested;
 - b. Whether the matter is to be presented on the Consent Calendar or the Action Calendar or as a Report for Information;
 - c. Recommendation of the City Manager, if applicable (these provisions shall not apply to Mayor and Council items.);
 - d. Fiscal impacts of the recommendation;
 - e. A description of the current situation and its effects;
 - f. Background information as needed;
 - g. Rationale for recommendation;
 - h. Alternative actions considered;
 - i. For awards of contracts; the abstract of bids and the Affirmative Action Program of the low bidder in those cases where such is required (these provisions shall not apply to Mayor and Council items.);
 - j. Person or persons to contact for further information, with telephone number. If the author of any report believes additional background information, beyond the basic report, is necessary to Council understanding of the subject, a separate compilation of such background information may be developed and copies will be available for Council and for public review in the City Clerk Department, and the City Clerk shall provide limited distribution of such background information depending upon quantity of pages to be duplicated. In such case the agenda item distributed with the packet shall so indicate.

Guidelines for City Council Items:

1. Title
2. Consent/Action/Information Calendar
3. Recommendation
4. Summary Statement/Current situation and its effects
5. Background
6. Review of Existing Plans, Programs, Policies and Laws
7. Actions/Alternatives Considered
8. Consultation/Outreach Overview and Results
9. Rationale for Recommendation
10. Implementation, Administration and Enforcement
11. Environmental Sustainability
12. Fiscal Impacts
13. Outcomes and Evaluation
14. Contact Information
15. Attachments/Supporting Materials

1. Title

A descriptive title that adequately informs the public of the subject matter and general nature of the item or report and action requested.

2. Consent/Action/Information Calendar

Whether the matter is to be presented on the Consent Calendar or the Action Calendar or as a Report for Information.

3. Recommendation

Clear, succinct statement of action(s) to be taken. Recommendations can be further detailed within the item, by specific reference.

Common action options include:

- Adopt first reading of ordinance
- Adopt a resolution
- Referral to the City Manager (City Manager decides if it is a short term referral or is placed on the RRV ranking list)
- Direction to the City Manager (City Manager is directed to execute the recommendation right away, it is not placed on any referral list)
- Referral to a Commission or to a Standing or Ad Hoc Council Committee
- Referral to the budget process
- Send letter of support
- Accept, Approve, Modify or Reject a recommendation from a Commission or Committee
- Designate members of the Council to perform some action

4. Summary Statement/ “Current situation and its effects”

A short resume of the circumstances that give rise to the need for the recommended action(s).

- Briefly state the opportunity/problem/concern that has been identified, and the proposed solution.
- Example (fictional):
Winter rains are lasting longer than expected. Berkeley’s winter shelters are poised to close in three weeks, but forecasts suggest rain for another two months. If they do not remain open until the end of the rainy season, hundreds of people will be left in the rain 24/7. Therefore, this item seeks authorization to keep Berkeley’s winter shelters open until the end of April, and refers to the Budget Process \$40,000 to cover costs of an additional two months of shelter operations.

5. Background

A full discussion of the history, circumstances and concerns to be addressed by the item.

- For the above fictional example, Background would include *information and data about the number and needs of homeless individuals in Berkeley, the number and availability of permanent shelter beds that meet their needs, the number of winter shelter beds that would be lost with closure, the impacts of such closure on this population, the weather forecasts, etc.*

6. Review of Existing Plans, Programs, Policies and Laws

Review, identify and discuss relevant/applicable Plans, Programs, Policies and Laws, and how the proposed actions conform with, compliment, are supported by, differ from or run contrary to them. What gaps were found that need to be filled? What existing policies, programs, plans and laws need to be changed/supplemented/improved/repealed? What is missing altogether that needs to be addressed?

Review of all pertinent/applicable sections of:

- The City Charter
- Berkeley Municipal Code
- Administrative Regulations
- Council Resolutions
- Staff training manuals

Review of all applicable City Plans:

- The General Plan
- Area Plans
- The Climate Action Plan
- Resilience Plan
- Equity Plan

- Capital Improvements Plan
- Zero Waste Plan
- Bike Plan
- Pedestrian Plan
- Other relevant precedents and plans

Review of the City's Strategic Plan

Review of similar legislation previously introduced/passed by Council

Review of County, State and Federal laws/policies/programs/plans, if applicable

7. Actions/Alternatives Considered

- What solutions/measures have **other jurisdictions** adopted that serve as models/cautionary tales?
- What solutions/measures are recommended by **advocates, experts, organizations**?
- What is the range of actions considered, and what are some of their major pros and cons?
- Why were other solutions not as feasible/advisable?

8. Consultation/Outreach Overview and Results

- Review/list external and internal stakeholders that were consulted
 - **External:** constituents, communities, neighborhood organizations, businesses and not for profits, advocates, people with lived experience, faith organizations, industry groups, people/groups that might have concerns about the item, etc.
 - **Internal:** staff who would implement policies, the City Manager and/or deputy CM, Department Heads, City Attorney, Clerk, etc.
- What reports, articles, books, websites and other materials were consulted?
- What was learned from these sources?
- What changes or approaches did they advocate for that were accepted or rejected?

9. Rationale for Recommendation

A clear and concise statement as to whether the item proposes actions that:

- Conform to, clarify or extend existing Plans, Programs, Policies and Laws
- Change/Amend existing Plans, Programs, Policies and Laws in **minor** ways
- Change/Amend existing Plans, Programs, Policies and Laws in **major** ways
- Create an exception to existing Plans, Programs, Policies and Laws
- Reverse/go contrary to or against existing Plans, Programs, Policies and Laws

Argument/summary of argument in support of recommended actions. The argument likely has already been made via the information and analysis already presented,

but should be presented/restated/summarized. Plus, further elaboration of terms for recommendations, if any.

10. Implementation, Administration and Enforcement

Discuss how the recommended action(s) would be implemented, administered and enforced. What staffing (internal or via contractors/consultants) and materials/facilities are likely required for implementation?

11. Environmental Sustainability

Discuss the impacts of the recommended action(s), if any, on the environment and the recommendation's positive and/or negative implications with respect to the City's Climate Action, Resilience, and other sustainability goals.

12. Fiscal Impacts

Review the recommended action's potential to generate funds or savings for the City in the short and long-term, as well as the potential direct and indirect costs.

13. Outcomes and Evaluation

State the specific outcomes expected, if any (i.e., "*it is expected that 100 homeless people will be referred to housing every year*") and what reporting or evaluation is recommended.

14. Contact Information

15. Attachments/Supporting Materials



Office of the City Manager

ACTION CALENDAR

December 3, 2019

(Continued from November 19, 2019)

To: Honorable Mayor and Members of the City Council
From: Dee Williams-Ridley, City Manager
Submitted By: Mark Numainville, City Clerk
Subject: City Council Rules of Procedure and Order Revisions

RECOMMENDATION

Adopt a Resolution revising the City Council Rules of Procedure and Order to integrate the previously adopted regulations for policy committees and make associated changes to other sections; update outdated references and practices; conform to the Open Government Ordinance; make other technical corrections; and rescinding any preceding amendatory resolutions.

POLICY COMMITTEE RECOMMENDATION

On September 16, 2019, the Agenda & Rules Committee adopted the following action: M/S/C (Harrison/Wengraf) to send the item to the City Council with a Positive Recommendation on the proposed amendments to the Rules of Procedure including the changes and edits made at the meeting on pages 10, 11, 14, 20, 21, 22, and 23; and to change “Co-Author” to “Co-Sponsor” throughout; add “Mayor” when using term “Councilmember;” and add a definition for “Primary Author.” The Committee also requested that a standing item be added to the agenda for discussion of further changes to the Rules of Procedure. Vote: All Ayes.

FISCAL IMPACTS OF RECOMMENDATION

None.

CURRENT SITUATION AND ITS EFFECTS

This report and resolution are a response to the need to update the Rules of Procedure (ROP) to incorporate the regulations adopted to govern City Council Policy Committees in Resolution 68,726-N.S. adopted on December 11, 2018. The policy committee resolution was not adopted as an amendment to the ROP in December 2018. In addition, with six months of policy committee meetings completed, the need for amendments to the original policy committee regulations have surfaced. The amendments related to policy committees have ripples throughout the document and required changes to the sections for the Agenda Committee and the legislative process.

Some of the amendments related to policy committees are related to the participation of councilmembers. These amendments are being proposed due to a re-evaluation of the Brown Act's applicability to the policy committee process. After thorough review by the City Attorney's Office, the City Clerk Department, and the Chair of the League of California Cities Brown Act Committee, staff has concluded that new rules limiting participation by councilmembers are required. These changes are located on pages 20-21 of Attachment 2.

Further amendments to the policy committee rules are related to the authority of the Agenda & Rules Committee, calling special meetings of policy committees, responsibilities for shepherding legislation through the committee process, closing loopholes that would delay council items, and the rules for expedited review.

With the significant amendments needed to incorporate policy committees, staff recommends using this update to make other amendments related to the items below.

- Schedule for revised and supplemental materials per the Open Government Ordinance
- Outdated language related to agenda sections and headings
- Changes to the procedure for adding co-sponsors to agenda items
- Clarification regarding public comment on appeals
- Parliamentary clarifications to adhere to Roberts Rules of Order
- Updates related to moving Council meetings to the BUSD Board Room
- Other minor modifications and technical corrections

A fully annotated version of the revised document with all amendments in track changes is in Attachment 2.

BACKGROUND

The City Council Rules of Procedure and Order governs the duties of the Council, the conduct of meetings, the agenda, procedural matters and facilities. The rules have been amended as necessary over time to improve the function of the Agenda Committee and the conduct of City Council meetings.

ENVIRONMENTAL SUSTAINABILITY

There are no identifiable environmental effects or opportunities associated with the subject of this report.

RATIONALE FOR RECOMMENDATION

This update is primarily to incorporate the changes regarding policy committees that were adopted separately in Resolution 68,726-N.S. regarding council policy committees. Other conforming changes and technical updates are also included in this revision.

ALTERNATIVE ACTIONS CONSIDERED

None.

CONTACT PERSON

Mark Numainville, City Clerk, 981-6900

Attachments:

1: Resolution

Exhibit A: City Council Rules of Procedure and Order (Clean Version)

2: Rules of Procedure with Track Changes

RESOLUTION NO. ##,###-N.S.

RE-ADOPTING THE CITY COUNCIL RULES OF PROCEDURE

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that the City Council Rules of Procedure and Order attached hereto as Exhibit A shall govern all proceedings of the City Council therein described, subject to the exception and deviations provided for in such rules.

BE IT FURTHER RESOLVED that violation of these rules shall not be construed as a penal offense, except as provided for by the adopted Rules of Procedure.

BE IT FURTHER RESOLVED that this update is primarily to incorporate the changes regarding policy committees that were adopted separately in Resolution 68,726-N.S. regarding council policy committees.

BE IT FURTHER RESOLVED that all preceding amendatory resolutions, including Resolution No. 68,753-N.S., are hereby rescinded.

Exhibit A: City Council Rules of Procedure and Order

The Berkeley City Council Rules of Procedure and Order

Adopted by Resolution No. ~~##,###~~–N.S.
Effective **October 29, 2019**

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I. DUTIES**A. Duties of Mayor**

The Mayor shall preside at the meetings of the Council and shall preserve strict order and decorum at all regular and special meetings of the Council. The Mayor shall state every question coming before the Council, announce the decision of the Council on all subjects, and decide all questions of order, subject, however, to an appeal to the Council, in which event a majority vote of the Council shall govern and conclusively determine such question of order. In the Mayor's absence, the Vice President of the Council (hereafter referred to as the Vice-Mayor) shall preside.

B. Duties of Councilmembers

Promptly at the hour set by law on the date of each regular meeting, the members of the Council shall take their regular stations in the Council Chambers and the business of the Council shall be taken up for consideration and disposition.

C. Motions to be Stated by Chair

When a motion is made, it may be stated by the Chair or the City Clerk before debate.

D. Decorum by Councilmembers

While the Council is in session, the City Council will practice civility and decorum in their discussions and debate. Councilmembers will value each other's time and will preserve order and decorum. A member shall neither, by conversation or otherwise, delay or interrupt the proceedings of the Council, use personal, impertinent or slanderous remarks, nor disturb any other member while that member is speaking or refuse to obey the orders of the presiding officer or the Council, except as otherwise provided herein.

All Councilmembers have the opportunity to speak and agree to disagree but no Councilmember shall speak twice on any given subject unless all other Councilmembers have been given the opportunity to speak. The Presiding Officer may set limits on the speaking time allotted to Councilmembers during Council discussion.

The presiding officer has the affirmative duty to maintain order. The City Council will honor the role of the presiding officer in maintaining order. If a Councilmember believes the presiding officer is not maintaining order, the Councilmember may move that the Vice-Mayor, or another Councilmember if the Vice-Mayor is acting as the presiding officer at the time, enforce the rules of decorum and otherwise maintain order. If that motion receives a second and is approved by a majority of the Council, the Vice-Mayor, or other designated Councilmember, shall enforce the rules of decorum and maintain order.

E. Voting Disqualification

No member of the Council who is disqualified shall vote upon the matter on which the member is disqualified. Any member shall openly state or have the presiding officer announce the fact and nature of such disqualification in open meeting, and shall not be subject to further inquiry. Where no clearly disqualifying conflict of interest appears, the matter of disqualification may, at the request of the member affected, be

decided by the other members of the Council, by motion, and such decision shall determine such member's right and obligation to vote. A member who is disqualified by conflict of interest in any matter shall not remain in the Chamber during the debate and vote on such matter, but shall request and be given the presiding officer's permission to recuse themselves. Any member having a "remote interest" in any matter as provided in Government Code shall divulge the same before voting.

F. Requests for Technical Assistance and/or Reports

A majority vote of the Council shall be required to direct staff to provide technical assistance, develop a report, initiate staff research, or respond to requests for information or service generated by an individual council member.

II. MEETINGS**A. Call to Order - Presiding Officer**

The Mayor, or in the Mayor's absence, the Vice Mayor, shall take the chair precisely at the hour appointed by the meeting and shall immediately call the Council to order. Upon the arrival of the Mayor, the Vice Mayor shall immediately relinquish the chair. In the absence of the two officers specified in this section, the Councilmember present with the longest period of Council service shall preside.

B. Roll Call

Before the Council shall proceed with the business of the Council, the City Clerk shall call the roll of the members and the names of those present shall be entered in the minutes. The later arrival of any absentee shall also be entered in the minutes.

C. Quorum Call

During the course of the meeting, should the Chair note a Council quorum is lacking, the Chair shall call this fact to the attention of the City Clerk. The City Clerk shall issue a quorum call. If a quorum has not been restored within two minutes of a quorum call, the meeting shall be deemed automatically adjourned.

D. Council Meeting Conduct of Business

The agenda for the regular business meetings shall include the following: Ceremonial Items (including comments from the City Auditor if requested); Comments from the City Manager; Comments from the Public; Consent Calendar; Action Calendar (Appeals, Public Hearings, Continued Business, Old Business, New Business); Information Reports; and Communication from the Public. Presentations and workshops may be included as part of the Action Calendar. The Chair will determine the order in which the item(s) will be heard with the consent of Council.

Upon request by the Mayor or any Councilmember, any item may be moved from the Consent Calendar or Information Calendar to the Action Calendar. Unless there is an objection by the Mayor or any Councilmember, the Council may also move an item from the Action Calendar to the Consent Calendar.

A public hearing that is not expected to be lengthy may be placed on the agenda for a regular business meeting. When a public hearing is expected to be contentious and lengthy and/or the Council's regular meeting schedule is heavily booked, the Agenda & Rules Committee, in conjunction with the staff, will schedule a special meeting exclusively for the public hearing. No other matters shall be placed on the agenda for the special meeting. All public comment will be considered as part of the public hearing and no separate time will be set aside for public comment not related to the public hearing at this meeting.

Except at meetings at which the budget is to be adopted, no public hearing may commence later than 10:00 p.m. unless there is a legal necessity to hold the hearing or make a decision at that meeting or the City Council determines by a two-thirds vote that there is a fiscal necessity to hold the hearing.

E. Adjournment

1. No Council meeting shall continue past 11:00 p.m. unless a two-thirds majority of the Council votes to extend the meeting to discuss specified items; and any motion to extend the meeting beyond 11:00 p.m. shall include a list of specific agenda items to be covered and shall specify in which order these items shall be handled.
2. Any items not completed at a regularly scheduled Council meeting may be continued to an Adjourned Regular Meeting by a two-thirds majority vote of the Council.

F. Unfinished Business

Any items not completed by formal action of the Council, and any items not postponed to a date certain, shall be considered Unfinished Business. All Unfinished Business shall be referred to the Agenda & Rules Committee for scheduling for a Council meeting that occurs within 60 days from the date the item last appeared on a Council agenda. The 60 day period is tolled during a Council recess.

G. City Council Schedule and Recess Periods

Pursuant to the Open Government Ordinance, the City Council shall hold a minimum of twenty-four (24) meetings, or the amount needed to conduct City business in a timely manner, whichever is greater, each calendar year.

Regular meetings of the City Council shall be held generally two to three Tuesdays of each month; the schedule to be established annually by Council resolution taking into consideration holidays and election dates.

Regular City Council meetings shall begin no later than 6:00 p.m.

A recess period is defined as a period of time longer than 21 days without a regular meeting of the Council.

When a recess period occurs, the City Manager is authorized to take such ministerial actions for matters of operational urgency as would normally be taken by the City Council during the period of recess except for those duties specifically reserved to the Council by the Charter, and including such emergency actions as are necessary for the immediate preservation of the public peace, health or safety; the authority to extend throughout the period of time established by the City Council for the period of recess.

The City Manager shall have the aforementioned authority beginning the day after the Agenda & Rules Committee meeting for the last regular meeting before a Council recess and this authority shall extend up to the date of the Agenda & Rules Committee meeting for the first regular meeting after the Council recess.

The City Manager shall make a full and complete report to the City Council at its first regularly scheduled meeting following the period of recess of actions taken by the City Manager pursuant to this section, at which time the City Council may make such findings as may be required and confirm said actions of the City Manager.

H. Pledge of Allegiance to the Flag

At the first meeting of each year following the August recess and at any subsequent meeting if specifically requested before the meeting by any member of the Council in order to commemorate an occasion of national significance, the first item on the Ceremonial Calendar will be the Pledge of Allegiance.

I. Ad Hoc Subcommittees

From time to time the Council or the Mayor may appoint several of its members but fewer than the existing quorum of the present body to serve as an ad hoc subcommittee. Only Councilmembers may be members of the ad hoc subcommittee; however, the subcommittee shall seek input and advice from residents, related commissions, and other groups. Ad Hoc Subcommittees must be reviewed annually by the Council to determine if the subcommittee is to continue.

Upon creation of an ad hoc subcommittee, the Council shall allow it to operate with the following parameters:

1. A specific charge or outline of responsibilities shall be established by the Council.
2. A target date must be established for a report back to the Council.
3. Maximum life of the subcommittee shall be one year, with annual review and possible extension by the Council.

Subcommittees shall conduct their meetings in locations that are open to the public and meet accessibility requirements under the Americans with Disabilities Act. Meetings may be held at privately owned facilities provided that the location is open to all that wish to attend and that there is no requirement for purchase to attend. Agendas for subcommittee meetings must be posted in the same manner as the agendas for regular Council meetings except that subcommittee agendas may be posted with 24-hour notice. The public will be permitted to comment on agenda items but public comments may be limited to one minute if deemed necessary by the Committee Chair. Agendas and minutes of the meetings must be maintained and made available upon request.

Ad hoc subcommittees will be staffed by City Council legislative staff. As part of the ad hoc subcommittee process, City staff will undertake a high-level, preliminary analysis of potential legal issues, costs, timelines, and staffing demands associated with the item(s) under consideration. Staff analysis at ad hoc subcommittees is limited to the points above as the recommendation, program, or project has not yet been approved to proceed by the full Council.

Subcommittees must be comprised of at least two members. If only two members are appointed, then both must be present in order for the subcommittee meeting to be held. In other words, the quorum for a two-member subcommittee is always two.

Ad hoc subcommittees may convene a closed session meeting pursuant to the conditions and regulations imposed by the Brown Act.

III. AGENDA

A. Declaration of Policy

No ordinance, resolution, or item of business shall be introduced, discussed or acted upon before the Council at its meeting without prior thereto its having been published on the agenda of the meeting and posted in accordance with Section III.D.2. Exceptions to this rule are limited to circumstances listed in Section III.D.4.b and items continued from a previous meeting and published on a revised agenda.

B. Definitions

For purposes of this section, the terms listed herein shall be defined as follows:

1. "Agenda Item" means an item placed on the agenda (on either the Consent Calendar or as a Report For Action) for a vote of the Council by the Mayor or any Councilmember, the City Manager, the Auditor, or any board/commission/committee created by the City Council, or any Report For Information which may be acted upon if the Mayor or a Councilmember so requests. For purposes of this section, appeals shall be considered action items. All information from the City Manager concerning any item to be acted upon by the Council shall be submitted as a report on the agenda and not as an off-agenda memorandum and shall be available for public review, except to the extent such report is privileged and thus confidential such as an attorney client communication concerning a litigation matter. Council agenda items are limited to a maximum of three Co-Sponsors (in addition to the Primary Author). Co-Sponsors to Council reports may only be added in the following manner:
 - In the original item as submitted by the Primary Author
 - In a revised item submitted by the Primary Author at the Agenda & Rules Committee
 - By verbal request of the Primary Author at the Agenda & Rules Committee
 - In a revised item submitted by the Primary Author in Supplemental Reports and Communications Packet #1 or #2
 - By verbal or written request of the Mayor or any Councilmember at the Policy Committee meeting or meeting of the full council at which the item is considered

Agenda items shall contain all relevant documentation, including the information listed below.

- a) A descriptive title that adequately informs the public of the subject matter and general nature of the item or report;
- b) Whether the matter is to be presented on the Consent Calendar or the Action Calendar or as a Report for Information;
- c) Recommendation of the report author that describes the action to be taken on the item, if applicable;

- d) Fiscal impacts of the recommendation;
 - e) A description of the current situation and its effects;
 - f) Background information as needed;
 - g) Rationale for recommendation;
 - h) Alternative actions considered;
 - i) For awards of contracts; the abstract of bids and the Affirmative Action Program of the low bidder in those cases where such is required (these provisions shall not apply to Mayor and Council items.);
 - j) Person or persons to contact for further information, with telephone number.
 - k) Additional information and analysis as required. It is recommended that reports include the recommended points of analysis in the Council Report Guidelines in Appendix B.
2. "Primary Author" means the Mayor or Councilmember that initiated, authored, and submitted a council agenda item.
 3. "Co-Sponsor" means the Mayor or other Councilmembers designated by the Primary Author to be co-sponsor of the council agenda item.
 4. "Agenda" means the compilation of the descriptive titles of agenda items submitted to the City Clerk, arranged in the sequence established in Section III.E hereof.
 5. "Packet" means the agenda plus all its corresponding duplicated agenda items.
 6. "Emergency Matter" arises when prompt action is necessary due to the disruption or threatened disruption of public facilities and a majority of the Council determines that:
 - a) A work stoppage or other activity which severely impairs public health, safety, or both;
 - b) A crippling disaster, which severely impairs public health, safety or both. Notice of the Council's proposed consideration of any such emergency matter shall be given in the manner required by law for such an emergency pursuant to Government Code Section 54956.5.
 7. "Continued Business" Items carried over from a prior agenda of a meeting occurring less than 11 days earlier.
 8. "Old Business" Items carried over from a prior agenda of a meeting occurring more than 11 days earlier.

C. Procedure for Bringing Matters Before City Council

1. Persons Who Can Place Matters on the Agenda.

Matters may be placed on the agenda by the Mayor or any Councilmember, the City Manager, the Auditor, or any board/commission/committee created by the City Council. All items, other than board and commission items shall be subject to review by the Agenda & Rules Committee, which shall be a standing committee of the City Council.

The Agenda & Rules Committee shall meet 15 days prior to each City Council meeting and shall approve the agenda of that City Council meeting. Pursuant to BMC Section 1.04.080, if the 15th day prior to the Council meeting falls on a holiday, the Committee will meet the next business day. The Agenda & Rules Committee packet, including a draft agenda and Councilmember, Auditor, and Commission reports shall be distributed by 5:00 p.m. 4 days before the Agenda & Rules Committee meeting.

The Agenda & Rules Committee shall have the powers set forth below.

- a) **Items Authored by the Mayor, a Councilmember, or the Auditor.** As to items authored by the Mayor, a Councilmember, or the Auditor, the Agenda & Rules Committee shall review the item and may recommend that the matter be referred to a commission, to the City Manager, a Policy Committee, or back to the author for adherence to required form or for additional analysis as required in Section III.B.2, or suggest other appropriate action including scheduling the matter for a later meeting to allow for appropriate revisions.

The author of a “referred” item must inform the City Clerk within 24 hours of the adjournment of the Agenda & Rules Committee meeting whether they prefer to: 1) hold the item for a future meeting pending modifications as suggested by the Committee; 2) have the item appear on the Council agenda under consideration as originally submitted; 3) pull the item completely; or 4) re-submit the item with revisions as requested by the Agenda & Rules Committee within 24 hours of the adjournment of the Agenda & Rules Committee meeting for the Council agenda under consideration. Option 2 is not available for items eligible to be referred to a Policy Committee.

In the event that the City Clerk does not receive guidance from the author of the referred item within 24 hours of the Agenda & Rules Committee’s adjournment, the recommendation of the Agenda & Rules Committee will take effect.

Items held for a future meeting to allow for modifications will be placed on the next available Council meeting agenda at the time that the revised version is submitted to the City Clerk.

- b) **Items Authored by the City Manager.** The Agenda & Rules Committee shall review agenda descriptions of items authored by the City Manager. The Committee can recommend that the matter be referred to a commission or back to the City Manager for adherence to required form, additional analysis as required in Section III.B.2, or suggest other appropriate action including scheduling the matter for a later meeting to allow for appropriate revisions.

If the City Manager determines that the matter should proceed notwithstanding the Agenda & Rules Committee's action, it will be placed on the agenda as directed by the Manager. All City Manager items placed on the Council agenda against the recommendation of the Agenda & Rules Committee will automatically be placed on the Action Calendar.

- c) **Items Authored by Boards and Commissions.** Council items submitted by boards and commissions are subject to City Manager review and must follow procedures and timelines for submittal of reports as described in the Commissioners' Manual. The content of commission items is not subject to review by the Agenda & Rules Committee.
- i) For a commission item that does not require a companion report from the City Manager, the Agenda & Rules Committee may act on an agendaized commission report in the following manner:
1. Move a commission report from the Consent Calendar to the Action Calendar or from the Action Calendar to the Consent Calendar.
 2. Re-schedule the commission report to appear on one of the next three regular Council meeting agendas that occur after the regular meeting under consideration. Commission reports submitted in response to a Council referral shall receive higher priority for scheduling.
 3. Allow the item to proceed as submitted.
- ii) For any commission report that requires a companion report, the Agenda & Rules Committee may schedule the item on a Council agenda. The Committee must schedule the the commission item for a meeting occurring not sooner than 60 days and not later than 120 days from the date of the meeting under consideration by the Agenda & Rules Committee. A commission report submitted with a complete companion report may be scheduled pursuant to subparagraph c.i. above.
- d) The Agenda & Rules Committee shall have the authority to re-order the items on the Action Calendar regardless of the default sequence prescribed in Chapter III, Section E.

2. **Scheduling Public Hearings Mandated by State, Federal, or Local Statute.**
The City Clerk may schedule a public hearing at an available time and date in those cases where State, Federal or local statute mandates the City Council hold a public hearing.
3. **Submission of Agenda Items.**
- a) **City Manager Items.** Except for Continued Business and Old Business, as a condition to placing an item on the agenda, agenda items from departments, including agenda items from commissions, shall be furnished to the City Clerk at a time established by the City Manager.
 - b) **Council and Auditor Items.** The deadline for reports submitted by the Auditor, Mayor and City Council is 5:00 p.m. on Monday, 22 days before each Council meeting.
 - c) **Time Critical Items.** A Time Critical item is defined as a matter that is considered urgent by the sponsor and that has a deadline for action that is prior to the next meeting of the Council and for which a report prepared by the City Manager, Auditor, Mayor or Councilmember is received by the City Clerk after established deadlines and is not included on the Agenda & Rules Committee's published agenda.

The author of the report shall bring any reports submitted as Time Critical to the meeting of the Agenda & Rules Committee. Time Critical items must be accompanied by complete reports and statements of financial implications. If the Agenda & Rules Committee finds the matter to meet the definition of Time Critical, the Agenda & Rules Committee may place the matter on the Agenda on either the Consent or Action Calendar.

- d) The City Clerk may not accept any agenda item after the adjournment of the Agenda & Rules Committee meeting, except for items carried over by the City Council from a prior City Council meeting occurring less than 11 days earlier, which may include supplemental or revised reports, and reports concerning actions taken by boards and commissions that are required by law or ordinance to be presented to the Council within a deadline that does not permit compliance with the agenda timelines in BMC Chapter 2.06 or these rules.
4. **Submission of Supplemental and Revised Agenda Material.**
Berkeley Municipal Code Section 2.06.070 allows for the submission of supplemental and revised agenda material. Supplemental and revised material cannot be substantially new or only tangentially related to an agenda item. Supplemental material must be specifically related to the item in the Agenda Packet. Revised material should be presented as revised versions of the report or item printed in the Agenda Packet. Supplemental and revised material may be submitted for consideration as follows:
- a) Supplemental and revised agenda material shall be submitted to the City Clerk no later than 5:00 p.m. seven calendar days prior to the City Council

meeting at which it is to be considered. Supplemental and revised items that are received by the deadline shall be distributed to Council in a supplemental reports packet and posted to the City's website no later than 5:00 p.m. five calendar days prior to the meeting. Copies of the supplemental packet shall also be made available in the office of the City Clerk and in the main branch of the Berkeley Public Library. Such material may be considered by the Council without the need for a determination that the good of the City clearly outweighs the lack of time for citizen review or City Councilmember evaluation.

- b) Supplemental and revised agenda material submitted to the City Clerk after 5:00 p.m. seven days before the meeting and no later than 12:00 p.m. one day prior to the City Council meeting at which it is to be considered shall be distributed to Council in a supplemental reports packet and posted to the City's website no later than 5:00 p.m. one day prior to the meeting. Copies of the supplemental packet shall also be made available in the office of the City Clerk and in the main branch of the Berkeley Public Library. Such material may be considered by the Council without the need for a determination that the good of the City clearly outweighs the lack of time for citizen review or City Council evaluation.
- c) After 12:00 p.m. one calendar day prior to the meeting, supplemental or revised reports may be submitted for consideration by delivering a minimum of 42 copies of the supplemental/revised material to the City Clerk for distribution at the meeting. Each copy must be accompanied by a completed supplemental/revised material cover page, using the form provided by the City Clerk. Revised reports must reflect a comparison with the original item using track changes formatting. The material may be considered only if the City Council, by a two-thirds roll call vote, makes a factual determination that the good of the City clearly outweighs the lack of time for citizen review or City Councilmember evaluation of the material. Supplemental and revised material must be distributed and a factual determination made prior to the commencement of public comment on the agenda item in order for the material to be considered.

5. **Scheduling a Presentation.**

Presentations from staff are either submitted as an Agenda Item or are requested by the City Manager. Presentations from outside agencies and the public are coordinated with the Mayor's Office. The Agenda & Rules Committee may adjust the schedule of presentations as needed to best manage the Council Agenda.

D. Packet Preparation and Posting

1. **Preparation of the Packet.**

Not later than the thirteenth day prior to said meeting, the City Clerk shall prepare the packet, which shall include the agenda plus all its corresponding duplicated agenda items. No item shall be considered if not included in the packet, except as provided for in Section III.C.4 and Section III.D.4.

2. Distribution and Posting of Agenda.

- a) The City Clerk shall post each agenda of the City Council regular meeting no later than 11 days prior to the meeting and shall post each agenda of a special meeting at least 24 hours in advance of the meeting in the official bulletin board. The City Clerk shall maintain an affidavit indicating the location, date and time of posting each agenda.
- b) The City Clerk shall also post agendas and annotated agendas of all City Council meetings and notices of public hearings on the City's website.
- c) No later than 11 days prior to a regular meeting, copies of the agenda shall be mailed by the City Clerk to any resident of the City of Berkeley who so requests in writing. Copies shall also be available free of charge in the City Clerk Department.

3. Distribution of the Agenda Packet.

The Agenda Packet shall consist of the Agenda and all supporting documents for agenda items. No later than 11 days prior to a regular meeting, the City Clerk shall:

- a) distribute the Agenda Packet to each member of the City Council;
- b) post the Agenda Packet to the City's website;
- c) place copies of the Agenda Packet in viewing binders in the office of the City Clerk and in the main branch of the Berkeley Public Library; and
- d) make the Agenda Packet available to members of the press.

4. Failure to Meet Deadlines.

- a) The City Clerk shall not accept any agenda item or revised agenda item after the deadlines established.
- b) Matters not included on the published agenda may be discussed and acted upon as otherwise authorized by State law or providing the Council finds one of the following conditions is met:
 - A majority of the Council determines that the subject meets the criteria of "Emergency" as defined in Section III.B.5.
 - Two thirds of the Council determines that there is a need to take immediate action and that the need for action came to the attention of the City subsequent to the posting of the agenda as required by law.
- c) Matters listed on the printed agenda but for which supporting materials are not received by the City Council on the eleventh day prior to said meeting as part of the agenda packet, shall not be discussed or acted upon.

E. Agenda Sequence and Order of Business

The Council agenda for a regular business meeting is to be arranged in the following order:

1. Preliminary Matters: (Ceremonial, Comments from the City Manager, Comments from the City Auditor, Non-Agenda Public Comment)
2. Consent Calendar
3. Action Calendar
 - a) Appeals
 - b) Public Hearings
 - c) Continued Business
 - d) Old Business
 - e) New Business
4. Information Reports
5. Non-Agenda Public Comment
6. Adjournment
7. Communications

Action items may be reordered at the discretion of the Chair with the consent of Council.

The Agenda & Rules Committee shall have the authority to re-order the items on the Action Calendar regardless of the default sequence prescribed in this section.

F. Closed Session Documents

This section establishes a policy for the distribution of, and access to, confidential closed session documents by the Mayor and Members of the City Council.

1. Confidential closed session materials shall be kept in binders numbered from one to nine and assigned to the Mayor (#9) and each Councilmember (#1 to #8 by district). The binders will contain confidential closed session materials related to Labor Negotiations, Litigation, and Real Estate matters.
2. The binders will be maintained by City staff and retained in the Office of the City Attorney in a secure manner. City staff will bring the binders to each closed session for their use by the Mayor and Councilmembers. At other times, the binders will be available to the Mayor and Councilmembers during regular business hours for review in the City Attorney's Office. The binders may not be removed from the City Attorney's Office or the location of any closed session meeting by the Mayor or Councilmembers. City staff will collect the binders at the end of each closed session meeting and return them to the City Attorney's Office.

3. Removal of confidential materials from a binder is prohibited.
4. Duplication of the contents of a binder by any means is prohibited.
5. Confidential materials shall be retained in the binders for at least two years.
6. This policy does not prohibit the distribution of materials by staff to the Mayor and Councilmembers in advance of a closed session or otherwise as needed, but such materials shall also be included in the binders unless it is impracticable to do so.

G. Regulations Governing City Council Policy Committees

1. Legislative Item Process

All agenda items begin with submission to the Agenda & Rules Committee.

Full Council Track

Items under this category are exempt from Agenda & Rules Committee discretion to refer them to a Policy Committee. Items in this category may be submitted for the agenda of any scheduled regular meeting pursuant to established deadlines (same as existing deadlines). Types of Full Council Track items are listed below.

- a. Items submitted by the City Manager and City Auditor
- b. Items submitted by Boards and Commissions
- c. Resolutions on Legislation and Electoral Issues relating to Outside Agencies/Jurisdictions
- d. Position Letters and/or Resolutions of Support/Opposition
- e. Donations from the Mayor and Councilmember District Office Budgets
- f. Referrals to the Budget Process
- g. Proclamations
- h. Sponsorship of Events
- i. Information Reports
- j. Presentations from Outside Agencies and Organizations
- k. Ceremonial Items
- l. Committee and Regional Body Appointments

The Agenda & Rules Committee has discretion to determine if an item submitted by the Mayor or a Councilmember falls under a Full Council Track exception or if it will be processed as a Policy Committee Track item. If an item submitted by the Mayor or a Councilmember has 1) a significant lack of background or supporting information, or 2) significant grammatical or readability issues the Agenda & Rules committee may refer the item to a Policy Committee.

Policy Committee Track

Items submitted by the Mayor or Councilmembers with moderate to significant administrative, operational, budgetary, resource, or programmatic impacts will go first to the Agenda & Rules Committee on a draft City Council agenda.

The Agenda & Rules Committee must refer an item to a Policy Committee at the first meeting that the item appears before the Agenda & Rules Committee. The Agenda & Rules Committee may only assign the item to a single Policy Committee.

For a Policy Committee Track item, the Agenda & Rules Committee, at its discretion, may either route item directly to 1) the agenda currently under consideration, 2) one of the next three full Council Agendas (based on completeness of the item, lack of potential controversy, minimal impacts, etc.), or 3) to a Policy Committee.

Time Critical Track

A Time Critical item is defined as a matter that is considered urgent by the sponsor and that has a deadline for action that is prior to the next meeting of the Council and for which a report prepared by the Mayor or Councilmember is received by the City Clerk after established deadlines and is not included on the Agenda & Rules Committee's published agenda.

The Agenda & Rules Committee retains final discretion to determine the time critical nature of an item.

- a) Time Critical items submitted on the Full Council Track deadlines, that would otherwise be assigned to the Policy Committee Track, may bypass Policy Committee review if determined to be time critical. If such an item is deemed not to be time critical, it may be referred to a Policy Committee.
- b) Time Critical items on the Full Council Track or Policy Committee Track that are submitted at a meeting of the Agenda & Rules Committee may go directly on a council agenda if determined to be time critical.

2. Council Referrals to Committees

The full Council may refer any agenda item to a Policy Committee by majority vote.

3. Participation Rules for Policy Committees Pursuant to the Brown Act

- a. The quorum of a three-member Policy Committee is always two members. A majority vote of the committee (two 'yes' votes) is required to pass a motion.
- b. Two Policy Committee members may not discuss any item that has been referred to the Policy Committee outside of an open and noticed meeting.
- c. Notwithstanding paragraph (b) above, two members of a Policy Committee may co-author an item provided that one of the authors will not serve as a committee member for consideration of the item, and shall not participate in the committee's discussion of, or action on the item. For purposes of the item, the appointed

- alternate will serve as a committee member in place of the non-participating co-author.
- d. All three members of a Policy Committee may not be co-authors of an item that will be heard by the committee.
 - e. Only one co-author who is not a member of the Policy Committee may attend the committee meeting to participate in discussion of the item.
 - f. If two or more non-committee members are present for any item or meeting, then all non-committee members may act only as observers and may not participate in discussion. If an author is present to participate in the discussion of their item, no other Councilmembers, nor the Mayor, may attend as observers.
 - g. An item may be considered by only one Policy Committee before it goes to the full Council.

4. Functions of the Committees

Committees shall have the following qualities/components:

- a. All committees are Brown Act bodies with noticed public meetings and public comment. Regular meeting agendas will be posted at least 72 hours in advance of the meeting.
- b. Minutes shall be available online.
- c. Committees shall adopt regular meeting schedules, generally meeting once or twice per month; special meetings may be called when necessary, in accordance with the Brown Act.
- d. Generally, meetings will be held at 2180 Milvia Street in publicly accessible meeting rooms that can accommodate the committee members, public attendees, and staff.
- e. Members are recommended by the Mayor and approved by the full Council no later than January 31 of each year. Members continue to serve until successors are appointed and approved.
- f. Chairs are elected by the Committee at the first regular meeting of the Committee after the annual approval of Committee members by the City Council. In the absence of the Chair, the committee member with the longest tenure on the Council will preside.
- g. The Chair, or a quorum of the Committee may call a meeting or cancel a meeting of the Policy Committee.
- h. Committees will review items for completeness in accordance with Section III.B.2 of the City Council Rules of Procedure and Order and alignment with Strategic Plan goals.
- i. Reports leaving a Policy Committee must adequately include budget implications, administrative feasibility, basic legal concerns, and staff resource demands in order to allow for informed consideration by the full Council.
- j. Per Brown Act regulations, any such materials must be direct revisions or supplements to the item that was published in the agenda packet.

Items referred to a Policy Committee from the Agenda & Rules Committee or from the City Council must be agendized for a committee meeting within 60 days of the referral date.

Within 120 days of the referral date, the committee must vote to either (1) accept the author's request that the item remain in committee until a date certain (more than one extension may be requested by the author); or (2) send the item to the Agenda & Rules Committee to be placed on a Council Agenda with a Committee recommendation consisting of one of the four options listed below.

1. Positive Recommendation (recommending Council pass the item as proposed),
2. Qualified Positive Recommendation (recommending Council pass the item with some changes),
3. Qualified Negative Recommendation (recommending Council reject the item unless certain changes are made) or
4. Negative Recommendation (recommending the item not be approved).

The Policy Committee's recommendation will be included in a separate section of the report template for that purpose.

A Policy Committee may not refer an item under its consideration to a city board or commission.

The original Council author of an item referred to a Policy Committee is responsible for revisions and resubmission of the item back to the full Council. Items originating from the City Manager are revised and submitted by the appropriate city staff. Items from Commissions are revised and resubmitted by the members of the Policy Committee. Items and Recommendations originating from the Policy Committee are submitted to the agenda process by the members of the committee.

If a Policy Committee does not take final action by the 120-day deadline, the item is returned to the Agenda & Rules Committee and appears on the next available Council agenda. The Agenda & Rules Committee may leave the item on the agenda under consideration or place it on the next Council agenda. Items appearing on a City Council agenda due to lack of action by a Policy Committee may not be referred to a Policy Committee and must remain on the full Council agenda for consideration.

Non-legislative or discussion items may be added to the Policy Committee agenda by members of the Committee with the concurrence of a quorum of the Committee. These items are not subject to the 120-day deadline for action.

Once the item is voted out of a Policy Committee, the final item will be resubmitted to the agenda process by the author, and it will return to the Agenda & Rules Committee on the

next available agenda. The Agenda & Rules Committee may leave the item on the agenda under consideration or place it on the following Council agenda. Only items that receive a Positive Recommendation can be placed on the Consent Calendar.

The lead author may request expedited committee review for items referred to a committee. Criteria for expedited review is generally to meet a deadline for action (e.g. grant deadline, specific event date, etc.). If the committee agrees to the request, the deadline for final committee action is 45 days from the date the committee approves expedited review.

5. Number and Make-up of Committees

Six committees are authorized, each comprised of three Councilmembers with a fourth Councilmember appointed as an alternate. Each Councilmember and the Mayor will serve on two committees. The Mayor shall be a member of the Agenda and Rules Committee. The committees are as follows:

1. Agenda and Rules Committee
2. Budget and Finance Committee
3. Facilities, Infrastructure, Transportation, Environment, and Sustainability
4. Health, Life Enrichment, Equity, and Community
5. Land Use, Housing, and Economic Development
6. Public Safety

The Agenda & Rules Committee shall establish the Policy Committee topic groupings, and may adjust said groupings periodically thereafter in order to evenly distribute expected workloads of various committees.

All standing Policy Committees of the City Council are considered “legislative bodies” under the Brown Act and must conduct all business in accordance with the Brown Act.

6. Role of City Staff at Committee Meetings

Committees will be staffed by appropriate City Departments and personnel. As part of the committee process, staff will undertake a high-level, preliminary analysis of potential legal issues, costs, timelines, and staffing demands associated with the item. Staff analysis at the Policy Committee level is limited to the points above as the recommendation, program, or project has not yet been approved to proceed by the full Council.

IV. CONDUCT OF MEETING

A. Comments from the Public

Public comment will be taken in the following order:

- An initial ten-minute period of public comment on non-agenda items, after the commencement of the meeting and immediately after Ceremonial Matters and City Manager Comments.
- Public comment on the Consent and Information Calendars.
- Public comment on action items, appeals and/or public hearings as they are taken up under procedures set forth in the sections governing each below.
- Public comment on non-agenda items from any speakers who did not speak during the first round of non-agenda public comment at the beginning of the meeting.

Speakers are permitted to yield their time to one other speaker, however no one speaker shall have more than four minutes. A speaker wishing to yield their time shall identify themselves, shall be recognized by the chair, and announce publicly their intention to yield their time. Disabled persons shall have priority seating in the front row of the public seating area.

A member of the public may only speak once at public comment on any single item, unless called upon by the Mayor or a Councilmember to answer a specific inquiry.

1. Public Comment on Consent Calendar and Information Items.

The Council will first determine whether to move items on the agenda for “Action” or “Information” to the “Consent Calendar,” or move “Consent Calendar” items to “Action.” Items that remain on the “Consent Calendar” are voted on in one motion as a group. “Information” items are not discussed or acted upon at the Council meeting unless they are moved to “Action” or “Consent.”

The Council will then take public comment on any items that are either on the amended Consent Calendar or the Information Calendar. A speaker may only speak once during the period for public comment on Consent Calendar and Information items. No additional items can be moved onto the Consent Calendar once public comment has commenced.

At any time during, or immediately after, public comment on Information and Consent items, the Mayor or any Councilmember may move any Information or Consent item to “Action.” Following this, the Council will vote on the items remaining on the Consent Calendar in one motion.

For items moved to the Action Calendar from the Consent Calendar or Information Calendar, persons who spoke on the item during the Consent Calendar public comment period may speak again at the time the matter is taken up during the Action Calendar.

2. Public Comment on Action Items.

After the initial ten minutes of public comment on non-agenda items and public comment and action on consent items, the public may comment on each remaining item listed on the agenda for action as the item is taken up.

The Presiding Officer will request that persons wishing to speak, line up at the podium to be recognized and to determine the number of persons interested in speaking at that time.

If ten or fewer persons are interested in speaking, each speaker may speak for two minutes. If there are more than ten persons interested in speaking, the Presiding Officer may limit the public comment for all speakers to one minute per speaker. Speakers are permitted to yield their time to one other speaker, however no one speaker shall have more than four minutes.

This procedure also applies to public hearings except those types of public hearings specifically provided for in this section.

3. Appeals Appearing on Action Calendar.

With the exception of appeals from decisions of the Zoning Adjustments Board and Landmarks Preservation Commission, appeals from decisions of City commissions appear on the "Action" section of the Council Agenda. Council determines whether to affirm the action of the commission, set a public hearing, or remand the matter to the commission. Appeals of proposed special assessment liens shall also appear on the "Action" section of the Council Agenda. Appeals from decisions of the Zoning Adjustments Board and Landmarks Preservation Commission are automatically set for public hearing and appear on the "Public Hearings" section of the Council Agenda.

Time shall be provided for public comment for persons representing both sides of the action/appeal and each side will be allocated seven minutes to present their comments on the appeal. Where the appellant is not the applicant, the appellants of a single appeal collectively shall have seven minutes to comment and the applicant shall have seven minutes to comment. If there are multiple appeals filed, each appellant or group of appellants shall have seven minutes to comment. Where the appellant is the applicant, the applicant/appellant shall have seven minutes to comment and the persons supporting the action of the board or commission on appeal shall have seven minutes to comment. In the case of an appeal of proposed special assessment lien, the appellant shall have seven minutes to comment.

After the conclusion of the seven-minute comment periods, members of the public may comment on the appeal. Comments from members of the public regarding appeals shall be limited to one minute per speaker. Any person that addressed the Council during one of the seven-minute periods may not speak again during the public comment period on the appeal. Speakers may yield their time to one other speaker, however, no speaker shall have more than two minutes. Each side shall be informed of this public comment procedure at the time the Clerk notifies the parties of the date the appeal will appear on the Council agenda.

4. Public Comment on Non Agenda Matters.

Immediately following Ceremonial Matters and the City Manager Comments and prior to the Consent Calendar, persons will be selected by lottery to address matters not on the Council agenda. If five or fewer persons submit speaker cards for the lottery, each person selected will be allotted two minutes each. If more than five persons submit speaker cards for the lottery, up to ten persons will be selected to address matters not on the Council agenda and each person selected will be allotted one minute each. Persons wishing to address the Council on matters not on the Council agenda during the initial ten-minute period for such comment, must submit a speaker card to the City Clerk in person at the meeting location and prior to commencement of that meeting.

The remainder of the speakers wishing to address the Council on non-agenda items will be heard at the end of the agenda. Speaker cards are not required for this second round of public comment on non-agenda matters.

Persons submitting speaker cards are not required to list their actual name, however they must list some identifying information or alternate name in order to be called to speak.

For the second round of public comment on non-agenda matters, the Presiding Officer retains the authority to limit the number of speakers by subject. The Presiding Officer will generally request that persons wishing to speak, line up at the podium to be recognized to determine the number of persons interested in speaking at that time. Each speaker will be entitled to speak for two minutes each unless the Presiding Officer determines that one-minute is appropriate given the number of speakers.

Pursuant to this document, no Council meeting shall continue past 11:00 p.m. unless a two-thirds majority of the Council votes to extend the meeting to discuss specified items. If any agenda item remains unfinished at 11:00 p.m. or the expiration of any extension after 11:00 p.m., it will be referred to the Agenda & Rules Committee for scheduling pursuant to Chapter II, Section F. In that event, the meeting shall be automatically extended for up to fifteen (15) minutes for public comment on non-agenda items.

5. Ralph M. Brown Act Pertaining to Public Comments.

The "Brown Act" prohibits the Council from discussing or taking action on an issue raised during Public Comment, unless it is specifically listed on the agenda. However, the Council may refer a matter to the City Manager.

B. Consent Calendar

There shall be a Consent Calendar on all regular meeting agendas on which shall be included those matters which the Mayor, Councilmembers, boards, commissions, City Auditor and City Manager deem to be of such nature that no debate or inquiry will be necessary at the Council meetings. Ordinances for second reading may be included in the Consent Calendar.

It is the policy of the Council that the Mayor or Councilmembers wishing to ask questions concerning Consent Calendar items should ask questions of the contact person identified prior to the Council meeting so that the need for discussion of consent calendar items can be minimized.

Consent Calendar items may be moved to the Action Calendar by the Council. Action items may be reordered at the discretion of the Chair with the consent of Council.

C. Information Reports Called Up for Discussion

Reports for Information designated for discussion at the request of the Mayor or any Councilmember shall be added to the appropriate section of the Action Calendar and may be acted upon at that meeting or carried over as pending business until discussed or withdrawn. The agenda will indicate that at the request of Mayor or any Councilmember a Report for Information may be acted upon by the Council.

D. Communications

Letters from the public will not appear on the Council agenda as individual matters for discussion but will be distributed as part of the Council agenda packet with a cover sheet identifying the author and subject matter and will be listed under "Communications." All such communications must have been received by the City Clerk no later than 5:00 p.m. fifteen days prior to the meeting in order to be included on the agenda.

In instances where an individual forwards more than three pages of email messages not related to actionable items on the Council agenda to the Council to be reproduced in the "Communications" section of the Council packet, the City Clerk will not reproduce the entire email(s) but instead refer the public to the City's website or a hard copy of the email(s) on file in the City Clerk Department.

All communications shall be simply deemed received without any formal action by the Council. The Mayor or a Councilmember may refer a communication to the City Manager for action, if appropriate, or prepare a consent or action item for placement on a future agenda.

Communications related to an item on the agenda that are received after 5:00 p.m. fifteen days before the meeting are published as provided for in Chapter III.C.4.

E. Public Hearings for Land Use, Zoning, Landmarks, and Public Nuisance Matters

The City Council, in setting the time and place for a public hearing, may limit the amount of time to be devoted to public presentations. Staff shall introduce the public hearing item and present their comments.

Following any staff presentation, each member of the City Council shall verbally disclose all ex parte contacts concerning the subject of the hearing. Members shall also submit a report of such contacts in writing prior to the commencement of the hearing. Such reports shall include a brief statement describing the name, date, place, and content of the contact. Written reports shall be available for public review

in the office of the City Clerk prior to the meeting and placed in a file available for public viewing at the meeting.

This is followed by five-minute presentations each by the appellant and applicant. Where the appellant is not the applicant, the appellants of a single appeal collectively shall have five minutes to comment and the applicant shall have five minutes to comment. If there are multiple appeals filed, each appellant or group of appellants shall have five minutes to comment. Where the appellant is the applicant, the applicant/appellant shall have five minutes to comment and the persons supporting the action of the board or commission on appeal shall have five minutes to comment. In the case of a public nuisance determination, the representative(s) of the subject property shall have five minutes to present.

The Presiding Officer will request that persons wishing to speak, line up at the podium to be recognized and to determine the number of persons interested in speaking at that time.

If ten or fewer persons are interested in speaking, each speaker may speak for two minutes. If there are more than ten persons interested in speaking, the Presiding Officer may limit the public comment for all speakers to one minute per speaker. Any person that addressed the Council during one of the five-minute periods may not speak again during the public comment period on the appeal. Speakers are permitted to yield their time to one other speaker, however no one speaker shall have more than four minutes. The Presiding Officer may with the consent of persons representing both sides of an issue allocate a block of time to each side to present their issue.

F. Work Sessions

The City Council may schedule a matter for general Council discussion and direction to staff. Official/formal action on a work session item will be scheduled on a subsequent agenda under the Action portion of the Council agenda.

In general, public comment at Council work sessions will be heard after the staff presentation, for a limited amount of time to be determined by the Presiding Officer.

The Presiding Officer will request that persons wishing to speak, line up at the podium to be recognized and to determine the number of persons interested in speaking at that time. If ten or fewer persons are interested in speaking, each speaker may speak for two minutes. If there are more than ten persons interested in speaking, the Presiding Officer may limit the public comment for all speakers to one minute per speaker. Speakers are permitted to yield their time to one other speaker, however no one speaker shall have more than four minutes.

After Council discussion, if time permits, the Presiding Officer may allow additional public comment. During this time, each speaker will receive one minute. Persons who spoke during the prior public comment time may be permitted to speak again.

H. Protocol

People addressing the Council may first give their name in an audible tone of voice for the record. All remarks shall be addressed to the Council as a body and not to any member thereof. No one other than the Council and the person having the floor shall be permitted to enter into any discussion, either directly or through a member of the Council, without the permission of the Presiding Officer. No question shall be asked of a Councilmember except through the Presiding Officer.

V. PROCEDURAL MATTERS**A. Persons Authorized to Sit at Tables**

No person, except City officials, their representatives and representatives of boards and commissions shall be permitted to sit at the tables in the front of the Council Chambers without the express consent of the Council.

B. Decorum

No person shall disrupt the orderly conduct of the Council meeting. Prohibited disruptive behavior includes but is not limited to shouting, making disruptive noises, such as boos or hisses, creating or participating in a physical disturbance, speaking out of turn or in violation of applicable rules, preventing or attempting to prevent others who have the floor from speaking, preventing others from observing the meeting, entering into or remaining in an area of the meeting room that is not open to the public, or approaching the Council Dais without consent. Any written communications addressed to the Council shall be delivered to the City Clerk for distribution to the Council.

C. Enforcement of Decorum

When the public demonstrates a lack of order and decorum, the presiding officer shall call for order and inform the person(s) that the conduct is violating the Rules of Order and Procedure and provide a warning to the person(s) to cease the disruptive behavior. Should the person(s) fail to cease and desist the disruptive conduct, the presiding officer may call a five (5) minute recess to allow the disruptions to cease.

If the meeting cannot be continued due to continued disruptive conduct, the presiding officer may have any law enforcement officer on duty remove or place any person who violates the order and decorum of the meeting under arrest and cause that person to be prosecuted under the provisions of applicable law.

D. Precedence of Motions

When a question is before the Council, no motion shall be entertained except:

1. To adjourn,
2. To fix the hour of adjournment,
3. To lay on the table,
4. For the previous question,
5. To postpone to a certain day,
6. To refer,
7. To amend,
8. To substitute, and
9. To postpone indefinitely.

These motions shall have precedence in order indicated. Any such motion, except a motion to amend or substitute, shall be put to a vote without debate.

E. Roberts Rules of Order

Roberts Rules of Order have been adopted by the City Council and apply in all cases except the precedence of motions in Section V.D shall supersede.

F. Rules of Debate

1. Presiding Officer May Debate.

The presiding officer may debate from the chair; subject only to such limitations of debate as are by these rules imposed on all members, and shall not be deprived of any of the rights and privileges as a member of the Council by reason of that person acting as the presiding officer.

2. Getting the Floor - Improper References to be avoided.

Members desiring to speak shall address the Chair, and upon recognition by the presiding officer, shall confine themselves to the question under debate.

3. Interruptions.

A member, once recognized, shall not be interrupted when speaking unless it is to call a member to order, or as herein otherwise provided. If a member, while speaking, were called to order, that member shall cease speaking until the question of order is determined, and, if in order, the member shall be permitted to proceed.

4. Privilege of Closing Debate.

The Mayor or Councilmember moving the adoption of an ordinance or resolution shall have the privilege of closing the debate. When a motion to call a question is passed, the Mayor or Councilmember moving adoption of an ordinance, resolution or other action shall have three minutes to conclude the debate.

5. Motion to Reconsider.

A motion to reconsider any action taken by the Council may be made only during the same session such action is taken. It may be made either immediately during the same session, or at a recessed or adjourned session thereof. Such motion must be made by a member on the prevailing side, and may be made at any time and have precedence over all other motions or while a member has the floor; it shall be debatable. Nothing herein shall be construed to prevent any member of the Council from making or remaking the same or other motion at a subsequent meeting of the Council.

6. Repeal or Amendment of Action Requiring a Vote of Two-Thirds of Council, or Greater.

Any ordinance or resolution which is passed and which, as part of its terms, requires a vote of two-thirds of the Council or more in order to pass a motion pursuant to such an ordinance or resolution, shall require the vote of the same percent of the Council to repeal or amend the ordinance or resolution.

G. Debate Limited

1. Consideration of each matter coming before the Council shall be limited to 20 minutes from the time the matter is first taken up, at the end of which period consideration of such matter shall terminate and the matter shall be dropped to the foot of the agenda, immediately ahead of Information Reports; provided that either of the following two not debatable motions shall be in order:
 - a) A motion to extend consideration which, if passed, shall commence a new twenty-minute period for consideration; or
 - b) If there are one or more motions on the floor, the previous question, which, if passed, shall require an immediate vote on pending motions.
2. The time limit set forth in subparagraph 1 hereof shall not be applicable to any public hearing, public discussion, Council discussion or other especially set matter for which a period of time has been specified (in which case such specially set time shall be the limit for consideration) or which by applicable law (e.g. hearings of appeals, etc.), the matter must proceed to its conclusion.
3. In the interest of expediting the business of the City, failure by the Chair or any Councilmember to call attention to the expiration of the time allowed for consideration of a matter, by point of order or otherwise, shall constitute unanimous consent to the continuation of consideration of the matter beyond the allowed time; provided, however, that the Chair or any Councilmember may at any time thereafter call attention to the expiration of the time allowed, in which case the Council shall proceed to the next item of business, unless one of the motions referred to in Section D hereof is made and is passed.

H. Motion to Lay on Table

A motion to lay on the table shall preclude all amendments or debate of the subject under consideration. If the motion shall prevail, the consideration of the subject may be resumed only upon a motion of a member voting with the majority and with consent of two-thirds of the members present.

I. Division of Question

If the question contains two or more propositions, which can be divided, the presiding officer may, and upon request of a member shall, divide the same.

J. Addressing the Council

Under the following headings of business, unless the presiding officer rules otherwise, any interested person shall have the right to address the Council in accordance with the following conditions and upon obtaining recognition by the presiding officer:

1. Written Communications.

Interested parties or their authorized representatives may address the Council in the form of written communications in regard to matters of concern to them by submitting their written communications at the meeting, or prior to the meeting pursuant to the deadlines in Chapter III.C.4.

2. Public Hearings.

Interested persons or their authorized representatives may address the Council by reading protests, petitions, or communications relating to matters then under consideration.

3. Public Comment.

Interested persons may address the Council on any issue concerning City business during the period assigned to Public Comment.

K. Addressing the Council After Motion Made

When a motion is pending before the Council, no person other than the Mayor or a Councilmember shall address the Council without first securing the permission of the presiding officer or Council to do so.

VI.FACILITIES

A. Council Chamber Capacity

Attendance at council meetings shall be limited to the posted seating capacity of the meeting location. Entrance to the meeting location will be appropriately regulated by the City Manager on occasions when capacity is likely to be exceeded. While the Council is in session, members of the public shall not remain standing in the meeting room except to address the Council, and sitting on the floor shall not be permitted.

B. Alternate Facilities for Council Meetings

The City Council shall approve in advance a proposal that a Council meeting be held at a facility other than the School District Board Room.

If the City Manager has reason to anticipate that the attendance for a meeting will be substantially greater than the capacity of the Board Room and insufficient time exists to secure the approval of the City Council to hold the meeting at an alternate facility, the City Manager shall make arrangements for the use of a suitable alternate facility to which such meeting may be recessed and moved, if the City Council authorizes the action.

If a suitable alternate facility is not available, the City Council may reschedule the matter to a date when a suitable alternate facility will be available.

Alternate facilities are to be selected from those facilities previously approved by the City Council as suitable for meetings away from the Board Room.

C. Signs, Objects, and Symbolic Materials

Objects and symbolic materials such as signs which do not have sticks or poles attached or otherwise create any fire or safety hazards will be allowed within the meeting location during Council meetings.

D. Fire Safety

Exits shall not be obstructed in any manner. Obstructions, including storage, shall not be placed in aisles or other exit ways. Hand carried items must be stored so that such items do not inhibit passage in aisles or other exit ways. Attendees are strictly prohibited from sitting in aisles and/or exit ways. Exit ways shall not be used in any way that will present a hazardous condition.

E. Overcrowding

Admittance of persons beyond the approved capacity of a place of assembly is prohibited. When the meeting location has reached the posted maximum capacity, additional attendees shall be directed to the designated overflow area.

APPENDIX A. POLICY FOR NAMING AND RENAMING PUBLIC FACILITIES

Purpose

To establish a uniform policy regarding the naming and renaming of existing and future parks, streets, pathways and other public facilities.

Objective

- A. To ensure that naming public facilities (such as parks, streets, recreation facilities, pathways, open spaces, public building, bridges or other structures) will enhance the values and heritage of the City of Berkeley and will be compatible with community interest.

Section 1 – Lead Commission

The City Council designates the following commissions as the ‘Lead Commissions’ in overseeing, evaluating, and ultimately advising the Council in any naming or renaming of a public facility. The lead commission shall receive and coordinate comment and input from other Commissions and the public as appropriate.

Board of Library Trustees

Parks and Recreation Commission –Parks, recreation centers, camps, plazas and public open spaces

Public Works Commission –Public buildings (other than recreation centers), streets and bridges or other structures in the public thoroughfare.

Waterfront Commission –Public facilities within the area of the City known as the Waterfront, as described in BMC 3.36.060.B.

Section 2 – General Policy

- A. Newly acquired or developed public facilities shall be named immediately after acquisition or development to ensure appropriate public identity.
- B. No public facility may be named for a living person, but this policy can be overridden with a 2/3 vote of the City Council.
- C. Public facilities that are renamed must follow the same criteria for naming new facilities. In addition, the historical significance and geographical reference of the established name should be considered when weighing and evaluating any name change.
- D. The City encourages the recognition of individuals for their service to the community in ways that include the naming of activities such as athletic events, cultural presentations, or annual festivals, which do not involve the naming or renaming of public facilities.
- E. Unless restricted by covenant, facilities named after an individual should not necessarily be considered a perpetual name.

Section 3 – Criteria for Naming of Public Facilities

When considering the naming of a new public facility or an unnamed portion or feature within an already named public facility (such as a room within the facility or a feature within an established park), or, the renaming of an existing public facility the following criteria shall be applied:

- A. Public Facilities are generally easier to identify by reference to adjacent street names, distinct geographic or environmental features, or primary use activity. Therefore, the preferred practice is to give City-owned property a name of historical or geographical significance and to retain these names.
- B. No public facility may be named for a living person, but this policy can be overridden with a 2/3 vote of the City Council.
- C. The naming of a public facility or any parts thereof in recognition of an individual posthumously may only be considered if the individual had a positive effect on the community and has been deceased for more than 1 year.
- D. When a public facility provides a specific programmatic activity, it is preferred that the activity (e.g. skateboard park, baseball diamond) be included in the name of the park or facility.
- E. When public parks are located adjacent to elementary schools, a name that is the same as the adjacent school shall be considered.
- F. When considering the renaming of an existing public facility, in addition to applying criteria A-E above, proper weight should be given to the fact that: a name lends a site or property authenticity and heritage; existing names are presumed to have historic significance; and historic names give a community a sense of place and identity, continuing through time, and increases the sense of neighborhood and belonging.

Section 4 –Naming Standards Involving a Major Contribution

When a person, group or organization requests the naming or renaming of a public facility, all of the following conditions shall be met:

- A. An honoree will have made a major contribution towards the acquisition and/or development costs of a public facility or a major contribution to the City.
- B. The honoree has a record of outstanding service to their community
- C. Conditions of any donation that specifies that name of a public facility, as part of an agreement or deed, must be approved by the City Council, after review by and upon recommendation of the City Manager.

Section 5 –Procedures for Naming or Renaming of Public Facilities

- A. Any person or organization may make a written application to the City Manager requesting that a public facility or portion thereof, be named or renamed.
 - 1. Recommendations may also come directly of the City Boards or Commissions, the City Council, or City Staff.
- B. The City Manager shall refer the application to the appropriate lead commission as defined in Section 1 of the City's policy on naming of public facilities, for that commission's review, facilitation, and recommendation of disposition.
 - 1. The application shall contain the name or names of the persons or organization making the application and the reason for the requested naming or renaming.
- C. The lead commission shall review and consider the application, using the policies and criteria articulated to the City Policy on Naming and Renaming to make a recommendation to Council.
 - 1. All recommendations or suggestion will be given the same consideration without regard to the source of the nomination
- D. The lead commission shall hold a public hearing and notify the general public of any discussions regarding naming or renaming of a public facility.

1. Commission action will be taking at the meeting following any public hearing on the naming or renaming.
- E. The commission's recommendation shall be forwarded to Council for final consideration.

The City of Berkeley Policy for Naming and Renaming Public Facilities was adopted by the Berkeley City Council at the regular meeting of January 31, 2012.

APPENDIX B. GUIDELINES FOR DEVELOPING AND WRITING COUNCIL AGENDA ITEMS

These guidelines are derived from the requirements for Agenda items listed in the Berkeley City Council Rules of Procedure and Order, Chapter III, Sections B(1) and (2), reproduced below. In addition, Chapter III Section C(1)(a) of the Rules of Procedure and Order allows the Agenda & Rules Committee to request that the author of an item provide “additional analysis” if the item as submitted evidences a “significant lack of background or supporting information” or “significant grammatical or readability issues.”

These guidelines provide a more detailed and comprehensive overview of elements of a complete Council item. While not all elements would be applicable to every type of Agenda item, they are intended to prompt authors to consider presenting items with as much relevant information and analysis as possible.

Chapter III, Sections (B)(1) and (2) of Council Rules of Procedure and Order:

2. Agenda items shall contain all relevant documentation, including the following as Applicable:
 - a. A descriptive title that adequately informs the public of the subject matter and general nature of the item or report and action requested;
 - b. Whether the matter is to be presented on the Consent Calendar or the Action Calendar or as a Report for Information;
 - c. Recommendation of the City Manager, if applicable (these provisions shall not apply to Mayor and Council items.);
 - d. Fiscal impacts of the recommendation;
 - e. A description of the current situation and its effects;
 - f. Background information as needed;
 - g. Rationale for recommendation;
 - h. Alternative actions considered;
 - i. For awards of contracts; the abstract of bids and the Affirmative Action Program of the low bidder in those cases where such is required (these provisions shall not apply to Mayor and Council items.);
 - j. Person or persons to contact for further information, with telephone number. If the author of any report believes additional background information, beyond the basic report, is necessary to Council understanding of the subject, a separate compilation of such background information may be developed and copies will be available for Council and for public review in the City Clerk Department, and the City Clerk shall provide limited distribution of such background information depending upon quantity of pages to be duplicated. In such case the agenda item distributed with the packet shall so indicate.

Guidelines for City Council Items:

1. Title
2. Consent/Action/Information Calendar
3. Recommendation
4. Summary Statement/Current situation and its effects
5. Background
6. Review of Existing Plans, Programs, Policies and Laws
7. Actions/Alternatives Considered
8. Consultation/Outreach Overview and Results
9. Rationale for Recommendation
10. Implementation, Administration and Enforcement
11. Environmental Sustainability
12. Fiscal Impacts
13. Outcomes and Evaluation
14. Contact Information
15. Attachments/Supporting Materials

1. Title

A descriptive title that adequately informs the public of the subject matter and general nature of the item or report and action requested.

2. Consent/Action/Information Calendar

Whether the matter is to be presented on the Consent Calendar or the Action Calendar or as a Report for Information.

3. Recommendation

Clear, succinct statement of action(s) to be taken. Recommendations can be further detailed within the item, by specific reference.

Common action options include:

- Adopt first reading of ordinance
- Adopt a resolution
- Referral to the City Manager (City Manager decides if it is a short term referral or is placed on the RRV ranking list)
- Direction to the City Manager (City Manager is directed to execute the recommendation right away, it is not placed on any referral list)
- Referral to a Commission or to a Standing or Ad Hoc Council Committee
- Referral to the budget process
- Send letter of support
- Accept, Approve, Modify or Reject a recommendation from a Commission or Committee
- Designate members of the Council to perform some action

4. Summary Statement/ “Current situation and its effects”

A short resume of the circumstances that give rise to the need for the recommended action(s).

- Briefly state the opportunity/problem/concern that has been identified, and the proposed solution.
- Example (fictional):
Winter rains are lasting longer than expected. Berkeley’s winter shelters are poised to close in three weeks, but forecasts suggest rain for another two months. If they do not remain open until the end of the rainy season, hundreds of people will be left in the rain 24/7. Therefore, this item seeks authorization to keep Berkeley’s winter shelters open until the end of April, and refers to the Budget Process \$40,000 to cover costs of an additional two months of shelter operations.

5. Background

A full discussion of the history, circumstances and concerns to be addressed by the item.

- For the above fictional example, Background would include *information and data about the number and needs of homeless individuals in Berkeley, the number and availability of permanent shelter beds that meet their needs, the number of winter shelter beds that would be lost with closure, the impacts of such closure on this population, the weather forecasts, etc.*

6. Review of Existing Plans, Programs, Policies and Laws

Review, identify and discuss relevant/applicable Plans, Programs, Policies and Laws, and how the proposed actions conform with, compliment, are supported by, differ from or run contrary to them. What gaps were found that need to be filled? What existing policies, programs, plans and laws need to be changed/supplemented/improved/repealed? What is missing altogether that needs to be addressed?

Review of all pertinent/applicable sections of:

- The City Charter
- Berkeley Municipal Code
- Administrative Regulations
- Council Resolutions
- Staff training manuals

Review of all applicable City Plans:

- The General Plan
- Area Plans
- The Climate Action Plan
- Resilience Plan
- Equity Plan

- Capital Improvements Plan
- Zero Waste Plan
- Bike Plan
- Pedestrian Plan
- Other relevant precedents and plans

Review of the City's Strategic Plan

Review of similar legislation previously introduced/passed by Council

Review of County, State and Federal laws/policies/programs/plans, if applicable

7. Actions/Alternatives Considered

- What solutions/measures have **other jurisdictions** adopted that serve as models/cautionary tales?
- What solutions/measures are recommended by **advocates, experts, organizations**?
- What is the range of actions considered, and what are some of their major pros and cons?
- Why were other solutions not as feasible/advisable?

8. Consultation/Outreach Overview and Results

- Review/list external and internal stakeholders that were consulted
 - **External:** constituents, communities, neighborhood organizations, businesses and not for profits, advocates, people with lived experience, faith organizations, industry groups, people/groups that might have concerns about the item, etc.
 - **Internal:** staff who would implement policies, the City Manager and/or deputy CM, Department Heads, City Attorney, Clerk, etc.
- What reports, articles, books, websites and other materials were consulted?
- What was learned from these sources?
- What changes or approaches did they advocate for that were accepted or rejected?

9. Rationale for Recommendation

A clear and concise statement as to whether the item proposes actions that:

- Conform to, clarify or extend existing Plans, Programs, Policies and Laws
- Change/Amend existing Plans, Programs, Policies and Laws in **minor** ways
- Change/Amend existing Plans, Programs, Policies and Laws in **major** ways
- Create an exception to existing Plans, Programs, Policies and Laws
- Reverse/go contrary to or against existing Plans, Programs, Policies and Laws

Argument/summary of argument in support of recommended actions. The argument likely has already been made via the information and analysis already presented,

but should be presented/restated/summarized. Plus, further elaboration of terms for recommendations, if any.

10. Implementation, Administration and Enforcement

Discuss how the recommended action(s) would be implemented, administered and enforced. What staffing (internal or via contractors/consultants) and materials/facilities are likely required for implementation?

11. Environmental Sustainability

Discuss the impacts of the recommended action(s), if any, on the environment and the recommendation's positive and/or negative implications with respect to the City's Climate Action, Resilience, and other sustainability goals.

12. Fiscal Impacts

Review the recommended action's potential to generate funds or savings for the City in the short and long-term, as well as the potential direct and indirect costs.

13. Outcomes and Evaluation

State the specific outcomes expected, if any (i.e., "*it is expected that 100 homeless people will be referred to housing every year*") and what reporting or evaluation is recommended.

14. Contact Information

15. Attachments/Supporting Materials

This version incorporates
the edits and changes
made through the
meeting of Sept. 16, 2019.

The Berkeley City Council Rules of Procedure and Order

Adopted by Resolution No. ~~##,###~~–N.S.
Effective ~~October~~ 29, 2019

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I. DUTIES

I. DUTIES

A. Duties of Mayor

The Mayor shall preside at the meetings of the Council and shall preserve strict order and decorum at all regular and special meetings of the Council. The Mayor shall state every question coming before the Council, announce the decision of the Council on all subjects, and decide all questions of order, subject, however, to an appeal to the Council, in which event a majority vote of the Council shall govern and conclusively determine such question of order. In the Mayor's absence, the Vice President of the Council (hereafter referred to as the Vice-Mayor) shall preside.

Commented [NML1]: Standard current practice per City Charter

B. Duties of Councilmembers

Promptly at the hour set by law on the date of each regular meeting, the members of the Council shall take their regular stations in the Council Chambers and the business of the Council shall be taken up for consideration and disposition.

C. Motions to be Stated by Chair

When a motion is made, it may be stated by the Chair or the City Clerk before debate.

D. Decorum by Councilmembers

While the Council is in session, the City Council will practice civility and decorum in their discussions and debate. Councilmembers will value each other's time and will preserve order and decorum. A member shall neither, by conversation or otherwise, delay or interrupt the proceedings of the Council, use personal, impertinent or slanderous remarks, nor disturb any other member while that member is speaking or refuse to obey the orders of the presiding officer or the Council, except as otherwise provided herein.

All Councilmembers have the opportunity to speak and agree to disagree but no Councilmember shall speak twice on any given subject unless all other Councilmembers have been given the opportunity to speak. The Presiding Officer may set limits on the speaking time allotted to Councilmembers during Council discussion.

Commented [NML2]: Edit from July 15, 2019 Agenda & Rules Committee meeting

The presiding officer has the affirmative duty to maintain order. The City Council will honor the role of the presiding officer in maintaining order. If a Councilmember believes the presiding officer is not maintaining order, the Councilmember may move that the Vice-Mayor, or another Councilmember if the Vice-Mayor is acting as the presiding officer at the time, enforce the rules of decorum and otherwise maintain order. If that motion receives a second and is approved by a majority of the Council, the Vice-Mayor, or other designated Councilmember, shall enforce the rules of decorum and maintain order.

E. Voting Disqualification

No member of the Council who is disqualified shall vote upon the matter on which the member is disqualified. Any member shall openly state or have the presiding officer announce the fact and nature of such disqualification in open meeting, and shall not be subject to further inquiry. Where no clearly disqualifying conflict of interest appears, the matter of disqualification may, at the request of the member affected, be

I. DUTIES

decided by the other members of the Council, by motion, and such decision shall determine such member's right and obligation to vote. A member who is disqualified by conflict of interest in any matter shall not remain in the Chamber during the debate and vote on such matter, but shall request and be given the presiding officer's permission to ~~absent~~ ~~recuse~~ themselves. Any member having a "remote interest" in any matter as provided in Government Code shall divulge the same before voting.

Commented [NML3]: Correct terminology

F. Requests for Technical Assistance and/or Reports

A majority vote of the Council shall be required to direct staff to provide technical assistance, develop a report, initiate staff research, or respond to requests for information or service generated by an individual council member.

~~G. City Council Policy for Naming and Renaming Public Facilities~~

~~The City Council Policy for Naming and Renaming Public Facilities adopted on January 31, 2012, and all its successors, is incorporated by reference into the City Council Rules of Procedure and included as Appendix A to this document.~~

Commented [NML4]: Edit from July 15, 2019 Agenda & Rules Committee meeting
Language is unnecessary here

II. MEETINGS

II. MEETINGS

A. Call to Order - Presiding Officer

The Mayor, or in the Mayor's absence, the Vice Mayor, shall take the chair precisely at the hour appointed by the meeting and shall immediately call the Council to order. Upon the arrival of the Mayor, the Vice Mayor shall immediately relinquish the chair ~~at the conclusion of the business presently before the Council.~~ In the absence of the two officers specified in this section, the ~~Councilmember~~~~council member~~ present with the longest period of Council service shall preside.

Commented [NML5]: Edit from July 15, 2019 Agenda & Rules Committee meeting

Mayor resume chair upon resuming place on dais

Commented [NML6]: Amended to standardize use throughout the document

B. Roll Call

Before the Council shall proceed with the business of the Council, the City Clerk shall call the roll of the members and the names of those present shall be entered in the minutes. The later arrival of any absentee shall also be entered in the minutes.

C. Quorum Call

During the course of the meeting, should the Chair note a Council quorum is lacking, the Chair shall call this fact to the attention of the City Clerk. The City Clerk shall issue a quorum call. If a quorum has not been restored within two minutes of a quorum call, the meeting shall be deemed automatically adjourned.

D. Council Meeting ~~Schedule~~Conduct of Business

~~The City Council shall hold a minimum of twenty four (24) meetings, or the amount needed to conduct City business in a timely manner, whichever is greater, each calendar year.~~

Commented [NML7]: Moved to more appropriate location below

~~Regular meetings of the City Council shall be held generally two to three Tuesdays of each month; the schedule to be established annually by Council resolution taking into consideration holidays and election dates.~~

~~Regular City Council meetings shall begin no later than 6:00 p.m.~~

The agenda for the regular business meetings shall include the following: Ceremonial ~~items (including comments from the City Auditor if requested);~~ Comments from the City Manager; Comments from the Public; Consent Calendar; Action Calendar (Appeals, Public Hearings, Continued Business, Old Business, New Business); Information Reports; and Communication from the Public. Presentations and workshops may be included as part of the Action Calendar. ~~Items removed from the Consent Calendar will be moved to the Action Calendar.~~ The Chair will determine the order in which the item(s) will be heard with the consent of Council.

Commented [NML8]: Edit from July 15, 2019 Agenda & Rules Committee meeting

Commented [NML9]: Items removed from Consent may have many other actions taken and listing this single action is misleading.

Upon request by ~~the Mayor or~~ any ~~Councilmember~~~~council member~~, any item may be moved from the Consent Calendar or Information Calendar to the Action Calendar. Unless there is an objection by ~~the Mayor or~~ any ~~Councilmember~~~~council member~~, ~~athe~~ ~~Council~~~~council member~~ may also move an item from the Action Calendar to the Consent Calendar.

Commented [NML10]: Amended for clarity throughout document

Commented [NML11]: Edit from July 15, 2019 Agenda & Rules Committee meeting – changed "a Councilmember" to "the Council"

A public hearing that is not expected to be lengthy may be placed on the agenda for a regular business meeting. When a public hearing is expected to be contentious

II. MEETINGS

and lengthy and/or the Council's regular meeting schedule is heavily booked, the ~~Agenda Committee~~Agenda & Rules Committee, in conjunction with the staff, will schedule a special meeting exclusively for the public hearing. No other matters shall be placed on the agenda for the special meeting. All public comment will be considered as part of the public hearing and no separate time will be set aside for public comment not related to the public hearing at this meeting.

Commented [NML12]: Amended to standardize use throughout the document

Except at meetings at which the budget is to be adopted, no public hearing may commence later than 10:00 p.m. unless there is a legal necessity to hold the hearing or make a decision at that meeting or the City Council determines by a two-thirds vote that there is a fiscal necessity to hold the hearing.

E. Adjournment

1. No Council meeting shall continue past 11:00 p.m. unless a two-thirds majority of the Council votes to extend the meeting to discuss specified items; and any motion to extend the meeting beyond 11:00 p.m. shall include a list of specific agenda items to be covered and shall specify in which order these items shall be handled.
2. Any items not completed at a regularly scheduled Council meeting may be continued to an Adjourned Regular Meeting by a two-thirds majority vote of the Council.

F. Unfinished Business

Any items not completed by formal action of the Council, and any items not postponed to a date certain, shall be considered Unfinished Business. All Unfinished Business shall be referred to the ~~Agenda Committee~~Agenda & Rules Committee for scheduling for a Council meeting that occurs within 60 days from the date the item last appeared on a Council agenda. The 60 day period is tolled during a Council recess.

G. City Council Schedule and Recess Periods

Pursuant to the Open Government Ordinance, the City Council shall hold a minimum of twenty-four (24) meetings, or the amount needed to conduct City business in a timely manner, whichever is greater, each calendar year.

Regular meetings of the City Council shall be held generally two to three Tuesdays of each month; the schedule to be established annually by Council resolution taking into consideration holidays and election dates.

Regular City Council meetings shall begin no later than 6:00 p.m.

Commented [NML13]: Proposed addition regarding starting early for ceremonial items was removed at the July 15, 2019 Agenda & Rules Committee meeting

A recess period is defined as a period of time longer than 21 days without a regular ~~or special~~ meeting of the Council.

Commented [NML14]: Special meetings are as needed and are not factored in to the annual schedule that is adopted, which includes the recess periods.

When a recess period occurs, the City Manager is authorized to take such ministerial actions for matters of operational urgency as would normally be taken by the City Council during the period of recess except for those duties specifically reserved to the Council by the Charter, and including such emergency actions as are necessary for the immediate preservation of the public peace, health or safety; the authority to

II. MEETINGS

extend throughout the period of time established by the City Council for the period of recess.

The City Manager shall have the aforementioned authority beginning the day after the ~~Agenda Committee~~ Agenda & Rules Committee meeting for the last regular meeting before a Council recess and this authority shall extend ~~through-up to the deadline for submission of staff reports for date of the first~~ Agenda & Rules Committee meeting ~~for the first regular meeting~~ after the Council recess.

Commented [NML15]: The existing definition left a significant gap that did not allow City Manager action on administratively urgent items

Commented [NML16]: Edit from July 15, 2019 Agenda & Rules Committee meeting

The City Manager shall make a full and complete report to the City Council at its first regularly scheduled meeting following the period of recess of actions taken by the City Manager pursuant to this section, at which time the City Council may make such findings as may be required and confirm said actions of the City Manager.

H. Pledge of Allegiance to the Flag

At the first meeting of each year following the August recess and at any subsequent meeting if specifically requested before the meeting by any member of the Council in order to commemorate an occasion of national significance, the first item on the ~~program~~ Ceremonial Calendar will be the Pledge of Allegiance.

I. Ad Hoc Subcommittees

From time to time the Council or the Mayor may appoint several of its members but fewer than the existing quorum of the present body to serve as an ad hoc subcommittee. Only Council ~~members~~ may ~~become~~ be members of the ad hoc subcommittee; however, the subcommittee shall seek input and advice from ~~the~~ residents, related commissions, and other groups. Ad Hoc Subcommittees must be reviewed annually by the Council to determine if the subcommittee is to continue.

Upon creation of an ad hoc subcommittee, the Council shall allow it to operate with the following parameters:

1. A specific charge or outline of responsibilities shall be established by the Council.
2. A target date must be established for a report back to the Council.
3. Maximum life of the subcommittee shall be one year, with annual review and possible extension by the Council.

Subcommittees shall conduct their meetings in ~~public and in accessible~~ locations that are open to the public ~~and meet accessibility requirements under the Americans with Disabilities Act~~. Meetings may be held at privately owned facilities provided that the location is open to all that wish to attend and that there is no requirement for purchase to attend. Agendas for subcommittee meetings must be posted in the same manner as the agendas for regular Council meetings except that subcommittee agendas may be posted with 24-hour notice. The public will be permitted to comment on agenda items but public comments may be limited to one minute if deemed necessary by the Committee Chair. Agendas and minutes of the meetings must be maintained and made available upon request.

Commented [NML17]: Edit from July 15, 2019 Agenda & Rules Committee meeting

II. MEETINGS

~~City staff may attend and participate in subcommittee meetings. Depending on the desires of the subcommittee members, City staff may participate the same as members of the public, or may be called upon to offer insights or provide information during discussion.~~

Ad hoc subcommittees will be staffed by City Council legislative staff. As part of the ad hoc subcommittee process, City staff will undertake a high-level, preliminary analysis of potential legal issues, costs, timelines, and staffing demands associated with the item(s) under consideration. Staff analysis at ad hoc subcommittees is limited to the points above as the recommendation, program, or project has not yet been approved to proceed by the full Council.

Subcommittees must be comprised of at least two members. If only two members are appointed, then both must be present in order for the subcommittee meeting to be held. In other words, the quorum for a two-member subcommittee is always two.

~~Certain requirements listed above may not apply to a~~Ad hoc subcommittees may seeking legal advice and assistance from the City Attorney or meeting with the City Manager or his/her designees for purposes of real estate or labor negotiations.~~convene a closed session meeting pursuant to the conditions and regulations imposed by the Brown Act.~~

Commented [NML18]: Staff proposed language based on discussion at July 15, 2019 Agenda & Rules Committee meeting. This language mirrors the language used for Policy Committees Charter III, Section G

Commented [NML19]: Staff proposed language based on discussion at July 15, 2019 Agenda & Rules Committee meeting.

III. AGENDA

III. AGENDA

A. Declaration of Policy

No ordinance, resolution, or item of business shall be introduced, discussed or acted upon before the Council at its meeting without prior thereto its having been published on the agenda of the meeting and posted in accordance with Section III.D.2. Exceptions to this rule are limited to circumstances listed in Section III.D.4.b and items ~~carried over~~ continued from a previous meeting and published on a revised agenda.

Commented [NML20]: Additional clarification

B. Definitions

For purposes of this section, the terms listed herein shall be defined as follows:

1. "Agenda Item" means an item placed on the agenda (on either the Consent Calendar or as a Report For Action) for a vote of the Council by ~~the Mayor or any Councilmember~~ council member, the City Manager, the Auditor, or any board/commission/committee created by the City Council, or any Report For Information which may be acted upon if ~~the Mayor or a Councilmember~~ council member so requests. For purposes of this section, appeals shall be considered action items. All information from the City Manager concerning any item to be acted upon by the Council shall be submitted as a report on the agenda and not as an off-agenda memorandum and shall be available for public review, except to the extent such report is privileged and thus confidential such as an attorney client communication concerning a litigation matter.

Council agenda items are limited to a maximum of three Co-Sponsors (in addition to the Primary Author). Co-Sponsors to Council reports may only be added in the following manner:

Commented [NML21]: Must have certainty at the time of submission and throughout the process to properly monitor participation in policy committee meetings per the Brown Act. New language for designation of co-sponsors from the July 15, 2019 Agenda & Rules Committee meeting – removed limitation on when co-sponsors could be added and changed it to limit the addition of co-sponsors to discretion of the primary author.

- In the original item as submitted by the Primary Author
- In a revised item submitted by the Primary Author at the Agenda & Rules Committee
- By verbal request of the Primary Author at the Agenda & Rules Committee
- In a revised item submitted by the Primary Author in Supplemental Reports and Communications Packet #1 or #2
- By verbal or written request of the Mayor or any Councilmember at the Policy Committee meeting or meeting of the full council at which the item is considered

Agenda items shall contain all relevant documentation, including the information listed below, following as applicable:

- a) A descriptive title that adequately informs the public of the subject matter and general nature of the item or report ~~and action requested~~;
- b) Whether the matter is to be presented on the Consent Calendar or the Action Calendar or as a Report for Information;

III. AGENDA

- c) Recommendation of the City Manager report author that describes the action to be taken on the item, if applicable; ~~(these provisions shall not apply to Mayor and Council items.);~~
- d) Fiscal impacts of the recommendation;
- e) A description of the current situation and its effects;
- f) Background information as needed;
- g) Rationale for recommendation;
- h) Alternative actions considered;
- i) For awards of contracts; the abstract of bids and the Affirmative Action Program of the low bidder in those cases where such is required (these provisions shall not apply to Mayor and Council items.);
- j) Person or persons to contact for further information, with telephone number.
- k) Additional information and analysis as required. It is recommended that reports include the recommended points of analysis in the Council Report Guidelines in Appendix B.
- j) ~~If the author of any report believes additional background information, beyond the basic report, is necessary to Council understanding of the subject, a separate compilation of such background information may be developed and copies will be available for Council and for public review in the City Clerk Department, and the City Clerk shall provide limited distribution of such background information depending upon quantity of pages to be duplicated. In such case the agenda item distributed with the packet shall so indicate.~~

Commented [NML22]: Required by the Brown Act for all agenda items.

Commented [NML23]: Outdated. We publish all materials except for the full administrative record of ZAB appeal.

2. "Primary Author" means the Mayor or Councilmember that initiated, authored, and submitted a council agenda item.

3. "Co-Sponsor" means the Mayor or other Councilmembers designated by the Primary Author to be co-sponsor of the council agenda item.

4. "Agenda" means the compilation of the descriptive titles of agenda items submitted to the City Clerk, arranged in the sequence established in Section III.E hereof.

5. "Packet" means the agenda plus all its corresponding duplicated agenda items.

6. "Emergency Matter" arises when prompt action is necessary due to the disruption or threatened disruption of public facilities and a majority of the Council determines that:

III. AGENDA

- a) A work stoppage or other activity which severely impairs public health, safety, or both;
 - b) A crippling disaster, which severely impairs public health, safety or both. Notice of the Council's proposed consideration of any such emergency matter shall be given in the manner required by law for such an emergency pursuant to Government Code Section 54956.5.
7. "Continued Business" Items carried over from a prior agenda of a meeting occurring less than 11 days earlier, ~~as uncompleted items.~~
8. "Old Business" Items carried over from a prior agenda of a meeting ~~as uncompleted items occurring~~ occurring more than 11 days earlier.

Commented [NML24]: Per Open Government Ordinance

C. Procedure for Bringing Matters Before City Council

1. Persons Who Can Place Matters on the Agenda.

Matters may be placed on the agenda by ~~the Mayor or any Councilmember~~ council member, the City Manager, the Auditor, or any board/commission/committee created by the City Council. All items, other than board and commission items shall be subject to review by ~~an the Agenda Committee~~ Agenda & Rules Committee, which shall be a standing committee of the City Council. ~~The Agenda Committee shall consist of the Mayor and two councilmembers, nominated by the Mayor and approved by the Council. A third council member, nominated by the Mayor and approved by the Council, will serve as an alternate on the Committee in the event that an Agenda Committee member cannot attend a meeting.~~

Commented [NML25]: Superseded by policy committee section below

The ~~Agenda Committee~~ Agenda & Rules Committee shall meet 15 days prior to each City Council meeting and shall approve the agenda of that City Council meeting. ~~Pursuant to BMC Section 1.04.080, if the 15th day prior to the Council meeting falls on a holiday, the Committee will meet the next business day.~~ The ~~Agenda Committee~~ Agenda & Rules Committee packet, including a draft agenda and Councilmember, Auditor, and Commission reports shall be distributed by 5:00 p.m. 4 days before the ~~Agenda Committee~~ Agenda & Rules Committee meeting.

Commented [NML26]: Clarification

The ~~Agenda Committee~~ Agenda & Rules Committee shall have the powers set forth below.

- a) **Items Authored by the Mayor, a Councilmember, or the Auditor.** As to items authored by the Mayor, a Councilmember, or the Auditor, the ~~Agenda Committee~~ Agenda & Rules Committee shall review the item and may recommend that the matter be referred to a commission, to the City Manager, a Policy Committee, or back to the author for adherence to required form or for additional analysis as required in Section III.B.2, or suggest other appropriate action including scheduling the matter for a later meeting to allow for appropriate revisions.

The author of a "referred" item must inform the City Clerk within 24 hours of the adjournment of the ~~Agenda Committee~~ Agenda & Rules Committee meeting whether ~~he or she~~ they prefers to: 1) hold the item for a future

III. AGENDA

meeting pending modifications as suggested by the Committee; 2) have the item appear on the Council agenda under consideration as originally submitted; 3) pull the item completely; or 4) re-submit the item with revisions as requested by the ~~Agenda Committee~~ Agenda & Rules Committee within 24 hours of the adjournment of the Agenda Committee ~~Agenda & Rules Committee meeting~~ for the Council agenda under consideration. Option 2 is not available for items eligible to be referred to a Policy Committee.

Commented [NML27]: Current practice

Commented [NML28]: Per policy committee regulations

In the event that the City Clerk does not receive guidance from the author of the referred item within 24 hours of the ~~Agenda Committee~~ Agenda & Rules Committee's adjournment, the recommendation of the ~~Agenda Committee~~ Agenda & Rules Committee will take effect.

Items held for a future meeting to allow for modifications will be placed on the next available Council meeting agenda at the time that the revised version is submitted to the City Clerk. ~~If changes made to the item extend beyond the scope of the Agenda Committee referral recommendations, the item must be re-submitted as a new Council item.~~

Commented [NML29]: Unecessary. If the item is being submitted for a future meeting, it is a "new" item.

~~For authors of referred items that select option 2) above, the referred item will automatically be placed at the end of the Action Calendar under the heading "Referred Items". The Agenda Committee shall specify the reason for the referral from the categories listed below. This reason shall be printed with the item on the agenda.~~

Commented [NML30]: No longer needed with the policy committee system.

- Reason 1— Significant Lack of Background or Supporting Information
- Reason 2— Significant Grammatical or Readability Issues

b) **Items Authored by the City Manager.** The ~~Agenda Committee~~ Agenda & Rules Committee shall review agenda descriptions of items authored by the City Manager. The Committee can recommend that the matter be referred to a commission or back to the City Manager for adherence to required form, additional analysis as required in Section III.B.2, or suggest other appropriate action including scheduling the matter for a later meeting to allow for appropriate revisions.

If the City Manager determines that the matter should proceed notwithstanding the ~~Agenda Committee~~ Agenda & Rules Committee's action, it will be placed on the agenda as directed by the Manager. All City Manager items placed on the Council agenda against the ~~referral recommendation of the Agenda Committee~~ Agenda & Rules Committee or revised items that have not been resubmitted to the Agenda Committee will automatically be placed on the Action Calendar.

Commented [NML31]: Inconsistent with current practices. Staff reports are still in review and are not printed in the Agenda & Rules Committee packet.

c) **Items Authored by Boards and Commissions.** Council items submitted by boards and commissions are subject to City Manager review and must follow procedures and timelines for submittal of reports as described in the

Commissioners' Manual. The content of commission items is not subject to review by the ~~Agenda Committee~~Agenda & Rules Committee.

- i) For a commission item that does not require a companion report from the City ~~Mananger~~Manager, the ~~Agenda Committee~~Agenda & Rules Committee may act on an agendized commission report in the following manner:
 - 1. Move a commission report from the Consent Calendar to the Action Calendar or from the Action Calendar to the Consent Calendar.
 - 2. Re-schedule the commission report to appear on one of the next three regular Council meeting agendas that occur after the regular meeting under consideration. Commission reports submitted in response to a Council referral shall receive higher priority for scheduling.
 - 3. Allow the item to proceed as submitted.
- ii) For any commission report that requires a companion report, the ~~Agenda Committee~~Agenda & Rules Committee ~~may~~will schedule the item on a Council agenda. ~~The Committee must schedule the the~~commission item for a meeting occurring not sooner than 60 days and not later than 120 days from the date of the meeting under consideration by the ~~Agenda Committee~~Agenda & Rules Committee. A commission report submitted with a complete companion report may be scheduled pursuant to subparagraph c.i. above.
- d) The ~~Agenda Committee~~Agenda & Rules Committee shall have the authority to re-order the items on the Action Calendar regardless of the default sequence prescribed in Chapter III, Section E ~~of the Rules of Procedures and Order~~.

2. Scheduling Public Hearings Mandated by State, Federal, or Local Statute.

The City Clerk may schedule a public hearing at an available time and date in those cases where State, Federal or local statute mandates the City Council hold a public hearing.

3. Submission of Agenda Items.

- a) **City Manager Items.** Except for Continued Business and Old Business, as a condition to placing an item on the agenda, agenda items from departments, including agenda items from commissions, shall be furnished to the City Clerk at a time established by the City Manager.
- b) **Council and Auditor Items.** The deadline for reports submitted by the Auditor, Mayor and City Council is 5:00 p.m. on Monday, 22 days before each Council meeting.

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- c) **Time Critical Items.** A Time Critical item is defined as a matter that is considered urgent by the sponsor and that has a deadline for action that is prior to the next meeting of the Council and for which a report prepared by the City Manager, Auditor, Mayor or ~~Councilmember~~~~council member~~ is received by the City Clerk after established deadlines and is not included on the ~~Agenda Committee~~~~Agenda & Rules Committee~~'s published agenda.

The author of the report shall bring any reports submitted as Time Critical to the meeting of the ~~Agenda Committee~~~~Agenda & Rules Committee~~. Time Critical items must be accompanied by complete reports and statements of financial implications. If the ~~Agenda Committee~~~~Agenda & Rules Committee~~ finds the matter to meet the definition of Time Critical, the ~~Agenda Committee~~~~Agenda & Rules Committee~~ may place the matter on the Agenda on either the Consent or Action Calendar.

- d) The City Clerk may not accept any agenda item after the adjournment of the ~~Agenda Committee~~~~Agenda & Rules Committee~~ meeting, except for items carried over by the City Council from a prior City Council meeting occurring less than 11 days earlier, which may include supplemental or revised reports, and reports concerning actions taken by boards and commissions that are required by law or ordinance to be presented to the Council within a deadline that does not permit compliance with the agenda timelines in BMC Chapter 2.06 or these rules.

4. **Submission of Supplemental and Revised Agenda Material.**

Berkeley Municipal Code Section 2.06.070 allows for the submission of supplemental and revised agenda material. Supplemental and revised material cannot be substantially new or only tangentially related to an agenda item. Supplemental material must be specifically related to the item in the Agenda Packet. Revised material should be presented as revised versions of the report or item printed in the Agenda Packet. Supplemental and revised material may be submitted for consideration as follows:

- a) Supplemental and revised agenda material shall be submitted to the City Clerk no later than 5:00 p.m. seven calendar days prior to the City Council meeting at which it is to be considered. Supplemental and revised items that are received by the deadline shall be distributed to Council in a supplemental reports packet and posted to the City's website no later than 5:00 p.m. five calendar days prior to the meeting. Copies of the supplemental packet shall also be made available in the office of the City Clerk and in the main branch of the Berkeley Public Library. Such material may be considered by the Council without the need for a determination that the good of the City clearly outweighs the lack of time for citizen review or City Council-member evaluation.
- b) Supplemental and revised agenda material submitted to the City Clerk after 5:00 p.m. seven days before the meeting and no later than 12:00 p.m. one day prior to the City Council meeting at which it is to be considered shall be distributed to Council in a supplemental reports packet and posted to

Commented [NML32]: Per Open Government Ordinance

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the City's website no later than 5:00 p.m. one day prior to the meeting. Copies of the supplemental packet shall also be made available in the office of the City Clerk and in the main branch of the Berkeley Public Library. Such material may be considered by the Council without the need for a determination that the good of the City clearly outweighs the lack of time for citizen review or City Council evaluation.

a)–

b)c) After ~~5~~12:00 p.m. ~~seven~~–one calendar days prior to the meeting, supplemental or revised reports may be submitted for consideration by delivering a minimum of 42 copies of the supplemental/revised material to the City Clerk for distribution at the meeting. Each copy must be accompanied by a completed supplemental/revised material cover page, using the form provided by the City Clerk. Revised reports must reflect a comparison with the original item using track changes formatting. The material may be considered only if the City Council, by a two-thirds roll call vote, makes a factual determination that the good of the City clearly outweighs the lack of time for citizen review or City Council–member evaluation of the material. Supplemental and revised material must be distributed and a factual determination made prior to the commencement of public comment on the agenda item in order for the material to be considered.

5. Scheduling a Presentation.

Presentations from staff are either submitted as an Agenda Item or are requested by the City Manager. Presentations from outside agencies and the public are coordinated with the Mayor's Office. The Agenda & Rules Committee may adjust the schedule of presentations as needed to best manage the Council Agenda.

~~Any request for a presentation to the Council will be submitted as an agenda item and follow the time lines for submittal of agenda reports. The agenda item should include general information regarding the purpose and content of the presentation; information on the presenters; contact information; and the length of the presentation. The request may state a preference for a date before the Council. The Agenda Committee will review the request and recommend a presentation date and allotted time based on the Council's schedule.~~

~~The City Clerk will notify the presenters of the date and time of the presentation and will coordinate use of any presentation equipment and receipt of additional written material.~~

Commented [NML33]: Reflects current practice, which is much less formal than deleted text.

D. Packet Preparation and Posting**1. Preparation of the Packet.**

Not later than the thirteenth day prior to said meeting, the City Clerk shall prepare the packet, which shall include the agenda plus all its corresponding duplicated agenda items. No item shall be considered if not included in the packet, except as provided for in Section III.C.4 and Section III.D.4. ~~Reports carried over, as Continued Business or Old Business need not be reproduced again.~~

Commented [NML34]: Inconsistent with OGO

2. Distribution and Posting of Agenda.

- a) The City Clerk shall post each agenda of the City Council regular meeting no later than 11 days prior to the meeting and shall post each agenda of a special meeting at least 24 hours in advance of the meeting in the official bulletin board. The City Clerk shall maintain an affidavit indicating the location, date and time of posting each agenda.
- b) The City Clerk shall also post agendas and annotated agendas of all City Council meetings and notices of public hearings on the City's website.
- c) No later than 11 days prior to a regular meeting, copies of the agenda shall be mailed by the City Clerk to any resident of the City of Berkeley who so requests in writing. Copies shall also be available free of charge in the City Clerk Department.

3. Distribution of the Agenda Packet.

The Agenda Packet shall consist of the Agenda and all supporting documents for agenda items. No later than 11 days prior to a regular meeting, the City Clerk shall:

- a) distribute the Agenda Packet to each member of the City Council;
- b) post the Agenda Packet to the City's website;
- c) place copies of the Agenda Packet in viewing binders in the office of the City Clerk and in the main branch of the Berkeley Public Library; and
- d) make the Agenda Packet available to members of the press.

4. Failure to Meet Deadlines.

- a) The City Clerk shall not accept any agenda item or revised agenda item after the deadlines established.
- b) Matters not included on the published agenda may be discussed and acted upon as otherwise authorized by State law or providing the Council finds one of the following conditions is met:
 - A majority of the Council determines that the subject meets the criteria of "Emergency" as defined in Section III.B.5.
 - Two thirds of the Council determines that there is a need to take immediate action and that the need for action came to the attention

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of the City subsequent to the posting of the agenda as required by law.

- c) Matters listed on the printed agenda but for which supporting materials are not received by the City Council on the eleventh day prior to said meeting as part of the agenda packet, shall not be discussed or acted upon.

E. **Agenda Sequence and Order of Business**

The Council agenda for a regular business meeting is to be arranged in the following order:

1. Preliminary Matters: (Ceremonial, Comments from the City Manager, Comments from the City Auditor, Non-Agenda Public Comment)
2. Consent Calendar
3. Action Calendar
 - a) Appeals
 - b) Public Hearings
 - c) Continued Business
 - d) Old Business
 - e) New Business
 - ~~f) Referred Items~~
4. Information Reports
- 4-5. Non-Agenda Public Comment
- 5-6. Adjournment Communications
- 6-7. Communications Adjournment

Action items may be reordered at the discretion of the Chair with the consent of Council.

The ~~Agenda Committee~~ Agenda & Rules Committee shall have the authority to re-order the items on the Action Calendar regardless of the default sequence prescribed in this section.

F. **Closed Session Documents**

This section establishes a policy for the distribution of, and access to, confidential closed session documents by the Mayor and Members of the City Council.

1. Confidential closed session materials shall be kept in binders numbered from one to nine and assigned to the Mayor (#9) and each Councilmember (#1 to #8 by district). The binders will contain confidential closed session materials related to Labor Negotiations, Litigation, and Real Estate matters.
2. The binders will be maintained by City staff and retained in the Office of the City Attorney in a secure manner. City staff will bring the binders to each closed

Commented [NML35]: Edits to reflect current order

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session for their use by the Mayor and Councilmembers. At other times, the binders will be available to the Mayor and Councilmembers during regular business hours for review in the City Attorney's Office. The binders may not be removed from the City Attorney's Office or the location of any closed session meeting by the Mayor or Councilmembers. City staff will collect the binders at the end of each closed session meeting and return them to the City Attorney's Office.

3. Removal of confidential materials from a binder is prohibited.
4. Duplication of the contents of a binder by any means is prohibited.
5. Confidential materials shall be retained in the binders for at least two years.
6. This policy does not prohibit the distribution of materials by staff to the Mayor and Councilmembers in advance of a closed session or otherwise as needed, but such materials shall also be included in the binders unless it is impracticable to do so.

G. Regulations Governing City Council Policy Committees

1A. Legislative Item Process

All agenda items begin with submission to the ~~Agenda Committee~~ Agenda & Rules Committee.

Full Council Track

Items under this category are exempt from ~~Agenda Committee~~ Agenda & Rules Committee discretion to refer them to a ~~Policy Committee~~. Items in this category may be submitted for the agenda of any scheduled regular meeting pursuant to established deadlines (same as existing deadlines). Types of Full Council Track items are listed below.

- a. Items submitted by the City Manager and City Auditor
- b. Items submitted by Boards and Commissions
- c. Resolutions on Legislation and Electoral Issues relating to Outside Agencies/Jurisdictions
- d. Position Letters and/or Resolutions of Support/Opposition
- e. Donations from the Mayor and Councilmember District Office Budgets
- f. Referrals to the Budget Process
- g. Proclamations
- h. Sponsorship of Events
- i. Information Reports

Commented [NML36]: Regulations from the Policy Committee resolution are inserted in red text; changes to the resolution language are in track changes

Commented [NML37]: Clarification

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j. Presentations from Outside Agencies and Organizations

k. Ceremonial Items

k.l. Committee and Regional Body Appointments

Commented [NML38]: Standard administrative item

~~Notwithstanding the exemption stated above, the Agenda Committee, at its discretion, may route a Full Council Track item submitted by a Councilmember to a policy committee if the item has 1) a significant lack of background or supporting information, or 2) significant grammatical or readability issues.~~

Commented [NML39]: Change made at September 16, 2019 Agenda & Rules Committee; integrated into next paragraph

~~The Agenda Committee~~Agenda & Rules Committee has discretion to determine if an item submitted by the Mayor or a Councilmember falls under a Full Council Track exception or if it will be processed as a Policy Committee Track item. If an item submitted by the Mayor or a Councilmember has 1) a significant lack of background or supporting information, or 2) significant grammatical or readability issues the Agenda & Rules committee may refer the item to a Policy Committee.

Policy Committee Track

~~Items submitted by the Mayor or Councilmembers with moderate to significant administrative, operational, budgetary, resource, or programmatic impacts will go first to the Agenda Committee~~Agenda & Rules Committee on a draft City Council agenda (on a list).

Commented [NML40]: Clarification

~~The Agenda Committee~~Agenda & Rules Committee must refer an item to a Ppolicy Ccommittee at the first meeting that the item appears before the Agenda-CommitteeAgenda & Rules Committee. The Agenda-CommitteeAgenda & Rules Committee may only assign the item to a single Ppolicy Ccommittee.

For a Policy Committee Track item, the Agenda-CommitteeAgenda & Rules Committee, at its discretion, may either route item directly to 1) the agenda currently under consideration, 2) one of the next three full Council Agendas (based on completeness of the item, lack of potential controversy, minimal impacts, etc.), or 3) to a Ppolicy Ccommittee.

Time Critical Track

A Time Critical item is defined as a matter that is considered urgent by the sponsor and that has a deadline for action that is prior to the next meeting of the Council and for which a report prepared by the Mayor or Councilmembercouncil member is received by the City Clerk after established deadlines and is not included on the Agenda-CommitteeAgenda & Rules Committee's published agenda.

The Agenda-CommitteeAgenda & Rules Committee retains final discretion to determine the time critical nature of an item.

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- a) Time Critical items submitted on the Full Council Track deadlines, that would otherwise be assigned to the Policy Committee Track, may bypass Ppolicy Ccommittee review if determined to be time critical. If such an item is deemed not to be time critical, it ~~may~~ will be referred to a Policy Committee.
- b) Time Critical items on the Full Council Track or Policy Committee Track that are submitted at a meeting of the ~~Agenda Committee~~ Agenda & Rules Committee may go directly on a council agenda if determined to be time critical.

B2. Council Referrals to Committees

The full Council may refer any agenda item to a Ppolicy Ccommittee by majority vote.

3. Participation Rules for Policy Committees Pursuant to the Brown Act

Commented [NML41]: New requirements due to re-evaluation of Brown Act applicability to policy committees

- a. The quorum of a three-member Ppolicy Ccommittee is always two members. A majority vote of the committee (two 'yes' votes) is required to pass a motion.
- b. Two Policy Committee members may not discuss any item that has been referred to the Policy Committee outside of an open and noticed meeting.
- c. Notwithstanding paragraph (b) above, two members of a Policy Committee may co-author an item provided that one of the authors will not serve as a committee member for consideration of the item, and shall not participate in the committee's discussion of, or action on the item. For purposes of the item, the appointed alternate will serve as a committee member in place of the non-participating co-author.
- d. All three members of a Policy Committee may not be co-authors of an item that will be heard by the committee.
- e. Only one co-author who is not a member of the Policy Committee may attend the committee meeting to participate in discussion of the item.
- f. If two or more non-committee members are present for any item or meeting, then all non-committee members may act only as observers and may not participate in discussion. If an author is present to participate in the discussion of their item, no other Councilmembers, nor the Mayor, may attend as observers.
- g. An item may be considered by only one Policy Committee before it goes to the full Council.

C4. Functions of the Committees

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Committees shall have the following qualities/components:

- a. All committees are Brown Act bodies with noticed public meetings and public comment. Regular meeting agendas will be posted at least 72 hours in advance of the meeting.
- b. Minutes shall be available online.
- c. Committees shall adopt regular meeting schedules, generally meeting once or twice per month; special meetings may be called when necessary, in accordance with the Brown Act.
- d. Generally, meetings will be held at 2180 Milvia Street in publicly accessible meeting rooms that can accommodate the committee members, public attendees, and staff.
- e. Members are recommended by the Mayor and approved by the full Council no later than January 31 of each year. Members continue to serve until successors are appointed and approved.
- f. Chairs are elected by the Committee at the first regular meeting of the Committee after the annual approval of Committee members by the City Council. In the absence of the Chair, the committee member with the longest tenure on the Council will preside.
- f.g. The Chair, or a quorum of the Committee may call a meeting or cancel a meeting of the Policy Committee.
- g.h. Committees will review items for completeness in accordance with Section III.B.2 of the City Council Rules of Procedure and Order and alignment with Strategic Plan goals.
- i. Reports leaving a Ppolicy Ccommittee must adequately include budget implications, administrative feasibility, basic legal concerns, and staff resource demands in order to allow for informed consideration by the full Council.
- h.j. Per Brown Act regulations, any such materials must be direct revisions or supplements to the item that was published in the agenda packet.

Commented [NML42]: Clarification of authority; reflects Charter

Commented [NML43]: Added for transparency and to avoid violations arising from submission of materials only tangentially related to the agendized items

Items referred to a Ppolicy Ccommittee from the ~~Agenda Committee~~ Agenda & Rules Committee or from the City Council must be agendized for a committee meeting within 60 days of the referral date.

Within 120 days of the referral date, the committee must vote to either (1) accept the author's request that the item remain in committee until a date certain (more than one extension may be requested by the author); or (2) send the item to the ~~Agenda Committee~~ Agenda & Rules Committee to be placed on a Council Agenda with a Committee recommendation consisting of one of the four options listed below.

1. Positive Recommendation (recommending Council pass the item as proposed),
2. Qualified Positive Recommendation (recommending Council pass the item with some changes),

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- 3. Qualified Negative Recommendation (recommending Council reject the item unless certain changes are made) or
- 4. Negative Recommendation (recommending the item not be approved).

The Policy Committee's ~~will include their~~ recommendation will be included in a new separate section of the report template for that purpose.

A Policy Committee may not refer an item under its consideration to a city board or commission.

Commented [NML44]: Clarification of authority. Commissions are advisory to the Full Council

The original Council author of an item referred to a Policy Committee is responsible for revisions and resubmission of the item back to the full Council. Items originating from the City Manager are revised and submitted by the appropriate city staff. Items from Commissions are revised and resubmitted by the members of the Policy Committee. Items and Recommendations originating from the Policy Committee are submitted to the agenda process by the members of the committee.

Commented [NML45]: Clarification of responsibility for shepherding items through process

A policy committee may refer an item to another policy committee for review. The total time for review by all policy committees is limited to the initial 120-day deadline.

Commented [NML46]: Inconsistent with Brown Act – review by two committees would result in an illegal serial meeting

If a ~~P~~policy ~~C~~committee does not take final action by the 120-day deadline, the item is returned to the ~~Agenda Committee~~Agenda & Rules Committee and appears on the next available Council agenda. The ~~Agenda Committee~~Agenda & Rules Committee may leave the item on the agenda under consideration or place it on the next Council agenda. Items appearing on a City Council agenda due to lack of action by a Policy Committee may not be referred to a Policy Committee and must remain on the full Council agenda for consideration.

Commented [NML47]: Closes "endless loop" loophole

Non-legislative or discussion items may be added to the Policy Committee agenda by members of the Committee with the concurrence of a quorum of the Committee. These items are not subject to the 120-day deadline for action.

Commented [NML48]: Clarification

Once the item is voted out of a ~~P~~policy ~~C~~committee, the final item will be resubmitted to the agenda process by the author, and it will return to the ~~Agenda Committee~~Agenda & Rules Committee on the next available agenda. The ~~Agenda Committee~~Agenda & Rules Committee may leave the item on the agenda under consideration or place it on the following Council agenda. Only items that receive a Positive Recommendation can be placed on the Consent Calendar.

Commented [NML49]: Clarification

The lead author may request expedited committee review for items referred to a committee. Criteria for expedited review is generally to meet a deadline for action (e.g. grant deadline, specific event date, etc.). If the committee agrees to the request, the

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~~deadline for final committee action is 45 days from the date the committee approves expedited review item first appeared on the committee agenda.~~

5D. Number and Make-up of Committees

Six committees are authorized, each comprised of three Councilmembers ~~with a fourth Councilmember appointed as an alternate~~. Each Councilmember and the Mayor will serve on two committees. The Mayor shall be a member of the Agenda and Rules Committee. The committees are as follows:

Commented [NML50]: This will allow two members of a policy committee to co-author an item. The Alternate will substitute for one of the co-authors while the item is heard by the policy committee.

1. Agenda and Rules Committee
2. Budget and Finance Committee
3. Facilities, Infrastructure, Transportation, Environment, and Sustainability
4. Health, Life Enrichment, Equity, and Community
5. Land Use, Housing, and Economic Development
6. Public Safety

~~The Agenda Committee~~Agenda & Rules Committee shall establish the Ppolicy Ccommittee topic groupings, and may adjust said groupings periodically thereafter in order to evenly distribute expected workloads of various committees.

All standing Policy Committees of the City Council are considered “legislative bodies” under the Brown Act and must conduct all business in accordance with the Brown Act.

Commented [NML51]: Clarification

6E. Role of City Staff at Committee Meetings

Committees will be staffed by appropriate City Departments and personnel. As part of the committee process, staff will undertake a high-level, preliminary analysis of potential legal issues, costs, timelines, and staffing demands associated with the item. Staff analysis at the Policy Committee level is limited to the points above as the recommendation, program, or project has not yet been approved to proceed by the full Council.

IV. CONDUCT OF MEETING

A. Comments from the Public

Public comment will be taken in the following order:

- An initial ten-minute period of public comment on non-agenda items, after the commencement of the meeting and immediately after Ceremonial Matters and City Manager Comments.
- Public comment on the Consent and Information Calendars.
- Public comment on action items, appeals and/or public hearings as they are taken up under procedures set forth in the sections governing each below.
- Public comment on non-agenda items from any speakers who did not speak during the first round of non-agenda public comment at the beginning of the meeting.

Speakers are permitted to yield their time to one other speaker, however no one speaker shall have more than four minutes. A speaker wishing to yield their time shall stand identify themselves, shall be recognized by the chair, and announce publicly their intention to yield their time. Disabled persons shall have priority seating in the front row of the public seating area.

A member of the public may only speak once at public comment on any single item, unless called upon by the Mayor or a Councilmember to answer a specific inquiry.

1. Public Comment on Consent Calendar and Information Items.

The Council will first determine whether to move items on the agenda for “Action” or “Information” to the “Consent Calendar,” or move “Consent Calendar” items to “Action.” Items that remain on the “Consent Calendar” are voted on in one motion as a group. “Information” items are not discussed or acted upon at the Council meeting unless they are moved to “Action” or “Consent.”

The Council will then take public comment on any items that are either on the amended Consent Calendar or the Information Calendar. A speaker may only speak once during the period for public comment on Consent Calendar and Information items. No additional items can be moved onto the Consent Calendar once public comment has commenced.

At any time during, or immediately after, public comment on Information and Consent items, the Mayor or any Councilmember may move any Information or Consent item to “Action.” Following this, the Council will vote on the items remaining on the Consent Calendar in one motion.

For items moved to the Action Calendar from the Consent Calendar or Information Calendar, persons who spoke on the item during the Consent Calendar public comment period may speak again at the time the matter is taken up during the Action Calendar.

IV. CONDUCT OF MEETING

2. Public Comment on Action Items.

After the initial ten minutes of public comment on non-agenda items and public comment and action on consent items, the public may comment on each remaining item listed on the agenda for action as the item is taken up.

The Presiding Officer will request that persons wishing to speak, line up at the podium to be recognized and to determine the number of persons interested in speaking at that time.

If ten or fewer persons are interested in speaking, each speaker may speak for two minutes. If there are more than ten persons interested in speaking, the Presiding Officer may limit the public comment for all speakers to one minute per speaker. Speakers are permitted to yield their time to one other speaker, however no one speaker shall have more than four minutes.

This procedure also applies to public hearings except those types of public hearings specifically provided for in this section.

3. Appeals Appearing on Action Calendar.

With the exception of appeals from decisions of the Zoning Adjustments Board and Landmarks Preservation Commission, appeals from decisions of City commissions appear on the "Action" section of the Council Agenda. Council determines whether to affirm the action of the commission, set a public hearing, or remand the matter to the commission. Appeals of proposed special assessment liens shall also appear on the "Action" section of the Council Agenda. Appeals from decisions of the Zoning Adjustments Board and Landmarks Preservation Commission are automatically set for public hearing and appear on the "Public Hearings" section of the Council Agenda.

Time shall be provided for public comment for persons representing both sides of the action/appeal and each side will be allocated seven minutes to present their comments on the appeal. Where the appellant is not the applicant, the appellants of a single appeal collectively shall have seven minutes to comment and the applicant shall have seven minutes to comment. If there are multiple appeals filed, each appellant or group of appellants shall have seven minutes to comment. Where the appellant is the applicant, the applicant/appellant shall have seven minutes to comment and the persons supporting the action of the board or commission on appeal shall have seven minutes to comment. In the case of an appeal of proposed special assessment lien, the appellant shall have seven minutes to comment.

After the conclusion of the seven-minute comment periods, members of the public may comment on the appeal. Comments from members of the public regarding appeals shall be limited to one minute per speaker. Any person that addressed the Council during one of the seven-minute periods may not speak again during the public comment period on the appeal. Speakers may yield their time to one other speaker, however, no speaker shall have more than two minutes. Each side shall be informed of this public comment procedure at the time the Clerk notifies the parties of the date the appeal will appear on the Council agenda.

Commented [NML52]: Reflects existing due process standards

4. **Public Comment on Non Agenda Matters.**

Immediately following Ceremonial Matters and the City Manager Comments and prior to the Consent Calendar, persons will be selected by lottery to address matters not on the Council agenda. If five or fewer persons submit speaker cards for the lottery, each person selected will be allotted two minutes each. If more than five persons submit speaker cards for the lottery, up to ten persons will be selected to address matters not on the Council agenda and each person selected will be allotted one minute each. Persons wishing to address the Council on matters not on the Council agenda during the initial ten-minute period for such comment, must submit a speaker card to the City Clerk in person at the meeting location and prior to commencement of that meeting.

The remainder of the speakers wishing to address the Council on non-agenda items will be heard at the end of the agenda. Speaker cards are not required for this second round of public comment on non-agenda matters.

Persons submitting speaker cards are not required to list their actual name, however they must list some identifying information or alternate name in order to be called to speak.

For the second round of public comment on non-agenda matters, the Presiding Officer retains the authority to limit the number of speakers by subject. The Presiding Officer will generally request that persons wishing to speak, line up at the podium to be recognized to determine the number of persons interested in speaking at that time. Each speaker will be entitled to speak for two minutes each unless the Presiding Officer determines that one-minute is appropriate given the number of speakers.

~~According to the current Rules and Procedures~~Pursuant to this document, no Council meeting shall continue past 11:00 p.m. unless a two-thirds majority of the Council votes to extend the meeting to discuss specified items. If any agenda item remains unfinished at 11:00 p.m. or the expiration of any extension after 11:00 p.m., it will be referred to the ~~Agenda Committee~~**Agenda & Rules Committee** for scheduling pursuant to Chapter II, Section F. In that event, the meeting shall be automatically extended for up to fifteen (15) minutes for public comment on non-agenda items.

5. **Ralph M. Brown Act Pertaining to Public Comments.**

The "Brown Act" prohibits the Council from discussing or taking action on an issue raised during Public Comment, unless it is specifically listed on the agenda. However, the Council may refer a matter to the City Manager.

B. Consent Calendar

There shall be a Consent Calendar on all regular meeting agendas on which shall be included those matters which the Mayor, Councilmembers, boards, commissions, City Auditor and City Manager deem to be of such nature that no debate or inquiry will be necessary at the Council meetings. Ordinances for second reading may be included in the Consent Calendar.

IV. CONDUCT OF MEETING

It is the policy of the Council that ~~the Mayor or C~~councilmembers wishing to ask questions concerning Consent Calendar items should ask questions of the contact person identified prior to the Council meeting so that the need for discussion of consent calendar items can be minimized.

Consent Calendar items may be moved to the Action Calendar by the Council. Action items may be reordered at the discretion of the Chair with the consent of Council.

C. Information Reports Called Up for Discussion

Reports for Information designated for discussion at the request of ~~the Mayor or any Councilmember~~council member shall be added to the appropriate section of ~~the Reports for~~ Action Calendar and may be acted upon at that meeting or carried over as pending business until discussed or withdrawn. The agenda will indicate that at the request of ~~Mayor or any Councilmember~~council member a Report for Information may be acted upon by the Council.

D. Communications

Letters from the public will not appear on the Council agenda as individual matters for discussion but will be distributed as part of the Council agenda packet with a cover sheet identifying the author and subject matter and will be listed under "Communications." _

All such communications must have been received by the City Clerk no later than 5:00 p.m. fifteen days prior to the meeting in order to be included on the agenda.

In instances where an individual forwards more than three pages of email messages not related to actionable items on the Council agenda to the Council to be reproduced in the "Communications" section of the Council packet, the City Clerk will not reproduce the entire email(s) but instead refer the public to the City's website or a hard copy of the email(s) on file in the City Clerk Department.

All communications shall be simply deemed received without any formal action by the Council. ~~The Mayor or Aa Councilmember~~council member may refer a communication to ~~staff~~the City Manager for action, if appropriate, or prepare a consent or action item for placement on a future agenda.

Communications related to an item on the agenda that are received after 5:00 p.m. fifteen days before the meeting are published as provided for in Chapter III.C.4.

Commented [NML53]: Clarification per OGO

E. Public Hearings for Land Use, Zoning, Landmarks, and Public Nuisance Matters

The City Council, in setting the time and place for a public hearing, may limit the amount of time to be devoted to public presentations. Staff shall introduce the public hearing item and present their comments.

Following any staff presentation, each member of the City Council shall verbally disclose all ex parte contacts concerning the subject of the hearing. Members shall also submit a report of such contacts in writing prior to the commencement of the hearing. Such reports shall include a brief statement describing the name, date, place, and content of the contact. Written reports shall be available for public review

IV. CONDUCT OF MEETING

in the office of the City Clerk prior to the meeting and placed in a file available for public viewing at the meeting.

This is followed by five-minute presentations each by the appellant and applicant. Where the appellant is not the applicant, the appellants of a single appeal collectively shall have five minutes to comment and the applicant shall have five minutes to comment. If there are multiple appeals filed, each appellant or group of appellants shall have five minutes to comment. Where the appellant is the applicant, the applicant/appellant shall have five minutes to comment and the persons supporting the action of the board or commission on appeal shall have five minutes to comment. In the case of a public nuisance determination, the representative(s) of the subject property shall have five minutes to present.

Commented [NML54]: Same as above

The Presiding Officer will request that persons wishing to speak, line up at the podium to be recognized and to determine the number of persons interested in speaking at that time.

If ten or fewer persons are interested in speaking, each speaker may speak for two minutes. If there are more than ten persons interested in speaking, the Presiding Officer may limit the public comment for all speakers to one minute per speaker. Any person that addressed the Council during one of the five-minute periods may not speak again during the public comment period on the appeal. Speakers are permitted to yield their time to one other speaker, however no one speaker shall have more than four minutes. The Presiding Officer may with the consent of persons representing both sides of an issue allocate a block of time to each side to present their issue.

Commented [NML55]: Current practice. Matches existing language for appeals above.

F. Work Sessions

The City Council may schedule a matter for general Council discussion and direction to staff. Official/formal action on a work session item will be scheduled on a subsequent agenda under the Action portion of the Council agenda.

In general, public comment at Council work sessions will be heard after the staff presentation, for a limited amount of time to be determined by the Presiding Officer.

The Presiding Officer will request that persons wishing to speak, line up at the podium to be recognized and to determine the number of persons interested in speaking at that time. If ten or fewer persons are interested in speaking, each speaker may speak for two minutes. If there are more than ten persons interested in speaking, the Presiding Officer may limit the public comment for all speakers to one minute per speaker. Speakers are permitted to yield their time to one other speaker, however no one speaker shall have more than four minutes.

After Council discussion, if time permits, the Presiding Officer may allow additional public comment. During this time, each speaker will receive one minute. Persons who spoke during the prior public comment time may be permitted to speak again.

G. Public Discussions

Commented [NML56]: Unnecessary. A "public discussion" must still occur at a noticed meeting which is regulated by the Brown Act, OGO, and this document.

~~The City Council may, from time to time, schedule a matter for public discussion and may limit the amount of time to be devoted to said discussions. At the time the public discussion is scheduled, the City Council may seek comment from others if they so determine.~~

H. Protocol

People addressing the Council may first give their name in an audible tone of voice for the record. All remarks shall be addressed to the Council as a body and not to any member thereof. No one other than the Council and the person having the floor shall be permitted to enter into any discussion, either directly or through a member of the Council, without the permission of the Presiding Officer. No question shall be asked of a Councilmember~~council member~~ except through the Presiding Officer.

V. PROCEDURAL MATTERS

A. Persons Authorized to Sit at Tables

No person, except City officials, their representatives and representatives of boards and commissions shall be permitted to sit at the tables in the front of the Council Chambers without the express consent of the Council.

B. Decorum

No person shall disrupt the orderly conduct of the Council meeting. Prohibited disruptive behavior includes but is not limited to shouting, making disruptive noises, such as boos or hisses, creating or participating in a physical disturbance, speaking out of turn or in violation of applicable rules, preventing or attempting to prevent others who have the floor from speaking, preventing others from observing the meeting, entering into or remaining in an area of the meeting room that is not open to the public, or approaching the Council Dais without consent. Any written communications addressed to the Council shall be delivered to the City Clerk for distribution to the Council. ~~message to or contact with any member of the Council while the Council is in session shall be through the City Clerk.~~

Commented [NML57]: Clarification that Clerk forwards written communications only, not verbal messages

C. Enforcement of Decorum

When the public demonstrates a lack of order and decorum, the presiding officer shall call for order and inform the person(s) that the conduct is violating the Rules of Order and Procedure and provide a warning to the person(s) to cease the disruptive behavior. Should the person(s) fail to cease and desist the disruptive conduct, the presiding officer may call a five (5) minute recess to allow the disruptions to cease.

If the meeting cannot be continued due to continued disruptive conduct, the presiding officer may have any law enforcement officer on duty remove or place any person who violates the order and decorum of the meeting under arrest and cause that person to be prosecuted under the provisions of applicable law.

D. Precedence of Motions

When a question is before the Council, no motion shall be entertained except:

1. To adjourn,
2. To fix the hour of adjournment,
3. To lay on the table,
4. For the previous question,
5. To postpone to a certain day,
6. To refer,
7. To amend,
8. To substitute, and

V. PROCEDURAL MATTERS

9. To postpone indefinitely.

These motions shall have precedence in order indicated. Any such motion, except a motion to ~~adjourn~~, amend, or substitute, shall be put to a vote without debate.

Commented [NML58]: Motion to adjourn is not debatable pursuant to Roberts Rules

E. Roberts Rules of Order

Roberts Rules of Order have been adopted by the City Council and apply in all cases except the precedence of motions in Section V.D shall ~~supercedes~~supersede.

F. Rules of Debate**1. Presiding Officer May Debate.**

The presiding officer may debate from the chair; subject only to such limitations of debate as are by these rules imposed on all members, and shall not be deprived of any of the rights and privileges as a member of the Council by reason of that person acting as the presiding officer.

2. Getting the Floor - Improper References to be avoided.

Members desiring to speak shall address the Chair, and upon recognition by the presiding officer, shall confine themselves to the question under debate.

3. Interruptions.

A member, once recognized, shall not be interrupted when speaking unless it is to call a member to order, or as herein otherwise provided. If a member, while speaking, were called to order, that member shall cease speaking until the question of order is determined, and, if in order, the member shall be permitted to proceed.

4. Privilege of Closing Debate.

The ~~Mayor or Councilmember~~council member moving the adoption of an ordinance or resolution shall have the privilege of closing the debate. When a motion to call a question is passed, the ~~Mayor or Councilmember~~council member moving adoption of an ordinance, resolution or other action shall have three minutes to conclude the debate.

5. Motion to Reconsider.

A motion to reconsider any action taken by the Council may be made only during the same session on the day such action is taken. It may be made either immediately during the same session, or at a recessed or adjourned session thereof. Such motion must be made ~~and seconded~~ by a member one of on the prevailing side, and may be made at any time and have precedence over all other motions or while a member has the floor; it shall be debatable. Nothing herein shall be construed to prevent any member of the Council from making or remaking the same or other motion at a subsequent meeting of the Council.

Commented [NML59]: Must happen at the same meeting, not just the same day.

Commented [NML60]: Inconsistent with Roberts Rules. Requiring a seconder to be on the prevailing side could infringe on a single member's right to reconsider their vote.

6. Repeal or Amendment of Action Requiring a Vote of Two-Thirds of Council, or Greater.

Any ordinance or resolution which is passed and which, as part of its terms, requires a vote of two-thirds of the Council or more in order to pass a motion pursuant to such an ordinance or resolution, shall require the vote of the same percent of the Council to repeal or amend the ordinance or resolution.

V. PROCEDURAL MATTERS

G. Debate Limited

1. ~~Except as provided in Section V.F.b hereof, c~~Consideration of each matter coming before the Council shall be limited to 20 minutes from the time the matter is first taken up, at the end of which period consideration of such matter shall terminate and the matter shall be dropped to the foot of the agenda, immediately ahead of Good of the City Information Reports; provided that either of the following two not debatable motions shall be in order:
 - a) A motion to extend consideration which, if passed, shall commence a new twenty-minute period for consideration; or
 - b) If there are one or more motions on the floor, the previous question, which, if passed, shall require an immediate vote on pending motions.
2. The time limit set forth in subparagraph ~~a.1~~ hereof shall not be applicable to any public hearing, public discussion, Council discussion or other especially set matter for which a period of time has been specified (in which case such specially set time shall be the limit for consideration) or which by applicable law (e.g. hearings of appeals, etc.), the matter must proceed to its conclusion.
3. In the interest of expediting the business of the City, failure by the Chair or any ~~Councilmember~~~~council member~~ to call attention to the expiration of the time allowed for consideration of a matter, by point of order or otherwise, shall constitute unanimous consent to the continuation of consideration of the matter beyond the allowed time; provided, however, that the Chair or any ~~Councilmember~~~~council member~~ may at any time thereafter call attention to the expiration of the time allowed, in which case the Council shall proceed to the next item of business, unless one of the motions referred to in ~~subparagraph-Section a.4D~~ hereof is made and is passed.

H. Motion to Lay on Table

A motion to lay on the table shall preclude all amendments or debate of the subject under consideration. If the motion shall prevail, the consideration of the subject may be resumed only upon a motion of a member voting with the majority and with consent of two-thirds of the members present.

I. Division of Question

If the question contains two or more propositions, which can be divided, the presiding officer may, and upon request of a member shall, divide the same.

J. Addressing the Council

~~Any person desiring to address the Council shall first secure the permission of the presiding officer to do so.~~ Under the following headings of business, unless the presiding officer rules otherwise, any ~~qualified and~~ interested person shall have the right to address the Council in accordance with the following conditions and upon obtaining recognition by the presiding officer:

1. **Written Communications.**

Commented [NML61]: Exactly restated later in same paragraph

Commented [NML62]: Not sure what could be meant by "qualified"

V. PROCEDURAL MATTERS

Interested parties or their authorized representatives may address the Council by in the form of written communications in regard to matters of concern to them by submitting their written communications at the meeting, or prior to the meeting pursuant to the deadlines in Chapter III.C.4.

~~Communications pertaining to an item on the agenda which are received by the City Clerk after the deadline for inclusion in the Council Agenda packet and through 5:00 p.m. seven calendar days prior to the meeting shall be compiled into a supplemental communications packet. The supplemental communications packet shall be made available to the City Council, public and members of the press no later than five days prior to the meeting.~~

~~Communications received by the City Clerk after the aforementioned deadline and by noon on the day of a Council meeting shall be duplicated by the City Clerk and submitted to the City Council at the meeting if related to an item which is on the agenda for that meeting. Communications submitted at the Council meeting will be included in the public viewing binder and in the Clerk Department the day following the meeting.~~

2. Public Hearings.

Interested persons or their authorized representatives may address the Council by reading protests, petitions, or communications relating to matters then under consideration.

3. Public Comment.

Interested persons may address the Council on any issue concerning City business during the period assigned to Public Comment.

K. Addressing the Council After Motion Made

When a motion is pending before the Council, no person other than the Mayor or a Councilmember~~council member~~ shall address the Council without first securing the permission of the presiding officer or Council to do so.

Commented [NML63]: Described elsewhere and unnecessary here.

VI. FACILITIES

VI. FACILITIES

A. Council Chamber Capacity

~~Council Chamber~~ Attendance at council meetings shall be limited to the posted seating capacity of the meeting location thereof. Entrance to the City Hall meeting location will be appropriately regulated by the City Manager on occasions when the ~~Council Chamber~~ capacity is likely to be exceeded. While the Council is in session, members of the public shall not remain standing in the ~~Council Chamber~~ meeting room except to address the Council, and sitting on the floor shall not be permitted. ~~The Council proceedings may be conveyed by loudspeaker to those who have been unable to enter the Council Chambers.~~

Commented [NML64]: Updated to reflect new locations of meetings and to not be as specific with regards to meeting locations

B. Alternate Facilities for Council Meetings

The City Council shall approve in advance a proposal that a Council meeting be held at a facility other than the ~~City Council Chambers~~ School District Board Room.

If the City Manager has reason to anticipate that the attendance for a meeting will be substantially greater than the capacity of the ~~City Council Chambers~~ Board Room and insufficient time exists to secure the approval of the City Council to hold the meeting at an alternate facility, the City Manager shall make arrangements for the use of a suitable alternate facility to which such meeting may be recessed and moved, if the City Council authorizes the action.

If a suitable alternate facility is not available, the City Council may reschedule the matter to a date when a suitable alternate facility will be available.

Alternate facilities are to be selected from those facilities previously approved by the City Council as suitable for meetings away from the ~~City Council Chambers~~ Board Room.

C. Signs, Objects, and Symbolic Materials

Objects and symbolic materials such as signs which do not have sticks or poles attached or otherwise create any fire or safety hazards will be allowed within the ~~Council Chamber~~ meeting location during Council meetings.

D. Fire Safety

Exits shall not be obstructed in any manner. Obstructions, including storage, shall not be placed in aisles or other exit ways. Hand carried items must be stored so that such items do not inhibit passage in aisles or other exit ways. Attendees are strictly prohibited from sitting in aisles and/or exit ways. Exit ways shall not be used in any way that will present a hazardous condition.

E. Overcrowding

Admittance of persons beyond the approved capacity of a place of assembly is prohibited. When the ~~Council Chambers~~ meeting location has reached the posted maximum capacity, additional attendees shall be directed to the designated overflow area.

APPENDIX A. POLICY FOR NAMING AND RENAMING PUBLIC FACILITIES

Purpose

To establish a uniform policy regarding the naming and renaming of existing and future parks, streets, pathways and other public facilities.

Objective

- A. To ensure that naming public facilities (such as parks, streets, recreation facilities, pathways, open spaces, public building, bridges or other structures) will enhance the values and heritage of the City of Berkeley and will be compatible with community interest.

Section 1 – Lead Commission

The City Council designates the following commissions as the ‘Lead Commissions’ in overseeing, evaluating, and ultimately advising the Council in any naming or renaming of a public facility. The lead commission shall receive and coordinate comment and input from other Commissions and the public as appropriate.

Board of Library Trustees

Parks and Recreation Commission –Parks, recreation centers, camps, plazas and public open spaces

Public Works Commission –Public buildings (other than recreation centers), streets and bridges or other structures in the public thoroughfare.

Waterfront Commission –Public facilities within the area of the City known as the Waterfront, as described in BMC 3.36.060.B.

Section 2 – General Policy

- A. Newly acquired or developed public facilities shall be named immediately after acquisition or development to ensure appropriate public identity.
- B. No public facility may be named for a living person, but this policy can be overridden with a 2/3 vote of the City Council.
- C. Public facilities that are renamed must follow the same criteria for naming new facilities. In addition, the historical significance and geographical reference of the established name should be considered when weighing and evaluating any name change.
- D. The City encourages the recognition of individuals for their service to the community in ways that include the naming of activities such as athletic events, cultural presentations, or annual festivals, which do not involve the naming or renaming of public facilities.
- E. Unless restricted by covenant, facilities named after an individual should not necessarily be considered a perpetual name.

Section 3 – Criteria for Naming of Public Facilities

When considering the naming of a new public facility or an unnamed portion or feature within an already named public facility (such as a room within the facility or a feature within an established park), or, the renaming of an existing public facility the following criteria shall be applied:

- A. Public Facilities are generally easier to identify by reference to adjacent street names, distinct geographic or environmental features, or primary use activity. Therefore, the preferred practice is to give City-owned property a name of historical or geographical significance and to retain these names.
- B. No public facility may be named for a living person, but this policy can be overridden with a 2/3 vote of the City Council.
- C. The naming of a public facility or any parts thereof in recognition of an individual posthumously may only be considered if the individual had a positive effect on the community and has been deceased for more than 1 year.
- D. When a public facility provides a specific programmatic activity, it is preferred that the activity (e.g. skateboard park, baseball diamond) be included in the name of the park or facility.
- E. When public parks are located adjacent to elementary schools, a name that is the same as the adjacent school shall be considered.
- F. When considering the renaming of an existing public facility, in addition to applying criteria A-E above, proper weight should be given to the fact that: a name lends a site or property authenticity and heritage; existing names are presumed to have historic significance; and historic names give a community a sense of place and identity, continuing through time, and increases the sense of neighborhood and belonging.

Section 4 –Naming Standards Involving a Major Contribution

When a person, group or organization requests the naming or renaming of a public facility, all of the following conditions shall be met:

- A. An honoree will have made a major contribution towards the acquisition and/or development costs of a public facility or a major contribution to the City.
- B. The honoree has a record of outstanding service to their community
- C. Conditions of any donation that specifies that name of a public facility, as part of an agreement or deed, must be approved by the City Council, after review by and upon recommendation of the City Manager.

Section 5 –Procedures for Naming or Renaming of Public Facilities

- A. Any person or organization may make a written application to the City Manager requesting that a public facility or portion thereof, be named or renamed.
 - 1. Recommendations may also come directly of the City Boards or Commissions, the City Council, or City Staff.
- B. The City Manager shall refer the application to the appropriate lead commission as defined in Section 1 of the City's policy on naming of public facilities, for that commission's review, facilitation, and recommendation of disposition.
 - 1. The application shall contain the name or names of the persons or organization making the application and the reason for the requested naming or renaming.
- C. The lead commission shall review and consider the application, using the policies and criteria articulated to the City Policy on Naming and Renaming to make a recommendation to Council.
 - 1. All recommendations or suggestion will be given the same consideration without regard to the source of the nomination
- D. The lead commission shall hold a public hearing and notify the general public of any discussions regarding naming or renaming of a public facility.

1. Commission action will be taking at the meeting following any public hearing on the naming or renaming.
- E. The commission's recommendation shall be forwarded to Council for final consideration.

The City of Berkeley Policy for Naming and Renaming Public Facilities was adopted by the Berkeley City Council at the regular meeting of January 31, 2012.

APPENDIX B. GUIDELINES FOR DEVELOPING AND WRITING COUNCIL AGENDA ITEMS

These guidelines are derived from the requirements for Agenda items listed in the Berkeley City Council Rules of Procedure and Order, Chapter III, Sections B(1) and (2), reproduced below. In addition, Chapter III Section C(1)(a) of the Rules of Procedure and Order allows the ~~Agenda Committee~~Agenda & Rules Committee to request that the author of an item provide “additional analysis” if the item as submitted evidences a “significant lack of background or supporting information” or “significant grammatical or readability issues.”

These guidelines provide a more detailed and comprehensive overview of elements of a complete Council item. While not all elements would be applicable to every type of Agenda item, they are intended to prompt authors to consider presenting items with as much relevant information and analysis as possible.

Chapter III, Sections (B)(1) and (2) of Council Rules of Procedure and Order:

2. Agenda items shall contain all relevant documentation, including the following as Applicable:
 - a. A descriptive title that adequately informs the public of the subject matter and general nature of the item or report and action requested;
 - b. Whether the matter is to be presented on the Consent Calendar or the Action Calendar or as a Report for Information;
 - c. Recommendation of the City Manager, if applicable (these provisions shall not apply to Mayor and Council items.);
 - d. Fiscal impacts of the recommendation;
 - e. A description of the current situation and its effects;
 - f. Background information as needed;
 - g. Rationale for recommendation;
 - h. Alternative actions considered;
 - i. For awards of contracts; the abstract of bids and the Affirmative Action Program of the low bidder in those cases where such is required (these provisions shall not apply to Mayor and Council items.);
 - j. Person or persons to contact for further information, with telephone number. If the author of any report believes additional background information, beyond the basic report, is necessary to Council understanding of the subject, a separate compilation of such background information may be developed and copies will be available for Council and for public review in the City Clerk Department, and the City Clerk shall provide limited distribution of such background information depending upon quantity of pages to be duplicated. In such case the agenda item distributed with the packet shall so indicate.

Guidelines for City Council Items:

1. Title
2. Consent/Action/Information Calendar
3. Recommendation
4. Summary Statement/Current situation and its effects
5. Background
6. Review of Existing Plans, Programs, Policies and Laws
7. Actions/Alternatives Considered
8. Consultation/Outreach Overview and Results
9. Rationale for Recommendation
10. Implementation, Administration and Enforcement
11. Environmental Sustainability
12. Fiscal Impacts
13. Outcomes and Evaluation
14. Contact Information
15. Attachments/Supporting Materials

1. Title

A descriptive title that adequately informs the public of the subject matter and general nature of the item or report and action requested.

2. Consent/Action/Information Calendar

Whether the matter is to be presented on the Consent Calendar or the Action Calendar or as a Report for Information.

3. Recommendation

Clear, succinct statement of action(s) to be taken. Recommendations can be further detailed within the item, by specific reference.

Common action options include:

- Adopt first reading of ordinance
- Adopt a resolution
- Referral to the City Manager (City Manager decides if it is a short term referral or is placed on the RRV ranking list)
- Direction to the City Manager (City Manager is directed to execute the recommendation right away, it is not placed on any referral list)
- Referral to a Commission or to a Standing or Ad Hoc Council Committee
- Referral to the budget process
- Send letter of support
- Accept, Approve, Modify or Reject a recommendation from a Commission or Committee
- Designate members of the Council to perform some action

4. Summary Statement/ “Current situation and its effects”

A short resume of the circumstances that give rise to the need for the recommended action(s).

- Briefly state the opportunity/problem/concern that has been identified, and the proposed solution.
- Example (fictional):
Winter rains are lasting longer than expected. Berkeley’s winter shelters are poised to close in three weeks, but forecasts suggest rain for another two months. If they do not remain open until the end of the rainy season, hundreds of people will be left in the rain 24/7. Therefore, this item seeks authorization to keep Berkeley’s winter shelters open until the end of April, and refers to the Budget Process \$40,000 to cover costs of an additional two months of shelter operations.

5. Background

A full discussion of the history, circumstances and concerns to be addressed by the item.

- For the above fictional example, Background would include *information and data about the number and needs of homeless individuals in Berkeley, the number and availability of permanent shelter beds that meet their needs, the number of winter shelter beds that would be lost with closure, the impacts of such closure on this population, the weather forecasts, etc.*

6. Review of Existing Plans, Programs, Policies and Laws

Review, identify and discuss relevant/applicable Plans, Programs, Policies and Laws, and how the proposed actions conform with, compliment, are supported by, differ from or run contrary to them. What gaps were found that need to be filled? What existing policies, programs, plans and laws need to be changed/supplemented/improved/repealed? What is missing altogether that needs to be addressed?

Review of all pertinent/applicable sections of:

- The City Charter
- Berkeley Municipal Code
- Administrative Regulations
- Council Resolutions
- Staff training manuals

Review of all applicable City Plans:

- The General Plan
- Area Plans
- The Climate Action Plan
- Resilience Plan
- Equity Plan

- Capital Improvements Plan
- Zero Waste Plan
- Bike Plan
- Pedestrian Plan
- Other relevant precedents and plans

Review of the City's Strategic Plan

Review of similar legislation previously introduced/passed by Council

Review of County, State and Federal laws/policies/programs/plans, if applicable

7. Actions/Alternatives Considered

- What solutions/measures have **other jurisdictions** adopted that serve as models/cautionary tales?
- What solutions/measures are recommended by **advocates, experts, organizations**?
- What is the range of actions considered, and what are some of their major pros and cons?
- Why were other solutions not as feasible/advisable?

8. Consultation/Outreach Overview and Results

- Review/list external and internal stakeholders that were consulted
 - **External:** constituents, communities, neighborhood organizations, businesses and not for profits, advocates, people with lived experience, faith organizations, industry groups, people/groups that might have concerns about the item, etc.
 - **Internal:** staff who would implement policies, the City Manager and/or deputy CM, Department Heads, City Attorney, Clerk, etc.
- What reports, articles, books, websites and other materials were consulted?
- What was learned from these sources?
- What changes or approaches did they advocate for that were accepted or rejected?

9. Rationale for Recommendation

A clear and concise statement as to whether the item proposes actions that:

- Conform to, clarify or extend existing Plans, Programs, Policies and Laws
- Change/Amend existing Plans, Programs, Policies and Laws in **minor** ways
- Change/Amend existing Plans, Programs, Policies and Laws in **major** ways
- Create an exception to existing Plans, Programs, Policies and Laws
- Reverse/go contrary to or against existing Plans, Programs, Policies and Laws

Argument/summary of argument in support of recommended actions. The argument likely has already been made via the information and analysis already presented,

but should be presented/restated/summarized. Plus, further elaboration of terms for recommendations, if any.

10. Implementation, Administration and Enforcement

Discuss how the recommended action(s) would be implemented, administered and enforced. What staffing (internal or via contractors/consultants) and materials/facilities are likely required for implementation?

11. Environmental Sustainability

Discuss the impacts of the recommended action(s), if any, on the environment and the recommendation's positive and/or negative implications with respect to the City's Climate Action, Resilience, and other sustainability goals.

12. Fiscal Impacts

Review the recommended action's potential to generate funds or savings for the City in the short and long-term, as well as the potential direct and indirect costs.

13. Outcomes and Evaluation

State the specific outcomes expected, if any (i.e., "*it is expected that 100 homeless people will be referred to housing every year*") and what reporting or evaluation is recommended.

14. Contact Information

15. Attachments/Supporting Materials



Office of the City Manager

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ACTION CALENDAR
December 3, 2019
(Continued from November 19, 2019)

To: Honorable Mayor and Members of the City Council

From: Dee Williams-Ridley, City Manager

Submitted by: Teresa Berkeley-Simmons, Budget Manager

Subject: FY 2019 Year-End Results and FY 2020 First Quarter Budget Update

RECOMMENDATION

Discuss and determine funding allocations for FY 2020 based on the FY 2019 General Fund Excess Equity and Excess Property Transfer Tax for the following: 1) the General Fund Reserves 2) the Mayor's June 25, 2019, Supplemental Budget Recommendations approved by the Council and 3) the Council's Budget Referrals approved during FY 2020 to be considered in November 2019.

INTRODUCTION

This budget update presents the FY 2019 Year-End (Year-End) results as well as reports on the FY 2020 First Quarter. The FY 2019 Year-End budget summary covers the period starting July 1, 2018, through June 30, 2019 (FY 2019). This report also provides preliminary revenue information for the first quarter of the current fiscal year, 2020. The FY 2020 First Quarter Budget Update covers the period July 1, 2019, through September 30, 2019. The FY 2019 General Fund Year-End balance was \$38.8 million. Amounts restricted, committed, and assigned totaled \$35.5 million. Allocations to the General Fund reserves totaled \$1.2 million¹. The amount of Unassigned Excess Equity totaled \$2.2 million.

The information in this report should be reviewed in conjunction with the Amendment to the FY 2020 Annual Appropriations Ordinance (AAO) also on tonight's agenda. The AAO#1 establishes the expenditure limits by fund for FY 2020. The adopted budget is amended annually to reflect the re-appropriation of prior year funds for contractual commitments (i.e. encumbrances) as well as unencumbered carryover of unexpended funds previously authorized for one-time, non-recurring purposes. These budget

¹ Starting in FY 2018, to achieve the City's intermediate and long-term Reserves goals, 50% of Excess Equity above the first \$1M is allocated to Reserves. The General Fund Reserve consists of the total of the Stability Reserve and the Catastrophic Reserve.

modifications are presented to the Council twice a year in the form of an AAO. However, this fiscal year we will present three AAOs to Council for approval.

The first AAO is on tonight's agenda. The second AAO will go to Council in late February or early March. The third and final AAO will go to Council in May.

Included on tonight's agenda is the First Amendment to the FY 2020 Annual Appropriations Ordinance report (AAO#1). The information included in this Year-End report is supplemented by the detailed information included in the AAO#1. Recommendations in the AAO#1 augments the adopted General Fund budget by \$22.2 million. The \$22.2 million includes encumbrances of \$5.5 million, unencumbered carry-over requests of \$4.2 million, and adjustments of \$12.5 million.

CURRENT SITUATION AND ITS EFFECTS

FY 2019 Year-End Summary

General Fund

On June 26, 2018, the City Council adopted the FY 2019 budget (Adopted Budget).² The FY 2019 adopted General Fund revenues were \$184.8 million. The actual FY 2019 year-end General Fund revenues were \$208.5 million.

Included in the FY 2019 Adopted Budget were General Fund expenditures of \$184.3 million. During the fiscal year, there were two Adjustments to the Appropriation Ordinance totaling \$42.2 million, thus the total FY 2019 General Fund adjusted expenditure budget was \$226.5 million³. At the end of FY 2019, \$5.5 million was encumbered and rolled into FY 2020 resulting in an FY 2019 year-end adjusted expenditure budget of \$220.9. Not all of the budgeted funds were expended in FY 2019, so the FY 2019 year-end actual General Fund expenditures were \$212.4 million.

Revenues

At FY 2019 year-end, actual General Fund revenues were \$208.5 million. This was \$23.7 million above the adopted budget of \$184.8 million. The largest contributors to the revenue increase were Property Transfer Tax, which exceeded the budgeted amount by \$7.5 million; Measure P – Transfer Tax⁴, which exceeded the budgeted amount by \$2.9 million, and Business License Tax generated from Measure U1 – Rental Unit Business License Tax⁵, which exceeded the budgeted amount by \$4.8 million. Together, these

² https://www.cityofberkeley.info/Clerk/City_Council/2018/06_June/City_Council_06-26-2018_-_Regular_Meeting_Agenda.aspx (Items 40 & 41)

³ https://www.cityofberkeley.info/Clerk/City_Council/2019/05_May/City_Council_05-28-2019_-_Regular_Meeting_Agenda.aspx (Item #1, Exhibit A)

⁴ https://www.cityofberkeley.info/Clerk/Elections/Ballot_Measure_Archive_Page.aspx

⁵ Business License Tax of five or more units (U1)

three revenue streams generated \$15.2 million above the FY 2019 adopted revenues for the General Fund.

Expenditures

Actual FY 2019 General Fund expenditures were \$212.4 million. This was \$28.1 million above the initial adopted budget of \$184.3 million and \$8.4 million below the adjusted budget of \$220.9 million.

The actual General Fund expenditures came in below the adjusted budget due to salary savings and cost of living adjustments that were substantially absorbed by many departments. FY 2019 General Fund salary savings were \$4.0 million. In addition, there were several capital projects that were budgeted but not completed in FY 2019. Funding allocations for ongoing projects are being carried over to FY 2020.

Details of the variances are included in Attachment 3 of this report.

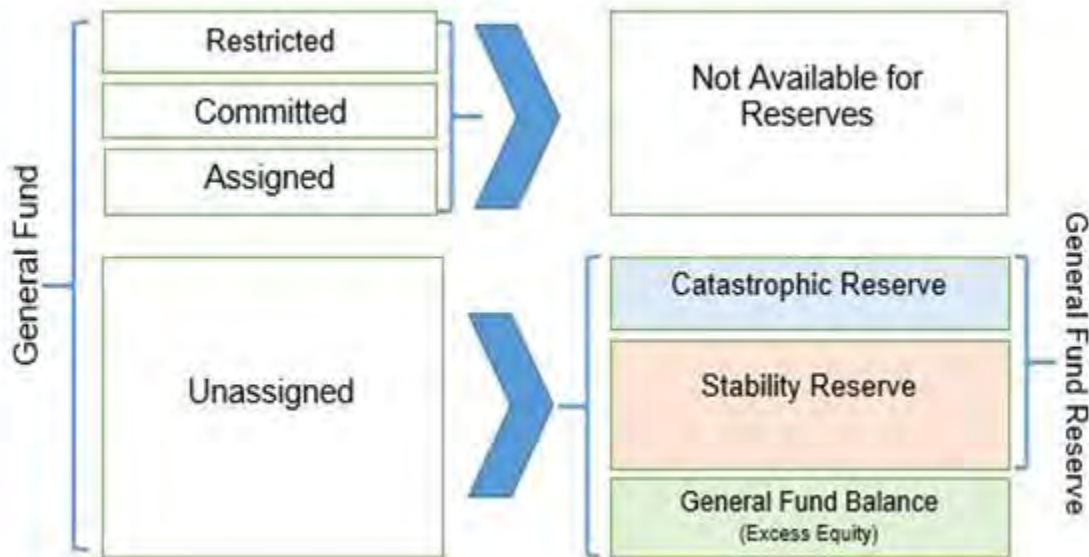
Details of the carryover requests are included in the AAO#1 on tonight's agenda.

Excess Equity

Starting in FY 2018 to achieve the City's intermediate and long-term General Fund Reserves goals, 50% of Excess Equity above the first \$1 million is allocated to General Fund Reserves. The chart below illustrates the FY 2019, \$1.16 million reserve calculation as well as the \$2.16 million calculation for the unassigned excess equity.

GENERAL FUND EXCESS EQUITY	
FY 2019 Beginning Balance	\$ 42.75
FY 2019 Revenues	\$ 208.46
FY 2019 Expenditures	\$ (212.45)
Available Balance	\$ 38.77
Less:	
<i>Committed</i>	
Excess Property Transfer Tax	\$ (7.45)
Excess Business License Tax U1*	\$ (8.99)
Encumbered Rollovers (AAO#1)	\$ (5.51)
<i>Assigned</i>	
General Fund Carryover & Adjustments (AAO#1 - Excludes U1**)	\$ (13.50)
Total Committed & Assigned	\$ (35.45)
Excess Equity	\$ 3.32
Allocation to Reserves	\$ 1.16
Unassigned Excess Equity	\$ 2.16
*U1 revenues were \$4.16M (FY18) and \$4.83M (FY19)	
** U1 allocations are discussed later in this report	

The calculation for excess equity is documented in the graphic below.



The graphic above shows the relation between excess equity as well as other restricted, committed, and assigned General Fund monies.

- The restricted fund balance category includes amounts that can be spent only for the specific purposes stipulated by constitution, external resource providers, or through enabling legislation.
- The committed fund balance classification includes amounts that can be used only for the specific purposes determined by a formal action of the government's highest level of decision-making authority.
- Amounts in the assigned fund balance classification are intended to be used by the government for specific purposes but do not meet the criteria to be classified as restricted or committed.
- Unassigned fund balance is the residual classification for the government's general fund and includes all spendable amounts not contained in the other classifications

General Fund Reserve

The General Fund Reserve is distinctly separate from the General Fund Balance (Excess Equity). On January 24, 2017, the City Council established [Resolution No. 67,821](#) – N.S., a policy for the General Fund Reserves.⁶ The General Fund reserves are comprised of two elements: a Stability Reserve and a Catastrophic Reserve.

The Stability Reserve was established to mitigate the loss of service delivery and financial risks associated with unexpected revenue shortfalls during a single fiscal year or during a prolonged recessionary period. The purpose of the Stability Reserve is to provide fiscal stability in response to unexpected downturns or revenue shortfalls. Fifty-five percent of the General Fund Reserve is allocated to the Stability Reserve.

The Catastrophic Reserve was established to sustain the General Fund operations in the case of a public emergency such as a natural disaster or other catastrophic event. The Catastrophic Reserve may be used to respond to extreme onetime events, such as earthquakes, fires, floods, civil unrest, and terrorist attacks. Forty-five percent of the General Fund Reserve is allocated to the Catastrophic Reserve.

When the Council adopted the General Fund Reserve Policy the target level established for the Reserve was a minimum of 13.8% of Adopted General Fund Revenues with an Intermediate Goal of a minimum of 16.7% by the end of Fiscal Year 2020, if financially feasible. In addition, the Council adopted a Long-Term Goal of 30% of General Fund revenues, to be achieved within no more than 10 years. The Council demonstrated their commitment to these goals in the policy by assigning 50% of the General Fund Excess Equity above the first \$1 million to be allocated to Reserves. Additional Excess Equity may be allocated to Reserves by a majority vote of the Council. The chart directly below illustrates the FY 2019 allocation of the \$1.16 million distributed to the General Fund Reserves, resulting in an actual Reserves level of 17.43%⁷.

General Fund Reserves	Stability Reserve	Catastrophic Reserve	Reserve %
Beginning Cash Balance - Reserves	\$ 20.25	\$ 16.39	
FY 2019 Allocation to Reserves	\$ 0.64	\$ 0.52	
% Allocation	55%	45%	
Reserve Balance	\$ 20.89	\$ 16.91	
Reserved for Camps Fund - Tuolumne Cam	-	\$ (3.30)	
Ending Cash Balance - Reserves	\$ 20.89	\$ 13.61	17.43%

The allocations to the General Fund reserves are not included in AAO#1.

⁶ <https://www.cityofberkeley.info/recordsonline/export/17153922.pdf>

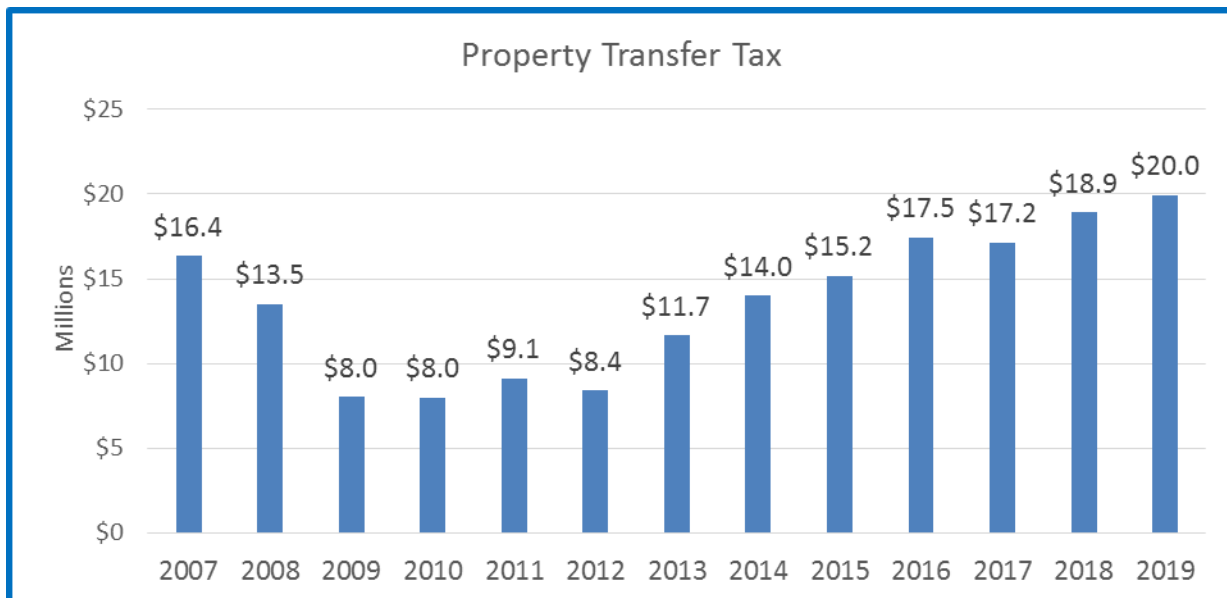
⁷ Based on the FY 2020 Adopted General Fund Revenues of \$198.0 million.

Funding for Capital Improvements

Property Transfer Tax

One of Council’s fiscal policies stipulates that the Property Transfer Tax in excess of the \$12.5 million operating baseline will be treated as one-time revenue to be used for the City’s capital infrastructure needs.

The chart below documents the historical trend of the City’s Property Transfer Tax from FY 2007 through FY 2019.



In FY 2019 the Property Transfer Tax included in the Adopted Budget was \$12.5 million. By year-end, the actual Property Transfer Tax was \$20.0 million. This is \$7.5 million over the \$12.5 million operating baseline threshold established by Council.

Of the \$7.5 million in excess Property Transfer Tax, Council committed \$3.4 million when the budget was adopted on June 25, 2019. Staff is recommending additional one-time allocations totaling \$1.4 million. Thus, the Unassigned Excess Property Transfer Tax is \$2.6 million. The chart below displays the allocations from the FY 2019 Excess Property Transfer Tax. These allocations are included in the AAO#1 on tonight’s agenda.

FY 2019 Property Transfer Tax	
Adopted Property Transfer Tax	\$ 12,500,000
Actual Property Transfer Tax	\$ 19,952,981
Excess Property Transfer Tax	\$ 7,452,981
Excess Property Transfer Tax	\$ 7,452,981
Restricted: Approved by Council 6/25/19	
Relocate PEOs to Marina	\$ 250,000
Software Costs Above ERMA	\$ 120,000
Pedestrian/Bicycle Safety Imprv	\$ 100,000
50/50 Sidewalk (backlog)	\$ 500,000
EV Charging Stations	\$ 600,000
Waterfont Capital Needs	\$ 1,505,000
1.0 FTE Associate Civil Engineer	\$ 143,802
1.0 FTE (Traffic) Engineering Inspector	\$ 80,986
Convert Asst Architect to Asst Eng	\$ 14,643
Convert Sr. Bldg Insp to Sr. Eng Insp	\$ 20,000
1.0 FTE Sr. Mgmnt Analyst 20%	\$ 35,503
Intern	\$ 42,000
Sub-Total	\$ 3,411,933
New Request: AAO#1 11/19/19	
IT Move to 1947 Center St & remodel	\$ 500,000
7th/Anthony Traffice Signal Imprv	\$ 12,380
1951 Shattuck Traffic Signal	\$ 800,000
Convert Temp. Assoc Civil Eng to Perm	\$ 116,260
Sub-Total	\$ 1,428,640
Committed and Assigned Total	\$ 4,840,573
Unassigned Excess Property Transfer Tax	\$ 2,612,408

In prior years the majority of the Excess Property Transfer Tax was used to finance the \$15.1 million required to replace the City's obsolete financial system, FUND\$. However, with the adoption of the FY 2020 budget, funding was available to support other Council priorities projects as noted in the chart above. The \$2.6 million Unassigned Excess Property Transfer Tax should be allocated to one-time Council priority projects.

Enterprise Resource Planning (ERP) Software (FUND\$ Replacement)

The total estimated cost for the FUND\$ Replacement project was \$15.1 million. This estimate was for work orders, business licensing, facilities and fleet management, performance evaluation, and refuse billing software solutions. Additionally, staff determined that there is a need to implement performance evaluation software and there will be some current solutions that will no longer work with a new ERP and will also require replacement. The solutions for these services will either be through the expansion of the ERP system or an additional technology-based service for staff to maintain the service we deliver currently. The \$15.1 million costs also included 8.3 dedicated ERP implementation staff for three years.

In November 2018 the City launched Phase IA which included Chart of Accounts / General Ledger, Requisition, Purchase Orders, Contracts, Project Ledger, Accounts Payable Modules. In January 2019, the City began working on the Phase 1B Payroll and HR modules which are expected to go-live on July 1, 2020. This goal requires four consecutive successful parallel runs to test the new system. In parallel, the City is working with Tyler to develop a timeline for Phase 1C which includes launching Budget prep, Accounts Receivables, General Billing and Cashiering in FY 2021.

Project Challenges - The team started with dedicated team members. However, the project team had few setbacks with staffing challenges due to retirements and staff moving on to new roles within the organization. Mitigation plans include contracting with an outside project manager to assist with go-live and project implementation. Both positive and negative lessons learned from Phase 1A have been documented. Due to the age of the existing financial system, data conversion was a challenge and a significant portion of the data needed to be converted manually. These challenges are being addressed, and a new project plan is being developed including the additional requirements from the lessons learned from Phase 1A.

There are additional costs associated with the FUND\$ Replacement project in the amount of \$1,250,000⁸ for FY 20. These additional costs are included in AAO#1 on tonight's agenda and are described below:

Additional Staffing - City Auditors Office	\$ 30,000.00
Additional Server Environment for 2017 to 2019 upgrade	\$ 34,000.00
NEW - Expense Reimbursement Module	\$ 180,000.00
Additional Project Management / Implementation Services	\$ 616,000.00
Additional Consulting - HR Payroll	\$ 100,000.00
Data Integrations / Data Conversion	\$ 290,000.00

⁸Note There will be additional expenses in FY 2021 through FY 2023 which will be brought back to Council as the Phase2 Projects go through implementation.

The implementation of the new system provides the City with a suite of modern software that will work in harmony to support efficiency and transparency in our work and allow staff to dedicate more time addressing community priorities.

Workers' Compensation Repayment for Purchase of University Avenue Property
The City appropriated \$6.7 million from the Workers' Compensation Fund for the Acquisition of Real Property at 1001 University Avenue, 1007 University Avenue, 1011 University Avenue, and 1925 Ninth Street (formerly Premier Cru) with the purpose of redeveloping the majority of the site for below market-rate housing. In addition, a portion of the property was identified for use as an interim City Council Chamber with a seating capacity of 150-200 persons. Meetings of the City Council, the Rent Board, and the Zoning Adjustments Board would utilize the interim Council Chamber.⁹

Proposed repayment to the Worker's Compensation fund was to be made with revenue generated from a combination of the Business License Tax of five or more units (U1) and excess Property Transfer Tax. The proposed repayment schedule is illustrated below.

Summary of Proposed Funds for Repayment

Total Purchase Price: \$6,650,000

Repayment Source	Principal Repayment Amount	Percent of Purchase Price
General Fund Excess Property Transfer Tax	\$ 2,000,000	30%
Measure U1 Business Tax Revenue	\$ 4,650,000	70%

Annual Repayment Amounts by Source (with interest)

Total Repayment Amount: \$6,765,575

Repayment Source	General Fund Excess Property Transfer Tax*	Measure U1 Business Tax Revenue**
FY 2017-18	406,952	946,163
FY 2018-19	406,952	946,163
FY 2019-20	406,952	946,163
FY 2020-21	406,952	946,163
FY 2021-22	406,952	946,163
Total	\$2,034,760	\$4,730,815

* Total General Fund excess Property Transfer Tax has averaged \$5.8 million over the last two years.

** Total Measure U1 Business Tax revenue is estimated at \$3 million annually.

⁹ https://www.cityofberkeley.info/Clerk/City_Council/2017/03_Mar/City_Council_03-28-2017_-_Regular_Meeting_Agenda.aspx (Item #32)

Included in the AAO#1 on tonight’s agenda is a \$406,952 General Fund allocation to repay the Workers’ Compensation Fund for the portion of the property that will be used for the Council Chambers. There is also a \$946,163 allocation from U1 to pay for the remainder of the property proposed for below market-rate housing. Additional U1 funding allocations are shown in the chart below.

FY 2019 Measure U1	
Actual U1 Revenues	\$ 5,828,443
Actual U1 Expenditures	\$ 1,995,280
Excess U1 Revenues	\$ 3,833,163
Excess U1 Revenues	\$ 3,833,163
Committed: New Request AAO#1 11/19/19	
2001 Ashby Avenue*	\$ 368,000
HTF Predevelopment Applications*	\$ 1,750,000
Measure O Staff Person	\$ 167,212
Worker's Comp Fund (Premier Cru)	\$ 946,163
Reserve for 2001 Ashby Avenue approved by Reso 68,824 by Council on 4/23/19. Reserve for HTF Predevelopment Applications approved by Council on 10/29/19.*	
Committed Total	\$ 3,231,375
Available Excess FY 19 U1 Revenue	\$ 601,788

Other Funding Needs For Council's ConsiderationExcess Transfer Occupancy Tax (Short Term Rentals)

Included in Council's fiscal policies is the methodology to allocate General Fund revenues generated from Short Term Rentals. Starting in FY 2018, staff costs as approved by the City Council that exceed the enforcement fees and penalties shall be appropriated from the short term rental taxes collected pursuant to BMC Section 23C.22.050, Section H, with primary allocation of the rental tax to the purposes listed below:

- Two thirds (66.7%) allocated to the Affordable Housing Trust Fund.
- One third (33.3%) allocated to the Civic Arts Grant Fund.

In order to facilitate the Civic Arts Grant Funding allocation process, Council reset the Civic Arts Grants Funding allocation to \$500,000 as part of the FY 2020 and FY 2021 Biennial Budget adoption in June. This would ensure that a baseline of \$500,000 was available for allocation and would eliminate the allocation delay resulting from the excess Short-Term Rentals November calculation. However, in order to fund the Civic Arts Grant to the \$500,000 level in June, funding allocations to other critical City functions were deferred.

Included in the FY 2019 Adopted budget was \$840,000 of General Fund revenue from short-term rentals. The actual revenue was \$1.8 million. The excess over the budgeted amount was \$990,983. One-third of the excess is \$327,024. Two-thirds of the excess is \$654,049. These allocations are currently not included in AAO#1.

Council's Fiscal Policies are scheduled to be discussed and reviewed by the Budget and Finance Policy Committee. The policy tied to the Short-Term Rentals will be part of that discussion.

Unfunded Liabilities

On April 4, 2017, there was a Council Worksession in which the City's outside actuary presented the [Projections of Future Liabilities - Options to Address Unfunded Liabilities Tied to Employee Benefits](#). The actuary provided several options for Council's consideration that would reduce the City's unfunded liabilities tied to post-employee benefits. Included in the recommendations were the following:

- Investing for the long-term to generate more earning to meet long-term funding targets,
- Increase annual contribution by approximately \$4.5 million per year and fully pre-fund the plans, and
- Establish an irrevocable supplemental trust for CalPERS to stabilize the increasing employer contribution rates.

On June 26, 2018, Council authorized the City Manager to establish an IRS Section 115 Pension Trust Fund (Trust) to be used to help pre-fund pension obligations¹⁰. On May 14, 2019, Council authorized the City Manager to execute a contract with Keenan Financial Services to establish, maintain, and invest the pension Section 115 Trust¹¹. To date, Council has allocated \$9.1 million to fund the Trust, which consists of the following:

- ✓ \$4 million set aside in the PERS Savings Fund
- ✓ \$4 million allocated by Council in November 2018
- ✓ \$1.1 million discount the City saved by prepaying the FY 2019 unfunded liability payments required by CalPERS

Ongoing funding of the Trust has not yet been identified and is needed to ensure continuity of services as the City's pension contributions increase. As the Budget and Finance Policy Committee review Council's Fiscal Policies, a policy to identify ongoing funding of the Trust will be part of that discussion. No additional funding of the Trust is included in the AAO#1 on tonight's agenda. However, Council may vote to allocate additional Excess Equity to fund the Trust.

Negotiations with Labor

As a service organization, the majority of the City's costs are tied to staffing. Salary and benefit costs made up approximately 55% of the citywide budget on an All Funds basis and 74% of the General Fund operating budget. As such, labor costs are a major factor for budgetary stability. All 7 of the labor contracts are scheduled to expire June 2020.

The City treats employees fairly and equitable and also has a policy of minimizing the layoff of career employees. Controlling expenditures has been, and will continue to be a necessity in managing the City's budget, and labor costs are a critical factor in that approach. Last year Council set aside \$1.5 million of the FY 2018 Excess Equity to address the impacts of the COLAs. Currently, there is no set aside in the FY 2020 AAO#1 on tonight's agenda to address future negotiations.

Council Budget Referrals Deferred for Consideration in November 2019

On June 25, 2019, Council referred the following Supplemental Budget Recommendations to the budget process for consideration in November 2019. Funding for these budget referrals is not included in AAO#1.

¹⁰ https://www.cityofberkeley.info/Clerk/City_Council/2018/06_June/Documents/2018-06-26_Item_19_Authorization_to_Establish_IRS.aspx

¹¹ https://www.cityofberkeley.info/Clerk/City_Council/2019/05_May/City_Council_05-14-2019_-_Regular_Meeting_Agenda.aspx (Item #5)

For Funding Consideration - November 2019

Item #	Department/ Program	Fund Name	Description	FY 2020 Amount	FY 2021 Amount
1	HHCS	Excess Equity or Measure P	Youth Spirit Artworks Tiny House Village Services	78,000	-
2	Public Works/Fire	Excess Property Tax or Excess Equity	Outdoor Emergency Warning System	1,100,000	-
3	Public Works	Excess Property Tax or Excess Equity	Traffic Light at University/Acton (up to)	400,000	
4	Public Works	Excess Property Tax or Excess Equity	RRFP Light at San Pablo and Addison	100,000	
5	Public Works	Excess Property Tax or Excess Equity	Traffic Calming at MLK and Stuart Street (up to)	400,000	
6	Public Works/ Transportation	Excess Equity	Traffic Study on Alcatraz Avenue (unknown)	unknown	-
For Funding Consideration - November 2019 Total				2,078,000	-

In addition, between June 25, 2018, and November 19, 2019, there were 22 Council items referred to the budget process for consideration in November 2019. These budget referrals are listed below.

Title and Item #	Council Date	Description (Purpose)	Amount	Referred by: Council Member Name
1. Budget Referral: Remediation of Lawn Bowling, North Green and Santa Fe Right-of-Way, FY2020-2021 ¹²	June 25, 2019	Refer to the FY20 (2020/2021) RRV Budget Process for consideration of at least \$150,000 and up to remediate the Lawn Bowlers, North Green and Santa Fe Right-of Way in advance of Request for Proposal (RFP) for these areas that potentially could provide much needed affordable alternative housing.	\$150,000	Davila
2. Adopt an Ordinance adding a new Chapter 12.80 to the Berkeley Municipal Code Prohibiting Natural Gas Infrastructure in New Building ¹³	July 9, 2019	Refer to the November 2019 budget process for consideration of up to \$273,341 per year to fund a new career position in the Building & Safety Division of the Department of Planning and Development. The staff person will assist with implementing the gas prohibition ordinance and reach codes, and perform other duties as specified in the Financial Implications section of this item	\$273,341	Harrison, Davila, Bartlett and Hahn
3. Funding the Pavement of Derby Street Between Telegraph Avenue and Shattuck Avenue ¹⁴	September 10, 2019	Refer to the budget process for the paving of Derby St. between Shattuck Ave. and Telegraph Ave. in order to repair deteriorating street that serves as a part of major commuter corridor.	\$1.6 million for pavement reconstruction Per 2017 Bicycle Plan: \$60,000 for traffic diverter at Fulton \$360,000 for Ped. Hybrid Signal at Shattuck	Bartlett

¹² https://www.cityofberkeley.info/Clerk/City_Council/2019/07_Jul/Documents/2019-07-09_Item_21_Adopt_an_Ordinance_adding_a_new.aspx

¹³ https://www.cityofberkeley.info/Clerk/City_Council/2019/06_June/Documents/2019-06-25_Item_38_Budget_Referral_Remediation_of_Lawn.aspx

¹⁴ https://www.cityofberkeley.info/Clerk/City_Council/2019/09_Sep/Documents/2019-09-10_Item_44_Pavement_of_Derby_Street_and_Ward.aspx

Title and Item #	Council Date	Description (Purpose)	Amount	Referred by: Council Member Name
4. Funding the Construction of a Pedestrian Signal at Ashby Street and Fulton Street ¹⁵	September 10, 2019	Refer to the November budget AAO process for the construction of a pedestrian crossing signal at the intersection of Ashby and Fulton St. in order to reduce traffic accidents, and further safeguard the community.	\$400,000 - \$800,000	Bartlett
5. Funding for Pedestrian Crossing Signal at Intersection of Shattuck and Prince ¹⁶	September 10, 2019	Refer to the November Budget Annual Appropriations Ordinance to fund pedestrian crossing signals on all directions of the Shattuck Avenue and Prince Street intersection in order to address inadequate traffic control and ensure the safety of travelers along these streets.	\$400,000 - \$800,000	Bartlett
6. Funding Streetlight Near South East Corner of Otis Street ¹⁷	September 10, 2019	Council refers to the City Manager to fund construction of a streetlight on the corner of Otis near Ashby.	\$10,000 to \$20,000	Bartlett

¹⁵ https://www.cityofberkeley.info/Clerk/City_Council/2019/09_Sep/Documents/2019-09-10_Item_45_Funding_the_Construction_of_a_Pedestrian.aspx

¹⁶ https://www.cityofberkeley.info/Clerk/City_Council/2019/09_Sep/Documents/2019-09-10_Item_46_Funding_for_Pedestrian_Crossing_Signal.aspx

¹⁷ https://www.cityofberkeley.info/Clerk/City_Council/2019/09_Sep/Documents/2019-09-10_Item_47_Funding_Streetlight_Near_South_East.aspx

Title and Item #	Council Date	Description (Purpose)	Amount	Referred by: Council Member Name
7. RFP for a Freestanding Public restroom Facility ¹⁸	September 24, 2019	Refer to the budget process to set aside up to \$100,000 to issue an RFP for a freestanding, 24/7 public restroom facility in the Telegraph Business Improvement District.	\$100,000	Robinson
8. Grant referral for Capoeira Arts Foundation ¹⁹	October 15, 2019	Refer a Grant of \$150,000 for the benefit of the Capoeira Arts Foundation (CAF) to the mid-year budget process to support their purchase of the Casa De Cultura-1901 San Pablo Ave-in partnership with BrasArte to create a permanent home for their organizations, their school, the United Capoeira Association (UCA) Berkeley, and for other Brazilian art forms.	\$150,000	Arreguin, Kesarwani and Davila

¹⁸ https://www.cityofberkeley.info/Clerk/City_Council/2019/09_Sep/Documents/2019-09-24_Item_28_Budget_Referral_RFP_for_a_Freestanding_Public.aspx

¹⁹ https://www.cityofberkeley.info/Clerk/City_Council/2019/10_Oct/Documents/2019-10-15_Item_18_Grant_Referral_for_Capoeira_Arts.aspx

Title and Item #	Council Date	Description (Purpose)	Amount	Referred by: Council Member Name
9. Health Impact Assessment Outreach Coordinator²⁰	October 15, 2019	Refer to the Mid-Year Budget Process an amount of \$25,000 for Berkeley's contribution towards a budget of \$50,000 to support an Outreach Coordinator for the purpose of community education about the health impacts associated with the proposed closure of Alta Bates Hospital as indicated in the Health Impact Analysis completed by the Institute of Urban and Regional Development, UC Berkeley in December 2018.	\$25,000	Arreguin, Harrison, and Droste
10. RFP for a Freestanding Public restroom Facility²¹	October 15, 2019	<i>Continued from September 24, 2019 Council Meeting</i>		Robinson
11. Berkeley Age-Friendly Continuum²²	October 29, 2019	Refer to the mid-year budget process \$20,000 for the Berkeley Age-Friendly Continuum.	\$20,000	Mayor Arreguin and Bartlett

²⁰ https://www.cityofberkeley.info/Clerk/City_Council/2019/10_Oct/Documents/2019-10-15_Item_19_Health_Impact_Assessment_Outreach.aspx

²¹ https://www.cityofberkeley.info/Clerk/City_Council/2019/10_Oct/Documents/2019-10-15_Item_28_Budget_Referral_RFP_for_a_Freestanding.aspx

²² https://www.cityofberkeley.info/Clerk/City_Council/2019/10_Oct/Documents/2019-10-29_Item_14_Budget_Referral_Berkeley_Age-Friendly.aspx

Title and Item #	Council Date	Description (Purpose)	Amount	Referred by: Council Member Name
12. Funding Illegal Dumping Component of “Clean & Livable Commons Initiative” ²³	October 29, 2019	Refer to the November budget process consideration for providing \$200,000 to fund a key component of the “Clean & Livable Commons Initiative” unanimously passed by the City Council on February 28, 2019.	\$200,000	Kesarwani, Harrison, and Mayor Arreguin
13. Allocate \$27,000 from the General Fund to Secure Potential Matching State Certified Local Government Landmarks Preservation Grants ²⁴	October 29, 2019	Refer to the FY 2021 November Budget Process to allocate \$27,000 from the General Fund to secure potential matching state Certified Local Government landmarks preservation grant.	\$27,000	Harrison and Hahn
14. Budget Referral and Approving Installation of Cameras at Ohlone Park Mural ²⁵	October 29, 2019	Refer \$6,000 to the FY20 November 2019 AAO Process for the purpose of purchasing and installing a surveillance camera.	\$6,000	Harrison and Kesarwani

²³ https://www.cityofberkeley.info/Clerk/City_Council/2019/10_Oct/Documents/2019-10-29_Item_16_Budget_Referral_Funding_Illegal_Dumping.aspx

²⁴ https://www.cityofberkeley.info/Clerk/City_Council/2019/10_Oct/Documents/2019-10-29_Item_21_Budget_Referral_Allocate_27,000.aspx

²⁵ https://www.cityofberkeley.info/Clerk/City_Council/2019/10_Oct/Documents/2019-10-29_Item_24_Budget_Referral_and_Approving_Installation.aspx

Title and Item #	Council Date	Description (Purpose)	Amount	Referred by: Council Member Name
15. Wildfire Mitigation Mid-Year Budget Referral ²⁶	November 12, 2019	Refer to the Mid-Year Budget Process an amount of \$550,000 for wildfire mitigation measures, including the removal of fire fuel on City properties and the extension by six additional months of the Fire Captain position to provide wildfire safety planning, Safe Passages implementation, and oversight of mitigation programs and public education.	\$550,000	Wengraf
16. BART Station Environmental Planning ²⁷	November 12, 2019	Refer to the budget process \$250,000 for BART station planning. This budget allocation will allow the initiation of environmental review required as part of developing and adopting zoning for the Ashby and North Berkeley BART Stations that is in conformance with Assembly Bill 2923.	\$250,000	Mayor Arreguin

²⁶ https://www.cityofberkeley.info/Clerk/City_Council/2019/11_Nov/Documents/2019-11-12_Item_20_Wildfire_Mitigation_Mid-Year_Budget.aspx

²⁷ https://www.cityofberkeley.info/Clerk/City_Council/2019/11_Nov/Documents/2019-11-12_Item_12_Budget_Referral_BART_Station.aspx

Title and Item #	Council Date	Description (Purpose)	Amount	Referred by: Council Member Name
17. Additional funding to Enhance Services at the Berkeley Drop-In Center ²⁸	November 12, 2019	Refer to the November Budget Annual Appropriations Ordinance to fund \$210,000 to enhance services at the Berkeley Drop-In Center, specifically for the installation of a public shower, installation of washer and dryer, renovation of the existing publicly accessible restroom, and additional payee service capacity.	\$210,000	Bartlett
18. Expansion of Homeless Navigation Facilities and Programs ²⁹	November 12, 2019	Refer to the budget process to allocate funds to establish a third sleeping unit and additional facilities as needed to increase capacity at the STAIR Center, and to fund operational and programmatic needs.	unknown	Hahn and Mayor Arreguin
19. Transportation to Support Mobility-Impaired Individuals Experiencing Homelessness who are Engaged in Rehousing and other Services ³⁰	November 12, 2019	Refer to the budget process to allocate funds to provide transportation for mobility-impaired individuals experiencing homelessness who are engaged with rehousing and other services through the STAIR Center, The Hub, or other City of Berkeley-funded homeless services	unknown	Hahn and Mayor Arreguin

²⁸ https://www.cityofberkeley.info/Clerk/City_Council/2019/11_Nov/Documents/2019-11-12_Item_15_Additional_Funding_to_Enhance_Services.aspx

²⁹ https://www.cityofberkeley.info/Clerk/City_Council/2019/11_Nov/Documents/2019-11-12_Item_19_Budget_Referral_Expansion_of_Homeless.aspx

³⁰ https://www.cityofberkeley.info/Clerk/City_Council/2019/11_Nov/Documents/2019-11-12_Item_19_Budget_Referral_Expansion_of_Homeless.aspx

Title and Item #	Council Date	Description (Purpose)	Amount	Referred by: Council Member Name
20. Evaluation and Implementation of Pedestrian and Bicycle Safety Along Oxford Street ³¹	November 12, 2019	Refer \$75,000 to the FY20 2019 AAO Process for the purpose of assessing, identifying, and implementing improvements to pedestrian and bicycle safety across Oxford Street, particularly between University Avenue and Bancroft Street.	\$75,000	Harrison
21. Additional funding for Berkeley Community Gardening Collaborative/ Moving South Berkeley Forward ³²	November 12, 2019	Refer to the November Budget AAO to fund \$10,582.06 to Berkeley Community Gardening Collaborative for a coordinator for the year-long Moving South Berkeley Forward project	\$10,582	Bartlett and Mayor Arreguin
22. BigBelly Trash Receptacles in Ohlone Park ³³	November 19, 2019	Refer \$15,000 to the November 2019 Annual Appropriations Ordinance Budget Process to purchase two BigBelly trash receptacles for Ohlone Park.	\$15,000	Harrison
TOTAL			\$5,701,923	

Funding for these budget referrals is not included in AAO#1.

³¹ https://www.cityofberkeley.info/Clerk/City_Council/2019/11_Nov/Documents/2019-11-12_Item_17_Budget_Referral_Evaluation_and_Implementation.aspx

³² https://www.cityofberkeley.info/Clerk/City_Council/2019/11_Nov/Documents/2019-11-12_Item_16_Additional_funding_for_Berkeley.aspx

³³ https://www.cityofberkeley.info/Clerk/City_Council/2019/11_Nov/Documents/2019-11-12_Item_16_Additional_funding_for_Berkeley.aspx

All Funds

On an All Funds basis, the City finished FY 2019, \$86.8 million (15%) under the adjusted budget. These fund balances are largely dedicated to projects, capital improvements that have not yet been completed, and personnel cost savings. For example, \$32.0 million is in the Department of Public Works. A sampling of the \$32 million underspending includes the following:

- \$5.80 million is tied to the Sewer Fund: \$1.9 million in personnel savings due to vacancies, \$3.7 million in continuing and deferred sewer projects scheduled for completion in FY 2020
- \$4.9 million is tied to the Capital Improvement Fund: \$0.6 million in salary savings and \$3.9 million in project fund carryover for transportation, street, facilities project funds to FY 2020 due to project timing, including ADA Transition Plan, Shattuck Reconfiguration, FY 19 Street Rehab and FY 19 Sidewalk Repair projects.
- \$3.1 million is tied to the State Transportation Tax: \$0.8 million in salary savings and \$2.3 million in project funding for various street and storm drain program projects continued for completion in FY 2020.
- 3.6 million is tied to T1: \$3.6 million in carryover for various T1 projects begun in FY 2019 with work continuing into FY 2020
- \$2.9 million is tied to the Equipment Replacement Fund to replace purchases initially scheduled for FY 2019 that will be completed in FY 2020.

In addition, the Department of Health Housing and Community Services had \$13.2 million in underspending primarily as a result of funds allocated to projects and programs not fully expended by the end of the fiscal year that will be carried forward to FY 2020, new positions being filled after the start of the fiscal year and vacancies throughout the department. Of the \$13 million, approximately \$3.5 million was accumulated in the Housing Trust Fund to be disbursed for various Housing Development projects at a later date, almost \$1.5 million were CDBG funds committed to programs that were not expended during the fiscal year and will be carried forward, and over \$2 million in unspent Mental Health Service Act Funds budgeted for the renovation of the Mental Health Adult Clinic and the new MH Wellness Center.

Information Technology had \$11.6 million in underspending due to General Fund, FUNDS\$ Replacement Funds, and the IT Cost Allocation Fund not being fully spent in FY 2019. These funds will be carried over to FY 2020.

Parks Recreation and Waterfront had \$13.0 million in underspending due to personnel savings and unexpended project funds in the Playground Camp, Parks Tax Fund, Measure WW Parks Bond Grant Fund, Capital Improvement Fund, and Measure T1 Fund. Only certain unspent project funds will be carried over to FY 2020.

Planning had \$4.1 million in underspending as a result of the FEMA Funds for the Hazard Mitigation Grant Program not being fully spent in FY 2019. The FY 2019 budget was based on an estimate of seismic retrofit grants that we may be required to pay through the funding received from the FEMA grant. Actual grant funding requests were much lower than anticipated. However, Planning may make revisions this year for the FY 2020 FEMA budget if they get better estimates. The Permit Service Center Fund also had personnel and non-personnel savings of \$2.2 million in FY 2019

Finally, the Library Fund had underspending of \$4.9 million from unexpected delays to the Central Library Improvement Project. The Central Library capital improvement project did not advance to construction as was expected. Budgeted savings were realized from design, engineering, construction time lags, and personnel costs.

Attachment 1 provides information on the FY 2019 Year-End General Fund Revenues and includes a variance analysis.

Attachment 2 provides information on unspent FY 2019 Year-End Expenditures. Additional detailed information on unspent funds can be found in the AAO#1 on tonight's agenda.

FY 2020 First Quarter Summary

General Fund Revenues

The first quarter review focuses primarily on the major General Fund revenue fluctuations, and changes that have occurred that might significantly impact future projections. FY 2020 General Fund revenues are tracking slightly over what was received during the same period in FY 2019. During the first quarter of FY 2020, we received 17.46% of the adopted revenues compared to 16.09% received in FY 2019. Staff will present more refined revenue projections based on additional information during the mid-year update.

Several of the underlying revenue assumptions for FY 2020 are sensitive to economic changes. Staff will continue to monitor these revenue streams and report on the impact of economic changes on revenue projections. For additional information on the First Quarter General Fund Revenues please see Attachment 3.

General Fund Expenditures

General Fund expenditures are currently tracking within budget. Staff will continue to monitor the budget and report back at mid-year on the impacts of the key challenges discussed earlier in this report.

Attachment 3 provides additional information on the FY 2020 First Quarter General Fund Revenues and includes a variance analysis

Attachment 4 provides additional information on the FY 2020 First Quarter Expenditures by department and includes a variance analysis

Next Steps

Staff will present second-quarter revenue and expenditure projections at the FY 2020 mid-year update in March 2020.

ENVIRONMENTAL SUSTAINABILITY

Actions included in the budget will be developed and implemented in a manner that is consistent with the City's environmental sustainability goals and requirements.

CONTACT PERSON

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Attachments:

- 1: FY 2019 Year End General Fund Revenues
- 2: FY 2019 Year End General Fund and All Funds Expenditures
3. FY 2020 1st Quarter General Fund Revenues
4. FY 2020 1st Quarter General Fund and All Funds Expenditures

General Fund Revenue for FY 2019 and Comparison with FY 2018

Revenue Categories	FY 2019				FY 2018				Comparison FY19 vs FY18	
	Adopted	Actual	Variance	% Received	Adopted	Actual	Variance	% Received	Amount	%
	(a)	(b)	c= (b) - (a)	(d) = (b)/(a)	(e)	(f)	g= (f) - (e)	(h) = (f)/(g)	(i) = (b) - (f)	(j) = (i)/(f)
Secured Property	\$57,966,998	\$59,178,773	\$1,211,775	102.09%	\$50,018,636	\$56,038,218	\$6,019,582	112.03%	3,140,555	5.60%
Redemptions -Regular	668,140	590,395	(77,745)	0.88	1,443,800	680,975	(762,825)	47.17%	(90,580)	-13.30%
Supplemental Taxes	1,400,000	2,174,903	774,903	1.55	1,100,000	2,237,649	1,137,649	203.42%	(62,746)	-2.80%
Unsecured Property Taxes	2,500,000	2,878,275	378,275	1.15	2,767,684	2,687,198	(80,486)	97.09%	191,077	7.11%
Property Transfer Tax	12,500,000	19,952,981	7,452,981	1.60	12,500,000	18,911,368	6,411,368	151.29%	1,041,613	5.51%
Property Transfer Tax-Measure P	0	2,932,313	2,932,313		0	0	0		2,932,313	
Sales Taxes	18,140,977	18,663,550	522,573	1.03	18,000,000	17,435,591	(564,409)	96.86%	1,227,959	7.04%
Soda Taxes (new in May 2015)	1,500,000	1,547,349	47,349	1.03	1,721,456	1,457,003	(264,453)	84.64%	90,346	6.20%
Utility Users Taxes	15,000,000	13,973,744	(1,026,256)	0.93	14,282,375	14,828,120	545,745	103.82%	(854,376)	-5.76%
Transient Occupancy Taxes	7,800,000	7,995,188	195,188	1.03	8,769,633	7,664,473	(1,105,160)	87.40%	330,715	4.31%
Short-term Rentals	840,000	1,830,983	990,983	2.18	800,000	1,053,815	253,815	131.73%	777,168	73.75%
Business License Tax, ex Recr. Cannabis	18,360,000	19,848,803	1,488,803	1.08	17,651,191	19,878,912	2,227,721	112.62%	(30,109)	-0.15%
Recreational Cannabis	500,000	1,168,794	668,794	2.34	0	0	0	-	1,168,794	-
U1 Revenues	1,000,000	5,828,443	4,828,443	5.83	650,000	5,161,615	4,511,615	794.09%	666,828	12.92%
Other Taxes	1,889,800	1,688,101	(201,699)	0.89	1,466,381	933,462	(532,919)	63.66%	754,639	80.84%
Vehicle In-Lieu Taxes	12,381,128	12,540,784	159,656	1.01	10,320,402	11,822,917	1,502,515	114.56%	717,867	6.07%
Parking Fines-Regular Collections	5,818,123	6,002,211	184,088	1.03	6,299,322	6,376,463	77,141	101.22%	(374,252)	-5.87%
Parking Fines-Booting Collections	200,000	211,913	11,913	1.06	204,000	231,538	27,538	113.50%	(19,625)	-8.48%
Moving Violations	235,000	177,824	(57,176)	0.76	239,770	188,443	(51,327)	78.59%	(10,619)	-5.64%
Ambulance Fees	4,613,194	4,424,808	(188,386)	0.96	4,823,720	4,343,453	(480,267)	90.04%	81,355	1.87%
Interest Income	2,500,000	4,334,404	1,834,404	1.73	2,211,000	3,636,989	1,425,989	164.50%	697,415	19.18%
Franchise Fees	1,984,643	1,821,316	(163,327)	0.92	1,955,314	2,009,931	54,617	102.79%	(188,615)	-9.38%
Other Revenues	7,620,152	8,116,908	496,756	1.07	5,916,158	9,121,889	3,205,731	154.19%	(1,004,982)	-11.02%
IDC Reimbursement	4,952,317	5,223,725	271,408	1.05	4,553,189	6,149,619	1,596,430	135.06%	(925,894)	-15.06%
Transfers	4,385,568	5,356,132	970,564	1.22	5,197,771	5,792,575	594,804	111.44%	(436,443)	-7.53%
Total Revenue:	\$184,756,040	\$208,462,620	\$23,706,580	112.83%	\$172,891,802	\$198,642,216	\$25,750,414	114.89%	\$9,820,404	4.94%

Note: This statement is presented on a budgetary basis.

During FY 2019, General Fund revenues and transfers increased \$9,820,404 or 4.94%, from \$198,642,216 in FY 2018 to \$208,462,620 in FY 2019.

The following FY 2019 review focuses primarily on the major revenue fluctuation.

Secured Property Tax (+\$3,140,555 over FY 2018 Actual)

During FY 2019, Secured Property Tax revenues totaled \$59,178,773 which was \$3,140,555 or 5.60% more than the \$56,038,218 received for FY 2018. The FY 2019 total of \$59,178,773 is \$1,211,775 more than the adopted budget amount of \$57,966,998. The growth in annual property tax revenues is generally close to the growth in annual assessed values. Differences between the two result primarily from reassessment refunds and changes in delinquency rates

Property Transfer Tax (+\$1,041,613 over FY 2018 Actual)

For FY 2019, Property Transfer Tax revenue totaled \$19,952,981, which is an increase of \$1,041,613 or 5.51% from the \$18,911,368 received in FY 2018. The amount of \$19,952,981 received in FY 2019 was \$7,452,981 more than the adopted budget amount of \$12,500,000. The number of property transactions decreased by 80 or 8.60% from 926 in FY 2018 to 846 in FY 2019. The decline in property transactions in FY 2019 was more than offset by a greater number of properties that sold for more than \$4 million in FY 2019 than in FY 2018 (15 transactions with an average sales price of \$13.1 million in FY 2019 versus 11 transactions with an average sales price of \$7.1 million in FY 2018).

This revenue source is budgeted at \$12.5 Million as any excess above that amount is transferred to the reserve fund and the Capital Improvement Fund the following fiscal year.

Sales Tax (+\$1,227,959 over FY 2018 Actual)

For FY 2019, Sales Tax revenue totaled \$18,663,550, which is \$1,227,959 or 7.04% more than the \$17,435,591 received in FY 2018. The amount of \$18,663,550 received in FY 2019 was \$522,573 more than the adopted budget amount of \$18,140,977. However, the apparent big jump in revenue in FY 2019 was actually a misallocation of revenues between FY 2018 and FY 2019. When the California Department of Tax and Fee Administration (Formerly State Board of Equalization) changed the allocations from three advances and a cleanup to two advances and a cleanup, they underpaid most cities' Sales Tax revenue in the first quarter of FY 2018. This was because CDTFA had issues with the processing of payments. As a result, Berkeley was underpaid \$555,600 in Sales Tax revenue in FY 2018 and that amount was paid during FY 2019. For that reason, staff is projecting a decline of 2.28%, rather than an increase, in Sales Tax revenue in FY 2019.

Utility Users Taxes (-\$854,376 under FY 2018 Actual)

UUT revenue in FY 2019 decreased by \$854,376 or 5.76%, to \$13,973,744 from the \$14,828,120 received in FY 2018. The \$13,973,744 collected in FY 2019 was \$1,026,256 or 6.84% less than the adopted budget amount of \$15,000,000.

The decrease in FY 2019 is primarily attributable to a \$302,633 or 14.20% decrease in Cellular charges, a \$403,178 or 4.30% decrease in Gas/Electric charges, and a \$100,971 or 7.50% decrease in Cable charges.

Transient Occupancy Tax (+\$330,715 over FY 2018 Actual)

Transient Occupancy Tax (TOT) revenue for FY 2019 totaled \$7,995,188 which is \$330,715 or 4.31% more than the \$7,664,473 received in FY 2018. The FY 2019 results reflect a rebound from a continuing slowdown in the growth rate of the City's major hotels. The increase resulted from the five largest hotels showing an increase in revenue of \$203,131 or 3.40% during fiscal the year.

Short-term Rentals (+\$777,168 over FY 2018 Actual)

This is a tax on Berkeley residents who host short-term rentals. They are required to register with the City and pay a 12% Transient Occupancy Tax on such rentals.

For FY 2019, Short-term Rentals totaled \$1,830,983 which is \$777,168 or 73.75% more than the total of \$1,053,815 received in FY 2018. It was also \$990,983 more than the adopted Budget total of \$840,000.

Business License Tax (-\$30,109 less than FY 2018 Actual)

For FY 2019, BLT revenue totaled \$19,848,803, which is \$30,109 or .015% less than the \$19,878,912 received in FY 2018. The \$19,848,803 collected in FY 2019 was \$1,488,803 or 8.11% more than the adopted budget amount of \$18,360,000.

U1 Business License Revenue

For FY 2019, U1 Business License Tax revenue totaled \$5,828,443 which is \$666,828 more than the \$5,161,615 received in FY 2018. The \$5,828,443 collected in FY 2019 was \$4,828,443 more than the adopted budget amount of \$1,000,000.

Vehicle In-Lieu Taxes (+\$717,867 over FY 2018 Actual)

For FY 2019, VLF revenue totaled \$12,540,784, which is \$717,867 or 6.07% more than the \$11,822,917 received in FY 2018, and is consistent with the 6.93% increase in assessed values for FY 2019. The amount of \$12,540,784 received in FY 2019 was \$159,656 more than the adopted budget amount of \$12,381,128.

Parking Fines (-\$374,252 less than FY 2018 Actual)

For FY 2019, Parking Fines revenue (excluding booting fines) decreased by \$374,252 or 5.87% to \$6,002,211 from \$6,376,463 in FY 2018. This decrease was generated partly as a result of a decrease in ticket writing of 5,770 tickets issued, from 145,286 in FY 2018 to 139,516 issued in FY 2019.

The vehicle booting program, which started in October 2011, decreased during FY 2019. During that period, booting collections totaled \$211,913, a decrease of \$19,625 or 8.48% from the total of \$231,538 received in FY 2018. The total of \$211,913 received in FY 2019 was \$11,913 more than the adopted budget amount of \$200,000.

Interest Income (+\$697,415 over FY 2018 Actual)

For FY 2019, Interest Income totaled \$4,334,404, which was \$697,415 or 19.18% more than the \$3,636,989 received in FY 2018. It was also \$1,834,404 more than the adopted budget amount of \$2,500,000. The interest income in FY 2019 was significantly more than projected primarily because interest rates were significantly higher in FY 2019 than in FY 2018, especially for the short-term portion of the City's portfolio. However, the trend toward higher interest rates abruptly reversed course towards the end of FY 2019 and has continued into FY 2020.

Other Revenue (-\$1,004,982 less than FY 2018 Actual)

For FY 2019, other income totaled \$8,116,908 which is \$1,004,982 or 11.02% less than the total of \$9,121,889 received in FY 2018. This decrease is primarily due to some reclassifications exercise done during fiscal year 2019.

IDC Reimbursement (-\$925,894 less than FY 2018 Actual)

IDC Reimbursement for FY 2019 totaled \$5,223,725 which is \$925,894 or 15.06% less than the \$6,149,619 received in FY 2018. IDC Reimbursement are indirect cost allocation base that are utilized to allocate cost to enterprise funds.

FY 2019 Year End Expenditures

General Fund

Department	FY 2019 Adopted	FY 2019 Adjusted	Year-End Actuals	Balance	Percent Expended
Mayor & Council	2,020,693	2,062,715	2,081,536	(18,821)	101%
Auditor	2,322,174	2,359,452	2,266,839	92,613	96%
Rent Board		265,419	265,419	-	100%
City Manager	10,109,574	11,162,229	10,633,155	529,074	95%
City Attorney	2,186,657	2,180,010	2,181,489	(1,479)	100%
City Clerk	2,534,266	2,756,322	2,643,486	112,836	96%
Finance	6,080,806	5,877,392	5,474,314	403,078	93%
Human Resources	2,016,349	2,267,835	2,045,393	222,442	90%
Information Technology	7,711,017	2,787,859	1,525,916	1,261,943	55%
Health, Housing & Community Services	14,766,894	19,679,660	19,169,534	510,126	97%
Parks, Recreation and Waterfront	5,747,738	6,127,211	5,943,167	184,044	97%
Planning	1,975,461	2,486,571	1,885,755	600,816	76%
Public Works	3,307,978	5,082,298	4,691,231	391,067	92%
Police	62,219,080	62,339,098	65,493,664	(3,154,566)	105%
Fire	31,800,695	32,842,409	34,172,733	(1,330,324)	104%
Non-Departmental	29,450,664	60,574,051	51,972,083	8,601,968	86%
Total	184,250,046	220,850,531	212,445,713	8,404,818	96%

All Funds (including General Fund)

Department	FY 2019 Adopted	FY 2019 Adjusted	Year-End Actuals	Balance	Percent Expended
Mayor & Council	2,020,693	2,062,715	2,081,536	(18,821)	101%
Auditor	2,419,749	2,457,027	2,416,689	40,338	98%
Rent Board	5,231,605	5,378,423	5,109,453	268,970	95%
City Manager	13,767,449	16,530,109	14,685,013	1,845,096	89%
Library	23,333,610	23,576,923	18,720,976	4,855,947	79%
City Attorney	4,224,401	5,926,452	5,333,550	592,902	90%
City Clerk	2,534,266	2,756,322	2,643,486	112,836	96%
Finance	7,924,435	7,759,818	7,226,820	532,998	93%
Human Resources	3,888,726	4,387,083	3,939,247	447,836	90%
Information Technology	17,537,825	24,858,762	13,239,636	11,619,126	53%
Health, Housing & Community Services	49,197,874	63,207,185	50,027,411	13,179,774	79%
Parks, Recreation and Waterfront	28,150,223	44,591,944	31,621,644	12,970,300	71%
Planning	21,372,934	22,447,576	18,325,495	4,122,081	82%
Public Works	115,819,678	144,053,865	111,984,358	32,069,507	78%
Police	67,277,591	67,626,360	69,567,103	(1,940,743)	103%
Fire	40,008,265	41,407,170	42,992,558	(1,585,388)	104%
Non-Departmental	56,940,782	92,475,521	84,752,912	7,722,609	92%
Total	461,650,106	571,503,255	484,667,887	86,835,368	85%

FY 2019 Year-End Expenditures Variance Analysis

Significant General Fund Variances

- City Manager's Office (+529,074), Finance (+403,078), and Health, Housing and Community Services (\$510,126) was due to salary savings from vacant positions and underspending of non-personnel funds. The City Manager's Office and Health, Housing & Community Services will be carrying over some of the unspent funds to FY 2020.
- Information Technology (+\$1,261,943) was primarily due to non-personnel savings for a number of Digital Strategic Plan projects that were not completed in FY 2019. Most of the unspent funds will be carried over to FY 2020 to complete these projects.
- Planning (\$600,818) was due to the allocations approved by Council that have not been fully spent yet. These allocations are being carried over to FY 2020.
- Police (-\$3,154,631) was due to overtime expenditures being \$3,197,795 over budget. The overage in overtime expenditures was due to sworn vacancies and medical leave and needing to maintain minimum staffing for public safety. Salary and benefit savings resulted in the total personnel budget being over budget by -\$2,976,279. The non-personnel budget was over budget by -\$178,352 which was due to higher costs for vehicle maintenance and replacement. These costs were offset by savings in other non-personnel categories in FY 2019.
- Fire (-\$1,330,323) was primarily the result of the personnel budget being over budget by -\$1,424,608. Shortly after FY 2019 started, the Council approved the new Memorandum of Understanding for the Berkeley Fire Fighters Association. The new agreement authorized a 4% wage increase effective the first pay period after Council approval; \$2,000 one-time stipend effective the first pay period after Council approval; 2% wage increase effective the first full pay period in July 2019. These wage increases were not budgeted in the Fire Department's budget but were set aside in Non-Departmental. Overtime expenses were over budget by \$265,418. The department received \$449,091 in mutual aid reimbursements which was not added to the expenditure budget. Non-personnel savings of \$94,285 helped to reduce the total overage down to the final -\$1,330,323 figure.
- Non-Departmental (+8,601,968) was due to \$6,560,535 set aside for General Fund cost of living adjustments for Police, Fire, and Miscellaneous employees. These funds were budgeted in Non-Departmental but were not allocated out to departments for the salary increases that were approved early in FY 2019. An allocation of \$1,000,000 for the Service Employees International Union Fair Labor Standards Act overtime payment issue was approved as part of the First Amendment to the FY 2019 Annual Appropriations Ordinance. Only \$480,971 of this allocation was spent and left a balance of \$519,028. Funds were also budgeted and not spent for the following items:
 - Pedestrian Activated Crosswalk at Cedar/Rose Park (\$100,000)
 - Pedestrian Activated Crosswalk at Grant and University (\$100,000)
 - Rectangular Rapid Flashing Beacons at Eton and Claremont (\$50,000)

- Rectangular Rapid Flashing Beacons at Claremont and Russell (\$50,000)
- Hopkins Corridor Study (\$200,000)
- RFP to address gaps for marginalized youth in Berkeley (\$50,000)
- Funds for City Minimum Wage to Youth Works employees (\$86,924)
- Age Friendly Berkeley Study (\$20,000)

Significant All Funds Variances

- Information Technology (+\$11,619,126) was due to General Fund, FUND\$ Replacement Funds, and the IT Cost Allocation Fund not being fully spent in FY 2019. These funds will be carried over to FY 2020.
- Health, Housing & Community Services fund balance (+\$13,179,774) was primarily the result of funds allocated to projects and programs not fully expended by the end of the fiscal year which will be carried forward to FY20, new positions being filled after the start of the fiscal year and vacancies throughout the department. The transition from FUND\$ to ERMA resulted in planned FY19 purchases being postponed. Of the \$13 million, approximately \$3.5 million was accumulated in the Housing Trust Fund to be disbursed for various Housing Development projects at a later date, almost \$1.5 million were CDBG funds committed to programs that were not expended during the fiscal year and will be carried forward, over \$2 million in unspent Mental Health Service Act Funds budgeted for the renovation of the Mental Health Adult Clinic and the new MH Wellness Center. Almost \$1 million was added to the fund balance in Realignment to be used as an audit liability reserve as the state and federal funding agencies increase the audits. An additional \$800,000 was in the State Health Grant fund which includes 16 unique grants from the state to support our public health efforts and reflects various vacancies and cost shifts throughout those programs with an additional \$200,000 in cost reductions to match a reduction in revenue.
- Public Works (+\$32,069,507) were largely due to the following:
 - General Fund (+\$0.3 million): \$0.3 million in carryover for projects to be completed in FY 20.
 - Sewer Fund (+\$5.8 million): \$1.9 million in personnel savings due to vacancies, \$3.7 million in continuing and deferred sewer projects scheduled for completion in FY 2020.
 - State Transportation Tax (+\$3.1 million) \$0.8 million in salary savings and \$2.3 million in project funding for various street and storm drain program projects continued for completion in FY 2020.
 - Capital Improvement Fund (+\$4.9 million): \$0.6 million in salary savings and \$3.9 million in project fund carryover for transportation, street, facilities project funds to FY 2020 due to project timing, including ADA Transition Plan, Shattuck Reconfiguration, FY 19 Street Rehab and FY 19 Sidewalk Repair projects.
 - Measure BB (+1.7 million) \$0.3 million in salary savings and \$1.3 million in street improvement projects project budget to be carried over into FY 2020 for completion

- Measure M Fund (+\$0.2 million): \$0.2 million in Measure M funds carried over for one final green infrastructure project now scheduled for completion in FY 2020
 - Off Street Parking (+0.7 million) and Parking Meter (+0.9 million): A combined total of \$0.2 million in salary savings and \$0.7M Off Street Parking Fund savings due to project budget carryover to FY 2020 and \$0.9M Parking Meter Fund savings due to project budget carryover to FY2020.
 - UCLRP (+\$0.2 million) \$0.2 million of project carryover into FY 2020 for completion of various capital projects.
 - MTC (+\$0.2 million) \$0.2 million in project carryover for transportation projects.
 - T1 (+\$3.6 million) \$3.6 million in carryover for various T1 projects begun in FY 2019 with work continuing into FY 2020.
 - Streetlight Assessment (+\$0.6 million) \$0.4 million in salary savings, and \$0.1 million in capital project carryover/deferral for Shattuck Avenue Reconfiguration scheduled for completion in FY2020 and City Streetlight Replacement and Maintenance Program.
 - Building Maintenance (+\$0.2 million) \$0.2 million in salary savings due to vacancies.
 - Equipment Replacement (+\$2.9 million) \$2.9 million for replacement purchases initially scheduled for FY 2019 but to be completed in FY 2020.
 - Equipment Maintenance (+\$0.4): \$0.3 million in non-personnel savings, including parts, fuel and oil, and \$0.2 million in personnel savings due to vacancies.
- Parks Recreation and Waterfront (+\$12,970,300) due to personnel savings and unexpended project funds in the Playground Camp, Parks Tax Fund, Measure WW Parks Bond Grant Fund, Capital Improvement Fund, and Measure T1 Fund. Only certain unspent project funds will be carried over to FY 2020.
 - Planning (+\$4,122,081) due to unspent FEMA Funds for the Hazard Mitigation Grant Program not being fully spent in FY 2019. The FY 2019 budget was based on an estimate of seismic retrofit grants that we may be required to pay through the funding received from the FEMA grant. Actual grant funding requests were much lower than anticipated. However, Planning may make revisions this year for the FY 2020 FEMA budget if they get better estimates. The Permit Service Center Fund also had personnel and non-personnel savings of \$2,170,252 in FY 2019.
 - Library (+\$4,855,947) due to unexpected delays to the Central Library Improvement Project. The Central Library capital improvement project did not advance to construction as was expected. Budgeted savings were realized from design, engineering, and construction time lags; and personnel costs also contributed to significant savings as a result of staffing vacancies throughout the organization.

General Fund Revenue for 1st Quarter FY2020 and Comparison With 1st Quarter of FY2019

Revenue Categories	FY 2020				FY 2019				Comparison FY20 vs FY 19	
	Adopted	1st Qtr-Actual	Variance	% Received	Adopted	1st Qtr-Actual	Variance	% Received	Amount	%
	(a)	(b)	c=(a) - (b)	(d) = (b)/(a)	(e)	(f)	g=(e) - (f)	(h) = (f)/(g)	(i) = (b) - (f)	(j) = (i)/(f)
Secured Property	\$63,199,622	\$306,451	\$62,893,171	0.48%	\$57,966,998	\$365,288	\$57,601,710	0.63%	(58,837)	-16.11%
Redemptions- Regular	668,140	69,946	598,194	10.47%	668,140	72,176	595,964	10.80%	(2,230)	-3.09%
Supplemental Taxes	1,400,000	310,455	1,089,545	22.18%	1,400,000	275,075	1,124,925	19.65%	35,380	12.86%
Unsecured Property Taxes	2,500,000	2,650,502	(150,502)	106.02%	2,500,000	2,439,085	60,915	97.56%	211,417	8.67%
Property Transfer Tax	12,500,000	6,887,018	5,612,982	55.10%	12,500,000	5,722,325	6,777,675	45.78%	1,164,693	20.35%
Property Transfer Tax-Measure P (New December 21, 2018)	1,509,218	2,999,630	(1,490,412)	198.75%			-		2,999,630	
Sales Taxes	18,238,000	4,680,703	13,557,297	25.66%	18,140,977	4,352,090	13,788,887	23.99%	328,613	7.55%
Soda Taxes	1,459,057	383,166	1,075,891	26.26%	1,500,000	384,903	1,115,097	25.66%	(1,737)	-0.45%
Utility Users Taxes	15,000,000	3,250,324	11,749,676	21.67%	15,000,000	3,365,240	11,634,760	22.43%	(114,916)	-3.41%
Transient Occupancy Taxes	7,800,000	2,256,945	5,543,055	28.94%	7,800,000	2,223,554	5,576,446	28.51%	33,391	1.50%
Short-term Rentals	1,020,000	417,070	602,930	40.89%	840,000	485,528	354,472	131.05%	(68,458)	-14.10%
Business License Tax	19,584,000	222,263	19,361,737	1.13%	19,200,000	825,389	18,374,611	4.30%	(603,126)	-73.07%
Recreational Cannabis	510,000	481,424	28,576	94.40%	500,000	129,724	370,276	25.94%	351,700	271.11%
U1 Revenues	1,000,000	62,278	937,722	6.23%	1,000,000	23,328	976,672	2.33%	38,950	166.97%
Other Taxes	1,116,860	310,154	806,706	27.77%	1,049,800	216,562	833,238	20.63%	93,592	43.22%
Vehicle In-Lieu Taxes	13,333,826	-	13,333,826	0.00%	12,381,128		12,381,128	0.00%	-	0.00%
Parking Fines-Regular Collections	6,600,000	1,604,681	4,995,319	24.31%	5,818,123	1,602,343	4,215,780	27.54%	2,338	0.15%
Parking Fines-Booting Collections	200,000	47,378	152,622	23.69%	200,000	47,378	152,622	23.69%	-	0.00%
Moving Violations	190,000	59,426	130,574	31.28%	235,000	33,124	201,876	14.10%	26,302	79.40%
Ambulance Fees	4,200,000	1,350,509	2,849,491	32.15%	4,613,194	1,039,816	3,573,378	22.54%	310,693	29.88%
Interest Income	3,500,000	1,520,513	1,979,487	43.44%	2,500,000	858,556	1,641,444	34.34%	661,957	77.10%
Franchise Fees	2,068,928	216,794	1,852,134	10.48%	1,984,643	238,480	1,746,163	12.02%	(21,686)	-9.09%
Other Revenues	8,044,544	1,901,235	6,143,309	23.63%	7,620,152	2,193,174	5,426,978	28.78%	(291,939)	-13.31%
IDC Reimbursement	6,100,000	1,260,850	4,839,150	20.67%	6,100,000	1,522,489	4,577,511	24.87%	(261,639)	-17.18%
Transfers	5,266,688	1,149,075	4,117,613	21.82%	4,385,568	1,310,256	3,075,312	29.88%	(161,181)	-12.30%
Total Revenue:	\$197,008,883	\$34,398,790	\$162,610,093	17.46%	\$184,756,040	\$29,725,883	\$155,030,157	16.09%	\$4,672,907	15.72%

Note: This statement is presented on a budgetary basis.

During the first quarter of FY 2020, General Fund revenue increased from the first quarter of FY 2019 by \$4,672,907 or 15.72%, due primarily to the new Measure P Property Transfer Tax (+2,999,630), an increase in Property Transfer Taxes (+1,164,693), and an increase in Interest Income(+661,957).

The first quarter review focuses primarily on the major revenue fluctuation and changes that have occurred that might result in significant changes in future projections. Staff will present more refined revenue projections based on additional information during the mid-year update.

Secured Property Tax (-\$58,837 less than FY 2019 Actual)

During the first quarter of FY 2020, Secured Property Tax revenues totaled \$306,451, which was \$58,837 or 16.11% less than the \$365,288 received for FY 2019. This first quarter reflects a relatively small amount received from the previous year's levy that was unpaid during that fiscal year. The amount received is typical of what is historically received in the first quarter. Staff revenue projection reflected in the Adopted Budget assumes a 6.80%% growth for the year, consistent with the County's Certification of Assessed Valuation growth of 6.60%.

Property Transfer Tax (\$1,164,693 more than FY 2019 Actual)

During the first quarter of FY 2020, Property Transfer Tax totaled \$6,887,018, which was \$1,164,693 or 20.35% more than the \$5,722,325 received for the first quarter of FY 2019. The primary reason for the \$1,164,693 increase in Property Transfer Tax was the sale of a group of properties totaling \$87.5 million that resulted in Property Transfer Tax of \$1,312,500. Staff will closely monitor this revenue for a probable increase in the FY 2020 projection.

In addition, \$2,999,630 in Measure P taxes was collected during the first quarter of FY 2020 compared to zero collected during the first quarter of FY 2019, as the tax took effect December 21, 2018.

Sales Tax (\$328,613 more than FY 2019 Actual)

For the first quarter of FY 2020, Sales Tax revenue totaled \$4,680,703, which is \$328,613 or 7.55% more than the \$4,352,090 received for the first quarter of FY 2019. Staff will closely monitor this revenue for a probable increase in the FY 2020 projection.

Utility Users Taxes (- \$114,916 less than FY 2019 Actual)

Utility Users Taxes revenue for the first quarter of FY 2020 totaled \$3,250,324, which is \$114,916 or 3.41% less than the \$3,365,240 received for the same period in FY 2019. This is a continuation of the sharp decline in FY 2019 that reflected significant declines in cellular, gas/electric and cable charges. An analysis is being performed by staff to determine the reasons for the large, unexpected drop in the FY 2019 revenue from the \$15 million level that this revenue source has been at over the last several years. Staff will determine whether future projections need to be revised.

Transient Occupancy Tax (+\$33,391 more than FY 2019 Actual)

Transient Occupancy Tax (TOT) revenue for the first quarter of FY 2020 totaled \$2,256,945 which is \$33,391 or 1.50% more than the \$2,223,554 received for the first quarter of FY 2019. The increase in FY 2020 is attributable to flat growth at the five largest hotels in Berkeley during the quarter and a \$49,207 receipt during the quarter that was applicable to FY 2019.

Business License Taxes (-\$603,126 less than FY 2019 Actual)

Business license Taxes (BLT) revenue for the first quarter of FY 2020 totaled \$222,263 which is \$603,126 or 73.07% less than the \$825,389 received for the first quarter of FY 2019. The decrease in FY 2020 is primarily attributable to \$422,304 non-profit paid in the first quarter of FY 2019 versus zero paid in the first quarter of FY 2020.

Parking Fines (+2,338 more than FY 2019 Actual)

Parking Fines revenue for the first quarter of FY 2020 totaled \$1,604,681 which is \$2,338 or .15% more than the \$1,602,343 received for the first quarter of FY 2019, despite a decline in ticket writing from the first quarter of FY 2019. Staff will be researching and monitoring this revenue source closely.

Interest Income (+\$661,957 more than FY 2019 Actual)

For the first quarter of FY 2020, interest income totaled \$1,520,513 which is \$661,957 or 77.10% more than the total of \$858,556 received for the same period in FY 2018. This increase is primarily attributable to a rise in short-term and long-term interest rates. Staff will monitor this revenue source closely for an adjustment in the projection. The Federal Reserve reversed course on July 31, 2019 by cutting interest rates by 25 basis points. Also, on September 18, 2019 the Federal Reserve made another 25 basis point interest rate cut.

Indirect Cost Reimbursements (-\$261,639 less than FY 2019 Actual)

IDC Reimbursement for the first quarter of FY 2020 totaled \$1,260,850 which is \$261,639 or 17.18% less than the \$1,522,489 received for the same period in FY 2019. This is primarily attributable to an increase in the indirect cost rates charged in the first quarter of FY 2020 (24.26%) from the indirect cost rates charged in the first quarter of FY 2019 (19.6% to 20.44%). IDC Reimbursement increases result from increases in the indirect cost allocation base (i.e., total direct salaries and wages in the fund), an increase in the indirect cost rate or both.

Other Revenues (-\$291,939 less than FY 2019 Actual)

Other Revenues consists of licenses and permits; grants; preferential parking fees; general government charges for services; public safety charges for services; health charges for services;

culture and recreation charges for services; rents and royalties; and other miscellaneous revenues that are not considered major.

Other Revenues Income for the first quarter of FY 2020 totaled \$1,901,235 which is \$291,939 or 13.31% less than the \$2,193,174 received for the first quarter of FY 2019,

FY 2020 First Quarter Expenditures (7/1/19 – 9/30/19)

General Fund

Department	FY 2020 Adopted	FY 2020 Adjusted*	Year-To-Date		Percent Expended
			Actuals + Encumbrances	Balance	
Mayor & Council	2,398,876	2,572,196	448,696	2,123,500	17%
Auditor	2,625,103	2,642,278	445,867	2,196,411	17%
Rent Board	0	602,015	52,015	550,000	9%
City Manager	11,037,283	12,192,216	2,956,817	9,235,399	24%
City Attorney	2,516,581	2,621,658	428,621	2,193,037	16%
City Clerk	3,004,901	3,069,440	499,784	2,569,656	16%
Finance	6,797,353	8,349,912	2,496,390	5,853,522	30%
Human Resources	2,329,292	2,631,604	468,167	2,163,437	18%
Information Technology	213,210	1,670,395	1,317,014	353,380	79%
Health, Housing & Community Services	17,553,283	27,697,978	10,581,818	17,116,160	38%
Parks, Recreation and Waterfront	7,105,343	7,712,188	2,403,297	5,308,890	31%
Planning	2,426,051	2,774,115	601,099	2,173,016	22%
Public Works	4,404,030	4,917,425	1,375,983	3,541,443	28%
Police	70,622,557	71,110,036	14,041,819	57,068,217	20%
Fire	36,019,089	39,281,584	8,757,570	30,524,014	22%
Non-Departmental	27,860,897	16,544,178	5,341,570	11,202,608	32%
Total	196,913,849	206,389,218	52,216,527	154,172,691	25%

*FY 2020 Adjusted includes FY 2019 Encumbrance Rollover

All Funds (including General Fund)

Department	FY 2020 Adopted	FY 2020 Adjusted*	Year-To-Date		Percent Expended
			Actuals + Encumbrances	Balance	
Mayor & Council	2,398,876	2,572,196	448,696	2,123,500	17%
Auditor	2,714,111	2,731,286	471,902	2,259,384	17%
Rent Board	5,334,943	6,099,664	1,594,895	4,504,769	26%
City Manager	14,548,957	16,523,708	4,270,156	12,253,552	26%
Library	26,114,585	26,830,114	6,915,374	19,914,740	26%
City Attorney	4,594,533	4,778,463	1,603,886	3,174,577	34%
City Clerk	3,004,901	3,069,440	499,784	2,569,656	16%
Finance	8,766,934	10,391,782	2,902,799	7,488,983	28%
Human Resources	4,240,103	4,547,397	767,132	3,780,265	17%
Information Technology	19,404,413	22,498,136	5,097,417	17,400,719	23%
Health, Housing & Community Services	54,597,950	77,635,853	23,717,022	53,918,831	31%
Parks, Recreation and Waterfront	46,600,585	62,804,576	14,784,601	48,019,975	24%
Planning	24,506,913	26,009,740	4,984,460	21,025,280	19%
Public Works	133,015,850	185,759,006	81,411,215	104,347,791	44%
Police	74,979,834	75,683,603	15,432,614	60,250,989	20%
Fire	44,379,144	48,128,218	10,824,797	37,303,421	22%
Non-Departmental	56,654,177	45,336,683	15,137,475	30,199,208	33%
Total	525,856,809	621,399,865	190,864,224	430,535,641	31%

*FY 2020 Adjusted includes FY 2019 Encumbrance Rollover

FY 2020 First Quarter Expenditures Variance Analysis

First Quarter Assumptions

- Personnel year-to-date actuals are through 09/30/19 and represent 23.08% expended. All departments are tracking at or below 23.08% in personnel expenditures. General Fund personnel costs represent almost 74% of the total City's General Fund budget and are tracked on a monthly basis. As in prior years, Police overtime continues to be a concern and is being monitored by staff.

Generally, on an all funds basis, expenditures over 23.08% are related to non-personnel costs, such as encumbrances for contracts, supplies, and materials.

First Quarter Variances

General Fund

- Finance: Banking Services contracts and other professional services contracts were encumbered in the 1st Quarter.
- Information Technology: A significant portion of the General Fund budget is contracts for professional services contracts, computer maintenance, and software licenses that were encumbered in FY 2019 and rolled over to FY 2020
- Health, Housing & Community Services: First three months is when summer youth workers are hired. Community Agency contract funds were moved from Non-Departmental so that contracts purchase orders could be created.
- Public Works: Funds were encumbered for gas and electricity payments.
- Parks Recreation & Waterfront: 1st quarter was peak season for Recreation programs.
- Non-Departmental: Funds for the City's Outside Auditors, Legislative and Professional Services, Insurance were encumbered or paid in the first three months of FY 2020. Funds for FLSA payments to Fire and Police approved by Council in Closed Session were paid out.

All Funds

- City Attorney: Funds for outside counsel contracts were encumbered at the start of the fiscal year.
- Public Works: Funds were encumbered for capital improvement projects early in the fiscal year.
- Non-Departmental: Debt service payments were made in August.



Office of the City Manager

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ACTION CALENDAR

December 3, 2019

(Continued from November 19, 2019)

To: Honorable Mayor and Members of the City Council

From: Dee Williams-Ridley, City Manager

Submitted by: Teresa Berkeley-Simmons, Budget Manager

Subject: Amendment: FY 2020 Annual Appropriations Ordinance

RECOMMENDATION

Adopt first reading of an Ordinance amending the FY 2020 Annual Appropriations Ordinance No. 7,669–N.S. for fiscal year 2020 based upon recommended re-appropriation of committed FY 2019 funding and other adjustments authorized since July 1, 2019, in the amount of \$136,730,924 (gross) and \$130,267,144 (net).

FISCAL IMPACTS OF RECOMMENDATION

On June 26, 2019 the City Council adopted the FY 2020 Budget, authorizing gross appropriations of \$525,856,809 and net appropriations of \$460,146,093 (net of dual appropriations).

This first amendment to the Annual Appropriations Ordinance totals \$136,730,924 (gross) and \$130,267,144 (net), increasing the gross appropriations to \$662,587,733 and net appropriations to \$590,413,237 and represents the re-authorization of funding previously committed in FY 2019 and some new expenditures including new grant fund appropriations. The recommendations in this report also include funding for a number of capital projects. Funding is recommended for the following:

1. Encumbered contract obligations from FY 2019 totaling \$64,586,258;
2. Re-appropriating committed, unencumbered FY 2019 funding for all funds in the amount of \$36,555,859; and
3. Changes to fund appropriations primarily due to receipt of new grants and use of available fund balances adjustments in the amount of \$35,588,807.

The changes to the General Fund total \$22,239,232 which includes encumbrances of \$5,512,512, unencumbered carry-over requests of \$4,177,247, and adjustments of \$12,549,473. The Capital Improvement Fund increases by \$14,074,233 and includes encumbrances of \$4,491,447, unencumbered carry-over requests of \$4,335,261, and adjustments of \$5,247,525.

BACKGROUND

The Annual Appropriations Ordinance (AAO) establishes the expenditure limits by fund for FY 2020. Throughout the year, the City takes actions that amend the adopted budget. These may include, but are not limited to, the acceptance of new grants, revisions to existing grants, adjustments to adopted expenditure authority due to emergency needs, and transfers in accordance with Council's fiscal policies.

The adopted budget is also amended annually to reflect the re-appropriation of prior year funds for contractual commitments (i.e. encumbrances) as well as unencumbered carryover of unexpended funds previously authorized for one-time, non-recurring purposes. These budget modifications are periodically presented to the Council in the form of an Ordinance amending the Annual Appropriations Ordinance, which formally requires a two-thirds vote of the City Council. This report addresses re-appropriating FY 2019 spending authority to FY 2020 of available cash for commitments entered into in prior years and is the first amendment to the FY 2020 AAO.

When Council adopts an appropriations ordinance (budget), it is based on projected revenues and expenditures. If fund balances do not support the requested level of expenditures, no carryover is recommended.

The proposed changes, presented in their entirety in Exhibit A, are summarized as follows:

	Encumbered Recommended	Unencumbered Recommended	Other Adjustments	Total
General Fund (011)	\$ 5,512,512	\$ 4,177,247	\$ 12,549,473	\$ 22,239,232
Capital Improvement Fund (501)	\$ 4,491,447	\$ 4,335,261	\$ 5,247,525	\$ 14,074,233
All Other Funds	\$ 54,582,299	\$ 28,043,351	\$ 17,791,809	\$ 100,417,459
Total	\$ 64,586,258	\$ 36,555,859	\$ 35,588,807	\$ 136,730,924

Carryover Process

Departments were asked to submit information regarding the reasons for the unencumbered carryover requests to assist staff in determining which funds should be carried into FY 2019. In prior years, funds have been approved for carryover from one year to the next based on funding availability.

This report recommends approximately \$37 million in unencumbered carryover for Council review and approval, representing funding for priority projects and programs.

Types of Carryover

FY 2019 Encumbrance Rollovers, totaling \$64,586,258 reflect contractual obligations entered into in fiscal year 2019 which had not been paid as of June 30, 2019. Funding for these "encumbered" commitments is brought forward into the current fiscal year to provide for payment of these obligations. Funding the encumbered rollovers for the General Fund represents around 9% of the total recommended encumbered rollovers.

The FY 2020 Adjusted Budget currently includes the carry forward of FY 2019 encumbrances, since the City is obligated to pay for these commitments.

FY 2019 Unencumbered Carryover, totals \$64,586,258 and reflects the carryover of funding appropriated by the City Council for specific purposes that had not been encumbered by year-end. The carryover for the General Fund represents around 11% of the total recommended unencumbered carryover amount and is for priority projects. Capital Improvement Funds carryovers are for continuing projects and makes up 13% of the unencumbered carryover. The remaining 76% represents carryover items in non-discretionary funds.

FY 2020 Other Adjustments total \$35,181,855 and reflect actions taken by the City Council with the adoption of the FY 2020 budget as well as adjustments required or approved since the budget adoption. Many of these adjustments are within non-discretionary funds and reflect the appropriation of grant funding and the use of available fund balance.

Below is a summary of the FY 2019 Unencumbered Carryover and the FY 2020 Adjustments for the City's General Fund and Other Funds.

General Fund

The General Fund includes unencumbered carry-over requests of \$4,177,247 and other adjustments of \$12,549,473 including the following program allocations:

Carryover

- \$258,977 in the City Clerk's Office including \$159,977 for the costs related to upcoming Special California Primary Election in March 2020
- \$244,185 in the City Manager's Office with \$30,000 for the Neighborhood Services Program, \$81,185 for the Code Enforcement Program, \$35,000 set aside to develop a financial model for labor negotiations and \$75,000 for a survey of registered voters for potential 2020 ballot initiatives
- \$195,000 in Finance for new revenue-generating collection and audit management software to enhance our Short-Term Rental, business license, and Measure U1 programs (\$150,000) and Customer Service Counter renovations (\$45,000)
- \$539,426 in Health, Housing & Community Services carryover items including \$200,000 for the Aquatic Park Water Quality Investigation
- \$127,442 in the Human Resources Department for classification and compensation studies for upcoming labor negotiations
- \$1,199,801 in Information Technology for a number of critical projects including \$469,700 for the Website Redesign Project. Some of these project funds will be budgeted in Non-Departmental and transferred to the Information Technology Cost Allocation Fund and appropriated out of that fund for the projects.
- \$173,595 in Parks, Recreation & Waterfront for fire fuel management, landscaping work for 6 blocks of the Santa Fe Right of Way, portable toilets and

handwashing stations, the ADA Transition Plan, and a fence at the Dwight Triangle area/median to replace the one that was recently destroyed

- \$620,747 in Planning for Council approved projects
- \$394,845 in Public Works for Fire Safety (\$200,000), Cameras at San Pablo Park (\$34,845), and the Underground Utility District #48 (\$160,000)

Other Adjustments

- \$1,244,196 in Excess Equity allocations approved by Council with the FY 2020 & FY 2021 Budget Adoption on June 25, 2019
- \$1,414,225 in the Fire Department for the following items:
 - \$1,008,274 for the ambulance response and fire inspection billing contract with Wittman Enterprises LLC approved by Council
 - \$185,000 for Ground Emergency Medical Transport Quality Assurance Fee to the State of California Department of Health Services for emergency medical transport services
 - \$39,714 for 3 additional gurneys from Stryker and equipping all seven ambulances with powered cot fastener systems
 - \$181,237 to purchase and outfit two trucks for fire stations and purchase a Prius for the Fire Prevention Division
- \$368,000 in Measure U1 Funds for Resources for Community Development's proposed development of 2001 Ashby Avenue
- \$1,750,000 in Measure U1 Funds for the following projects:
 - \$500,000 for Satellite Affordable Housing Associates' new construction development at 2527 San Pablo Avenue
 - \$1,200,000 for Resources for Community Development's new construction development at 2001 Ashby Avenue
 - \$50,000 for Northern California Land Trust's renovation of 2321-2323 10th Street
- \$167,212 in Measure U1 Funds for a Community Development Project Coordinator position in Health, Housing & Community Services to manage Measure O activities. Measure O bond proceeds cannot be used for staff cost. Therefore, an alternative funding source is needed to fund this position.
- \$450,000 in Human Resources for outside negotiators to assist with upcoming labor negotiations
- \$1,277,469 in Information Technology for the following items:
 - \$550,000 for the Redundant Cooling System for the Public Safety Data Center
 - \$270,000 for the FY 2019 & FY 2020 Rent Board contributions to the Information Technology Cost Allocation Fund
 - \$350,000 for the Police Department New World CAD Licenses
 - \$6,500 for the Fire Department Records Management Software
 - \$100.969 for facilities maintenance fees for the 4th floor space at 2180 Milvia Street that were not budgeted for in FY 2020.
- \$605,000 in Federal Labor Standards Act overtime payments to Fire and Police

- ❑ \$1,200,000 transfer to the Public Liability Fund to pay for increased costs for outside counsel, court costs, and claims and judgement payments approved by Council
- ❑ \$406,925 transfer of FY 2019 Excess Property Transfer Tax Revenue to Capital Improvement Fund and then transferred to Workers' Compensation Fund to repay loan to purchase Premier Cru (University Center)
- ❑ \$946,163 transfer of Measure U1 Revenues to Workers' Compensation Fund to repay loan to purchase Premier Cru (University Center)
- ❑ \$1,899,000 transfer to the FUNDS\$ Replacement Fund above the original \$15.1 million approved by Council. These funds are being used for the following items:
 - \$649,000 for the current FUNDS\$ Application Software Support that ends in December 2020
 - \$30,000 for Additional Staffing Help in City Auditors Office
 - \$34,000 for Additional Server Environment for 2019 upgrade
 - \$180,000 for a New Employee Expense Reimbursement Module
 - \$616,000 for Additional Project Management/Implementation Services
 - \$100,000 for Additional Consulting for HR Payroll
 - \$290,000 for Data Integrations/Data Conversion

There will be additional expenses in FY 2021 thru FY 2023 which will be brought back to Council as the Phase 2 Projects go through implementation

- ❑ \$350,000 in Public Works for the purchase of a sweeper for the Clean Cities Program

Other Funds

Other City funds (including capital improvement project funds) total unencumbered carryover of \$32,785,564 and other adjustments of \$22,632,382 including the following project allocations:

Carryover

- ❑ \$4,045,237 in Affordable Housing Mitigation Fee funds for Housing Trust Fund projects
- ❑ \$525,872 in Inclusionary Housing Program funds for Housing Trust Fund projects
- ❑ \$997,980 in Condo Conversion Program funds for Housing Trust Fund projects
- ❑ \$1,685,000 in Playground Camp funds for construction management at Berkeley Tuolumne Camp (\$1,655,000) and for Echo Lake bus costs (\$30,000)
- ❑ \$621,169 in State Transportation Tax Funds for Public Works street projects
- ❑ \$1,471,318 in Parks Tax funds for various Parks, Recreation & Waterfront Department capital projects currently under way
- ❑ \$362,595 in Mental Health State Aid Realignment funds for the 2640 Martin Luther King Jr. Way Adult Mental Health Clinic renovation project
- ❑ \$1,051,751 in Housing Mitigation funds for Housing Trust Fund projects

- ❑ \$310,930 in One Time Grant: No Capital Expenditure funds for the Berkeley Electric Vehicle Charging Project and the restoration of Codornices Creek at Kains
- ❑ \$1,447,829 in Measure WW funds for approved park projects
- ❑ \$4,335,261 in Capital Improvement Projects funding for Information Technology, Parks, Recreation & Waterfront, and Public Works projects
- ❑ \$7,492,060 in FUND\$ Replacement Funds for the FUND\$ Replacement Project
- ❑ \$3,655,311 in Measure T1 Funds for Parks, Recreation & Waterfront Department and Public Works Department project currently under way
- ❑ \$432,490 in Marina Funds for capital projects
- ❑ \$629,523 in Sewer Funds for projects at Portland Avenue, Santa Fe, Kains, and other locations
- ❑ \$554,340 in Off Street Parking Funds for the completion of the Center Street Garage project
- ❑ \$1,547,193 in the Information Technology Cost Allocation Fund for Digital Strategic Plan projects in FY 2020

Other Adjustments

- ❑ \$768,568 in Playground Camps Fund for the Berkeley Tuolumne Camp permit fees, tree removal, and cabin repairs
- ❑ \$353,505 in Rental Housing Safety Program funds for two inspector positions as part of the Rental Housing Safety Program expansion
- ❑ \$482,394 in Measure B – Local Streets & Road Funds for the Best Plan Update & Vision Zero Action Plan
- ❑ \$621,000 in Parks Tax Funds for the Cesar Chavez Solar Calendar Maintenance, ADA Transition Plan, and the Live Oak Park Seismic Upgrade project
- ❑ \$200,000 in Office of Traffic Safety grant funds to fund strategies to reduce
- ❑ \$1,831,875 in Mental Health Services Act funds for contracts, positions, and other program expenses
- ❑ \$3,365,174 in One-Time Grant: No Capital Expenditures funds for the Homeless Emergency Aid Program Grant (\$2,816,827), No Place Like Home Grant (\$75,000), Kaiser Permanente Grant (\$150,000), Homeless Mentally Ill and Treatment – Mental Health Adult Triage Grant (\$265,347), the Center at Sierra Health Foundation Grant (\$50,000), Water Emergency Transportation Authority Grant (\$250,000), San Francisco Foundation Grant (\$7,000), CARE California Carpet Stewardship Program (\$7,000), and the B.U.R.P.'s ERA Construction (\$25,000)
- ❑ \$5,247,525 in Capital Improvement Funds for Special Fund Allocations and Excess Property Transfer Tax Allocations approved by Council with the Adoption of the FY 2020 & FY 2021 Budget on June 25, 2019. Also included is an \$800,000 appropriation for the traffic signal at 1951 Shattuck Avenue and a \$406,952 transfer of Excess Property Transfer Tax Revenue from General Fund then transferred to Workers' Compensation Fund to repay loan to purchase Premier Cru (University Center)

- ❑ \$1,899,000 appropriation of FUNDS Replacement Funds for the items described in the General Fund Section above
- ❑ \$440,748 in Measure M Funds for the Cratus Incorporated contract
- ❑ \$1,587,247 in Measure T1 – Infrastructure & Facilities Funds for project currently underway
- ❑ \$272,549 in Sewer Funds for Special Fund Allocations approved by Council with the Adoption of the FY 2020 & FY 2021 Budget on June 25, 2019.
- ❑ \$552,804 in Clean Storm Water Funds for Special Fund Allocations approved by Council with the Adoption of the FY 2020 & FY 2021 Budget on June 25, 2019.
- ❑ \$969,680 in Permit Service Center Funds for an Accela contract amendment and Special Fund Allocations approved by Council with the Adoption of the FY 2020 & FY 2021 Budget on June 25, 2019.
- ❑ \$1,200,000 in Public Liability Funds for the funds transferred in from the General Fund for increased costs for outside counsel, court costs, and claims and judgement payments approved by Council
- ❑ \$1,233,827 in Information Technology Cost Allocation Funds transferred in from the General Fund and Capital Improvement Fund for projects such as the Data Center Upgrade and Replacement of the Backup System.

This report has been discussed with the Budget & Finance Policy Committee at their November 14, 2019 meeting.

Any changes made by the Council as part of the adoption of the FY 2019 Year-End/FY 2020 1st Quarter Report will need to be incorporated into the numbers presented in this report to reflect these additional appropriations.

ENVIRONMENTAL SUSTAINABILITY

There are no identifiable environmental effects or opportunities associated with the act of adopting the budget/appropriations ordinance/amendments. Actions included in the budget will be developed and implemented in a manner that is consistent with the City's environmental sustainability goals and requirements.

RATIONALE FOR RECOMMENDATION

The recommendation allows the City to amend the FY 2020 Adopted Budget, re-appropriating funds from FY 2019 to FY 2020 for contractual commitments that need to be paid and revising the budget to reflect approved carryover requests in both discretionary and non-discretionary funds.

The recommendations in this report deal with the unencumbered carryover in the funds listed above and the other adjustments in all funds. Staff has conducted a detailed analysis of the individual carryover requests submitted by departments and is presenting carryover recommendations for projects that are either currently under contract, represent council priorities, and/or are considered critical.

CONTACT PERSON

Teresa Berkeley-Simmons, Budget Manager, City Manager's Office, 981-7000

Rama Murty, Senior Management Analyst, City Manager's Office, 981-7000

Attachments:

1: Ordinance

Exhibit A: Annual Appropriation Ordinance Summary of Appropriations by Fund

2: FY 2019 Carryover Recommendations and FY 2020 Adjustments

ORDINANCE NO. -N.S.

AMENDING THE ANNUAL APPROPRIATIONS ORDINANCE NO. 7,669–N.S. FOR FISCAL YEAR 2020

BE IT ORDAINED by the Council of the City of Berkeley as follows:

Section 1. That the Annual Appropriations Ordinance based on the budget for FY 2020 submitted by the City Manager and passed by the City Council be amended as follows and as summarized in Exhibit A:

A. General Fund (Funds 001-099)	219,153,081
B. Special Funds (Funds 100-199)	117,087,692
C. Grant Funds (Funds 300-399)	46,751,427
D. Capital Projects Funds (Funds 500-550)	68,435,643
E. Debt Service Fund (Funds 551-599)	10,533,979
F. Enterprise Funds (Funds 600-669)	144,115,620
G. Internal Service Funds (Funds 146, 670-699)	46,116,952
H. Successor Agency (Funds 760-769)	56,960
I. Agency Funds (Funds 771-799)	4,838,731
J. Other Funds (Funds 800-899)	5,497,649
<u>K. Total</u>	
Total General Fund	219,153,081
Add: Total Other Than General Fund	443,434,653
Gross Revenue Appropriated	662,587,733
Less: Dual Appropriations	-26,171,544
Less: Revolving/Internal Service Funds	-46,002,952
Net Revenue Appropriated	590,413,237

Section 2. The City Manager is hereby permitted, without further authority from the City Council, to make the following transfers by giving written notice to the Director of Finance:

- a. From the General Fund to the General Fund – Stability Reserve Fund; Catastrophic Reserve Fund; Health State Aid Realignment; Paramedic Tax Fund; Capital Improvement Fund; Phone System Replacement; Equipment Replacement Fund; Public Liability Fund; Catastrophic Loss Fund; Police

Employee Retiree Health Assistance Plan; Safety Members Pension Fund; and Sick Leave Entitlement Fund.

- b. To the General Fund from the Community Development Block Grant Fund; Street Lighting Assessment District Fund; Zero Waste Fund; Marina Operations and Maintenance Fund; Sanitary Sewer Operation Fund; Clean Storm Water Fund; Permit Service Center Fund; Parking Meter Fund; Unified Program (CUPA); and Health State Aid Realignment Fund.
- c. To the First Source Fund from the Parks Tax Fund; Capital Improvement Fund; and the Marina Fund.
- d. From UC Settlement Fund to General Fund and Clean Storm Water Fund.
- e. From Capital Improvement Fund to PERS Savings Fund; Berkeley Repertory Theater Fund; and 2010 COP (Animal Shelter) Fund.
- f. To the Public Art Fund from the Parks Tax Fund; Capital Improvement Fund; and the Marina Fund.
- g. To CFD#1 District Fire Protection Bond (Measure Q) from Special Tax Bonds CFD#1 ML-ROOS.
- h. To Private Sewer Lateral Fund from Sanitary Sewer Operation Fund.
- i. To Catastrophic Loss Fund from Permit Service Center Fund.
- j. To Catastrophic Loss Fund from Unified Program (CUPA) Fund.
- k. To the Building Purchases and Management Fund from General Fund; Health (General) Fund; Rental Housing Safety Program Fund; Measure B Local Streets & Road Fund; Employee Training Fund; Zero Waste Fund; Sanitary Sewer Operation Fund; Clean Storm Water Fund; Permit Service Center Fund; Off Street Parking Fund; Parking Meter Fund; Unified Program (CUPA) Fund; Building Purchases & Management Fund; Building Maintenance Fund; Central Services Fund; and Health State Aide Realignment Trust Fund.
- l. To Equipment Replacement Fund from General Fund; Mental Health Services Act Fund; Health (Short/Doyle) Fund; Vector Control Fund; Paramedic Tax Fund; Playground Camp Fund; State Transportation Tax Fund; Rental Housing Safety Program Fund; Parks Tax Fund; Street Light Assessment District Fund; Zero Waste Fund; Marina Operations/Maintenance Fund; Sanitary Sewer Operation Fund; Clean Storm Water Fund; Permit Service Center Fund; Parking Meter Fund; Equipment Maintenance Fund; Building Maintenance Fund; and Central Services Fund.
- m. To the Equipment Maintenance Fund from General Fund; Health (General) Fund; Mental Health Services Act Fund; Health (Short/Doyle) Fund; Vector Control Fund; Paramedic Tax Fund; Library - Discretionary Fund; Playground Camp Fund; State

Transportation Tax Fund; Rental Housing Safety Program Fund; Rent Stabilization Board Fund; Parks Tax Fund; Street Light Assessment District Fund; FEMA Fund; Zero Waste Fund; Marina Operations/Maintenance Fund; Sanitary Sewer Operation Fund; Clean Storm Water Fund; Permit Service Center Fund; Off Street Parking Fund; Parking Meter Fund; Equipment Maintenance Fund; Building Maintenance Fund; and Central Services Fund.

- n. To the Building Maintenance Fund from the General Fund; Health (General) Fund; Health (Short/Doyle) Fund; Measure B Local Street & Road Fund; Parks Tax Fund; Street Light Assessment District Fund; Zero Waste Fund; Sanitary Sewer Operation Fund; Clean Storm Water Fund; Off Street Parking Fund; Parking Meter Fund; Equipment Maintenance Fund; Building Maintenance Fund; and Mental Health State Aid Realignment Fund.
- o. To the Central Services Fund from the General Fund; First Source Fund; Health (Short/Doyle) Fund; Library-Discretionary Fund; Playground Camp Fund; Rent Stabilization Board Fund; Zero Waste Fund; Marina Operations/Maintenance Fund; Sanitary Sewer Operation; Building Purchases & Management Fund; Building Maintenance Fund; Central Services Fund; and Mental Health State Aid Realignment Fund.
- p. To Information Technology Cost Allocation Plan Fund from General Fund; Target Case Management/Linkages Fund; Health (Short/Doyle); Library Fund; Playground Camp Fund; State Transportation Tax Fund; CDBG Fund; Rental Housing Safety Program; Rent Stabilization Board Fund; Parks Tax Fund; Street Light Assessment District Fund; Zero Waste Fund; Marina Operations/Maintenance Fund; Sanitary Sewer Operation; Clean Storm Water Fund; Permit Service Center Fund; Off Street Parking Fund; Parking Meter Fund; Unified Program (CUPA) Fund; Equipment Maintenance Fund; Building Maintenance Fund; Information Technology Cost Allocation Plan Fund; Health State Aid Realignment Trust Fund; and Mental Health State Aid Realignment Fund.
- q. To the Workers' Compensation Self-Insurance Fund from General Fund; Special Tax for Severely Disabled Measure E Fund; First Source Fund; HUD Fund; ESGP Fund; Health (General) Fund; Target Case Management/Linkages Fund; Mental Health Service Act Fund; Health (Short/Doyle) Fund; EPSDT Expansion Proposal Fund; Senior Nutrition (Title III) Fund; C.F.P. Title X Fund; Fund Raising Activities Fund; Berkeley Unified School District Grant; Vector Control Fund; Paramedic Tax Fund; Alameda County Grants Fund; Senior Supportive Social Services Fund; Family Care Support Program Fund; Domestic Violence Prevention – Vital Statistics Fund; Affordable Housing Mitigation; Inclusionary Housing Program; Library – Discretionary Fund; Playground Camp Fund; Community Action Program Fund; State Proposition 172 Public Safety Fund; State Transportation Tax Fund; CDBG Fund; Rental Housing Safety Program; Measure B Local State & Road Fund; Measure B Bike & Pedestrian Fund; Measure B – Paratransit Fund; Measure F Alameda County Vehicle Registration Fee Streets & Roads Fund; Measure BB – Paratransit Fund; One-Time Grant: No Cap Expense Fund; Rent Stabilization Board Fund; Parks Tax Fund; Measure GG – Fire Prep Tax Fund; Street Lighting

Assessment District Fund; Employee Training Fund; Private Percent – Art Fund; Measure T1 – Infrastructure & Facilities Fund; FUND\$ Replacement Fund; Capital Improvement Fund; FEMA Fund; CFD #1 District Fire Protect Bond Fund; Special Tax Bonds CFD#1 ML-ROOS Fund; Shelter+Care HUD Fund; Shelter+Care County Fund; Zero Waste Fund; Marina Operations/Maintenance Fund; Sanitary Sewer Operation Fund; Clean Storm Water Fund; Private Sewer Lateral Fund; Permit Service Center Fund; Off-Street Parking Fund; Parking Meter Fund; Unified Program (CUPA) Fund; Building Purchases & Management Fund; Equipment Replacement Fund; Equipment Maintenance Fund; Building Maintenance Fund; Central Services Fund; Workers' Compensation Fund; Public Liability Fund; Information Technology Cost Allocation Plan Fund; Health State Aid Realignment Trust Fund; Tobacco Control Trust Fund; Mental Health State Aid Realignment Fund; Alameda Abandoned Vehicle Abatement Authority; and Bio-Terrorism Grant Fund.

- r. To the Sick Leave and Vacation Leave Accrual Fund from General Fund; Special Tax for Severely Disabled Measure E Fund; First Source Fund; HUD Fund; ESGP Fund; Health (General) Fund; Target Case Management/Linkages Fund; Mental Health Service Act Fund; Health (Short/Doyle) Fund; EPSDT Expansion Proposal Fund; Senior Nutrition (Title III) Fund; C.F.P. Title X Fund; Fund Raising Activities Fund; Berkeley Unified School District Grant; Vector Control Fund; Paramedic Tax Fund; Alameda County Grants Fund; Senior Supportive Social Services Fund; Family Care Support Program Fund; Domestic Violence Prevention – Vital Statistics Fund; Affordable Housing Mitigation; Inclusionary Housing Program; Library – Discretionary Fund; Playground Camp Fund; Community Action Program Fund; State Proposition 172 Public Safety Fund; State Transportation Tax Fund; CDBG Fund; Rental Housing Safety Program; Measure B Local State & Road Fund; Measure B Bike & Pedestrian Fund; Measure B – Paratransit Fund; Measure F Alameda County Vehicle Registration Fee Streets & Roads Fund; Measure BB – Paratransit Fund; One-Time Grant: No Cap Expense Fund; Rent Stabilization Board Fund; Parks Tax Fund; Measure GG – Fire Prep Tax Fund; Street Lighting Assessment District Fund; Employee Training Fund; Private Percent – Art Fund; Measure T1 – Infrastructure & Facilities Fund; FUND\$ Replacement Fund; Capital Improvement Fund; FEMA Fund; CFD #1 District Fire Protect Bond Fund; Special Tax Bonds CFD#1 ML-ROOS Fund; Shelter+Care HUD Fund; Shelter+Care County Fund; Zero Waste Fund; Marina Operations/Maintenance Fund; Sanitary Sewer Operation Fund; Clean Storm Water Fund; Private Sewer Lateral Fund; Permit Service Center Fund; Off-Street Parking Fund; Parking Meter Fund; Unified Program (CUPA) Fund; Building Purchases & Management Fund; Equipment Replacement Fund; Equipment Maintenance Fund; Building Maintenance Fund; Central Services Fund; Workers' Compensation Fund; Public Liability Fund; Information Technology Cost Allocation Plan Fund; Health State Aid Realignment Trust Fund; Tobacco Control Trust Fund; Mental Health State Aid Realignment Fund; Alameda Abandoned Vehicle Abatement Authority; and Bio-Terrorism Grant Fund.
- s. To the Payroll Deduction Trust Fund from General Fund; Special Tax for Severely Disabled Measure E Fund; First Source Fund; HUD Fund; ESGP Fund; Health (General) Fund; Target Case Management/Linkages Fund; Mental Health Service

Act Fund; Health (Short/Doyle) Fund; EPSDT Expansion Proposal Fund; Senior Nutrition (Title III) Fund; C.F.P. Title X Fund; Fund Raising Activities Fund; Berkeley Unified School District Grant; Vector Control Fund; Paramedic Tax Fund; Alameda County Grants Fund; Senior Supportive Social Services Fund; Family Care Support Program Fund; Domestic Violence Prevention – Vital Statistics Fund; Affordable Housing Mitigation; Inclusionary Housing Program; Library – Discretionary Fund; Playground Camp Fund; Community Action Program Fund; State Proposition 172 Public Safety Fund; State Transportation Tax Fund; CDBG Fund; Rental Housing Safety Program; Measure B Local State & Road Fund; Measure B Bike & Pedestrian Fund; Measure B – Paratransit Fund; Measure F Alameda County Vehicle Registration Fee Streets & Roads Fund; Measure BB – Paratransit Fund; One-Time Grant: No Cap Expense Fund; Rent Stabilization Board Fund; Parks Tax Fund; Measure GG – Fire Prep Tax Fund; Street Lighting Assessment District Fund; Employee Training Fund; Private Percent – Art Fund; Measure T1 – Infrastructure & Facilities Fund; FUND\$ Replacement Fund; Capital Improvement Fund; FEMA Fund; CFD #1 District Fire Protect Bond Fund; Special Tax Bonds CFD#1 ML-ROOS Fund; Shelter+Care HUD Fund; Shelter+Care County Fund; Zero Waste Fund; Marina Operations/Maintenance Fund; Sanitary Sewer Operation Fund; Clean Storm Water Fund; Private Sewer Lateral Fund; Permit Service Center Fund; Off-Street Parking Fund; Parking Meter Fund; Unified Program (CUPA) Fund; Building Purchases & Management Fund; Equipment Replacement Fund; Equipment Maintenance Fund; Building Maintenance Fund; Central Services Fund; Workers’ Compensation Fund; Public Liability Fund; Information Technology Cost Allocation Plan Fund; Health State Aid Realignment Trust Fund; Tobacco Control Trust Fund; Mental Health State Aid Realignment Fund; Alameda Abandoned Vehicle Abatement Authority; and Bio-Terrorism Grant Fund.

Section 3. Copies of this Ordinance shall be posted for two days prior to adoption in the display case located near the walkway in front of Council Chambers, 2134 Martin Luther King Jr. Way. Within 15 days of adoption, copies of this Ordinance shall be filed at each branch of the Berkeley Public Library and the title shall be published in a newspaper of general circulation.

Attachment for Annual Appropriations Ordinance - Fiscal Year 2020**REVOLVING FUNDS/INTERNAL SERVICE FUNDS**

Appropriations are identified with revolving and internal service funds. Such funds derive revenue by virtue of payment from other fund sources as benefits are received by such funds, and the total is reflected in the "Less Revolving Funds and Internal Service Funds" in item I. The funds are:

Revolving/Internal Service Funds

Employee Training Fund	856,852
Equipment Replacement Fund	5,977,948
Equipment Maintenance Fund	8,194,536
Building Maintenance Fund	4,674,225
Central Services Fund	396,985
Workers' Compensation Fund	6,534,674
Public Liability Fund	3,274,495
Information Technology Fund	16,093,237
Subtotal Revolving/Internal Service Funds	\$ 46,002,952

DUAL APPROPRIATIONS - WORKING BUDGET

Dual appropriations are identified with revenues generated by one fund and transferred to another fund. Both funds are credited with the applicable revenue, and the total is reflected in the "Less Dual Appropriations" in item I. The dual appropriations are:

Transfers to the General Fund

<u>Indirect Cost Reimbursement</u>	
CDBG Fund	154,260
Street Light Assessment District Fund	112,971
Zero Waste Fund	2,195,402
Marina Enterprise Fund	438,683
Sanitary Sewer Fund	1,043,589
Clean Storm Water Fund	214,695
Permit Service Center Fund	1,734,781
Unified Program (CUPA) Fund	90,763
Subtotal Transfers to General Fund:	\$ 5,985,144

Transfer to Safety Members Pension Fund from General Fund	551,804
Transfer to Health State Aid Realignment from General Fund	1,953,018
Transfer to Paramedic Tax Fund from General Fund	612,696
Transfer to Capital Improvement Fund (CIP) from General Fund	4,950,905
Transfer to Phone System Replacement - VOIP from General Fund	163,000
Transfer to Equipment Replacement Fund from General Fund	1,336,699
Transfer to Public Liability Fund from General Fund	1,695,888
Transfer to Catastrophic Loss Fund from General Fund	1,351,564
Transfer to Police Employee Retiree Health Assistance Plan from General Fund	400,136
Transfer to Sick Leave Entitlement Fund from General Fund	201,501
Transfer to General Fund from UC Settlement Fund	881,120
Transfer to Clean Storm Water Fund from UC Settlement Fund	293,708
Transfer to General Fund from Health State Aid Realignment Fund	2,643,280
Transfer from CIP Fund to PERS Savings Fund	151,632
Transfer to Berkeley Repertory Theater Debt Service Fund from CIP Fund	499,802
Transfer from CIP Fund to 2010 COP (Animal Shelter) Fund	402,613
Transfer to Private Sewer Lateral Fund from Sewer Fund	90,501
Transfer to Catastrophic Loss Fund from Permit Service Center Fund	50,555
Transfer to Catastrophic Loss Fund from Unified Program (CUPA) Fund	5,082
Transfer to General Fund from Parking Meter Fund	1,742,288
Transfer from Special Tax Bonds CFD#1 ML-ROOS to CFD#1 District Fire Protect Bond (Measure Q)	100,000
Transfer to First Source Fund from Parks Tax Fund	11,625
Transfer to First Source Fund from Capital Improvement Fund	29,943
Transfer to First Source Fund from Marina Fund	1,875
Transfer to Public Art Fund from Parks Tax Fund	17,437
Transfer to Public Art Fund from Capital Improvement Fund	44,915
Transfer to Public Art Fund from Marina Fund	2,813
Subtotal Transfers to Other Funds:	<u>20,186,400</u>
Sub-Total Dual Appropriations	<u>\$ 26,171,544</u>
Grand Total Dual Appropriations	\$ 72,174,496

SUMMARY OF APPROPRIATIONS BY FUND

ERMA Fund #	Fund	FY 2020 Adopted	1st AAO			FY 2020 Revised #1	
			Encumbered Rollovers	Unencum. Carryovers	Other Adjustments		Total Amend.
11	General Fund Discretionary	196,913,849	5,512,512	4,177,247	12,549,473	22,239,232	219,153,081
101	Library - Tax	25,834,485	688,625			688,625	26,523,110
103	Library - Grants	64,089	141			141	64,230
104	Library - Friends & Gift	150,000	552			552	150,552
105	Library - Foundation	100,000	26,211			26,211	126,211
106	Asset Forfeiture	201,000				-	201,000
107	Special Tax Measure E	1,316,894				-	1,316,894
108	First Source Fund	47,327				-	47,327
110	Sec 108 Loan Gty Asst.	546,979				-	546,979
111	Fund Raising Activities	71,408			21,000	21,000	92,408
113	Sports Field (Vendor Oper)	189,807	6,484		30,000	36,484	226,291
114	Gilman Fields Reserve	-	73,173			73,173	73,173
115	Animal Shelter	52,480	7,531			7,531	60,011
116	Paramedic Tax	3,872,044				-	3,872,044
117	CA Energy Commission	-	44,249			44,249	44,249
119	Domestic Violence Prev - Vit Stat	25,646				-	25,646
120	Affordable Housing Mitigation	66,641	1,582,236	4,045,237		5,627,473	5,694,114
121	Affordable Child Care	13,275				-	13,275
122	Inclusionary Housing Program	147,145		525,872		525,872	673,017
123	Condo Conversion	-		997,980		997,980	997,980
124	Parking In-Lieu Fee	-	82,010			82,010	82,010
125	Playground Camp	1,956,129	1,985,378	1,685,000	768,568	4,438,946	6,395,075
126	State-Prop 172 Pub.Safety	462,481	76,420			76,420	538,901
127	State Transportation Tax	5,419,156	2,049,187	621,169	82,508	2,752,864	8,172,020
128	CDBG	2,513,991	1,314,326			1,314,326	3,828,317
129	Rental Housing Safety Program	1,553,079	6,602		353,505	360,107	1,913,186
130	Measure B - Local St & Road	3,029,395	1,917,465		80,000	1,997,465	5,026,860
131	Measure B - Bike and Pedestrian	415,769	80,414	40,632	83,562	204,608	620,377
132	Measure B - Paratransit	475,359	10,335			10,335	485,694
133	Measure F Alameda County VRF St & Rd	523,325	238,903	100,000		338,903	862,228
134	Measure BB - Local St & Road	3,654,183	2,674,799	100,000	482,394	3,257,193	6,911,376
135	Measure BB - Bike & Pedestrian	631,828	35,134			35,134	666,962
136	Measure BB - Paratransit	384,702	6,787		60,000	66,787	451,489
137	One Time Funding	-	139,080			139,080	139,080
138	Parks Tax	16,342,573	1,420,119	1,471,318	621,000	3,512,437	19,855,010
139	Street And Open Space Impr	-	1,140,512			1,140,512	1,140,512
140	Measure GG - Fire Prep Tax	4,793,467	126,667			126,667	4,920,134
141	1st Response Adv Life Supp	-	5,356	55,144		60,500	60,500
142	Streetlight Assesment District	2,620,883	484,869		26,189	511,058	3,131,941
143	Berkeley Bus Ec Dev	156,387			12,000	12,000	168,387
145	Bayer (Miles Lab)	8,500				-	8,500
146	Employee Training	780,629	13,640	62,583		76,223	856,852
147	UC Settlement	1,174,828	8,960			8,960	1,183,788
148	Cultural Trust	22,012	5,000	141,144		146,144	168,156
149	Private Party Sidewalks	100,000	72,485	99,973		172,458	272,458
150	Public Art Fund	65,164	64,928	10,516		75,444	140,608
152	Vital & Health Statistics Trust Fund	28,195				-	28,195
156	Hlth State Aid Realign Trust	4,125,651	2,359			2,359	4,128,010
157	Tobacco Cont.Trust	350,227	32	131,815		131,847	482,074
158	Mental Health State Aid Realign	3,003,718	708,140	362,595	50,000	1,120,735	4,124,453
159	Citizens Option Public Safety Trust	258,921	23,751		50,000	73,751	332,672
161	Alameda Cty Abandoned Vehicle Abatement	99,920	288			288	100,208
307	Capital Grants - Local	-	341,406			341,406	341,406
309	OTS DUI Enforcement Education Prg.	129,500			200,000	200,000	329,500
310	HUD/Home	831,094				-	831,094
311	ESGP	235,790				-	235,790
312	Health (General)	2,190,908	5,260		16,466	21,726	2,212,634
313	Target Case Management Linkages	809,278	105,841	100,320		206,161	1,015,439
314	Alameda County Tay Tip	-	8			8	8
315	Mental Health Service Act	7,839,248	1,715,355		1,831,875	3,547,230	11,386,478
316	Health (Short/Doyle)	4,196,856	148,499		159,000	307,499	4,504,355
317	EPSDT Expansion Proposal	377,855				-	377,855
318	Alcoholic Bev Ctr OTS/UC	52,804			15,000	15,000	67,804
319	Youth Lunch	101,900	218,699			218,699	320,599
320	Sr. Nutrition Title III	76,554			9,673	9,673	86,227
321	CFP Title X	158,740				-	158,740
324	BUSD Grant	307,624				-	307,624
325	Vector Control	335,418	9,792			9,792	345,210
326	Alameda County Grants	556,234	2,197		15,784	17,981	574,215
327	Senior Supportive Social Services	54,775			1,822	1,822	56,597

SUMMARY OF APPROPRIATIONS BY FUND

ERMA Fund # Fund	FY 2020 Adopted	1st AAO				FY 2020 Revised #1
		Encumbered Rollovers	Unencum. Carryovers	Other Adjustments	Total Amend.	
328 Family Care Support Program	72,128				-	72,128
329 CA Integrated Waste Management	5,244				-	5,244
331 Housing Mitigation	-		1,051,751		1,051,751	1,051,751
333 CALHOME	363,100				-	363,100
334 Community Action	264,258				-	264,258
336 One-Time Grant: No Cap Exp	1,966,893	670,807	310,930	3,653,174	4,634,911	6,601,804
338 Bay Area Air Quality Management	60,000				-	60,000
339 MTC	-	2,552,414			2,552,414	2,552,414
340 FEMA	1,238,295	1,576,589		22,650	1,599,239	2,837,534
341 Alameda Cty Waste Mgt.	285,000	22,397			22,397	307,397
343 State Dept Conserv/Recylg	28,000				-	28,000
344 CALTRANS Grant	-	350,958	10,227		361,185	361,185
345 Measure WW Park Bond Grant	1,525,274	1,220	1,447,829		1,449,049	2,974,323
346 CALTRANS Safe Routes 2 Schools	-	9,757			9,757	9,757
347 Shelter+Care HUD	5,168,632				-	5,168,632
348 Shelter+Care County	546,638				-	546,638
349 JAG Grant	52,500			70,000	70,000	122,500
350 Bioterrorism Grant	273,175	13			13	273,188
501 Capital Improvement Fund	7,399,464	4,491,447	4,335,261	5,247,525	14,074,233	21,473,697
502 Phone System Replacement	198,000				-	198,000
503 FUND\$ Replacement	6,028,585	881,378	7,492,060	1,899,000	10,272,438	16,301,023
504 PEG-Public, Education & Government	100,000				-	100,000
506 Measure M - Street & Watershed Impv	-	1,012,683	1,000	440,748	1,454,431	1,454,431
511 Measure T1 - Infra & Facil.	15,882,701	7,783,232	3,655,311	1,587,247	13,025,790	28,908,491
552 09 Measure FF Debt Service	1,619,731				-	1,619,731
553 2015 GORBS	2,612,468				-	2,612,468
554 2012 Lease Revenue Bonds BJPFA	502,402				-	502,402
555 2015 GORBS - 2002 G.O. Refunding Bonds	482,600				-	482,600
556 2015 GORBS (2007, Series A)	181,674				-	181,674
557 2015 GORBS (2008 Measure I)	612,562				-	612,562
558 2010 COP (Animal Shelter)	404,498				-	404,498
559 Measure M GO Street & Water Imps	1,647,738				-	1,647,738
560 Infrastructure & Facilities Measure T1	2,470,306				-	2,470,306
601 Zero Waste	48,362,247	1,518,978		180,340	1,699,318	50,061,565
606 MAR - Costal Conservancy	-		125,400		125,400	125,400
608 Marina Operation	7,118,243	461,487	432,490		893,977	8,012,220
611 Sewer	23,524,301	13,275,285	629,522	272,549	14,177,356	37,701,657
612 Private Sewer Lateral FD	197,441				-	197,441
616 Clean Storm Water	4,171,366	66,906	120,000	552,804	739,710	4,911,076
621 Permit Service Center	19,405,470	844,180		969,680	1,813,860	21,219,330
622 Unified Program (CUPA)	918,190	3,271			3,271	921,461
627 Off Street Parking	6,226,848	876,791	554,340	30,000	1,461,131	7,687,979
631 Parking Meter	9,401,361	429,753		144,627	574,380	9,975,741
636 Building Purchases and Management	3,205,142	92,461		4,146	96,607	3,301,749
671 Equipment Replacement	4,618,500	1,333,478		25,970	1,359,448	5,977,948
672 Equipment Maintenance	7,801,313	272,978		120,245	393,223	8,194,536
673 Building Maintenance Fund	4,460,082	79,687		134,456	214,143	4,674,225
674 Central Services	382,999	13,986			13,986	396,985
675 Computer Replacement Fund	-	-	114,000		114,000	114,000
676 Workers Compensation	6,534,671	3			3	6,534,674
678 Public Liability	1,995,642	78,853		1,200,000	1,278,853	3,274,495
680 Information Technology	12,965,336	346,881	1,547,193	1,233,827	3,127,901	16,093,237
762 Successor Agency - Savo DSF	56,960				-	56,960
774 Sustainable Energy Fin District	28,748				-	28,748
776 Thousand Oaks Underground	100,350				-	100,350
777 Measure H - School Tax	500,000	2			2	500,002
778 Measure Q - CFD#1 Dis. Fire Protect Bond	175,844	74,555		280,000	354,555	530,399
779 Spl Tax Bds. CFD#1 ML-ROOS	875,783				-	875,783
781 Berkeley Tourism BID	650,000				-	650,000
782 Elmwood Business Improvement District	30,000	1			1	30,001
783 Solano Ave BID	25,000				-	25,000
784 Telegraph Avenue Bus. Imp. District	515,637				-	515,637
785 North Shattuck BID	182,647				-	182,647
786 Downtown Berkeley Prop & Improv. District	1,281,760	118,404			118,404	1,400,164
801 Rent Board	5,334,943	162,706			162,706	5,497,649
GROSS EXPENDITURE:	525,856,809	64,586,258	36,555,859	35,588,807	136,730,924	662,587,733
Dual Appropriations	(26,171,544)	-	-	-	-	(26,171,544)
Revolving & Internal Service Funds	(39,539,172)	(2,139,506)	(1,609,776)	(2,714,498)	(6,463,780)	(46,002,952)

SUMMARY OF APPROPRIATIONS BY FUND

ERMA Fund #	Fund	1st AAO				FY 2020 Revised #1	
		FY 2020 Adopted	Encumbered Rollovers	Unencum. Carryovers	Other Adjustments		Total Amend.
	NET EXPENDITURE:	460,146,093	62,446,752	34,946,083	32,874,309	130,267,144	590,413,237

Item #	Fund #	Fund Name	Department	Recommended Carryover	Recommended Adjustment	Project Number	Description/Project name	Mandated by Law	Authorized by Council	City Manager Request	Comments/Justification
1	11	General Fund	City Auditor	\$30,000			ERMA HR/Payroll implementation		X		Use towards ERMA implementation. Funds will be budgeted in Non-Departmental and transferred to the FUNDS Replacement Fund.
2	11	General Fund	City Auditor	\$20,000			2 part-time interns/Fall & Spring			X	Interns to work on high-priority public informational reports.
3	11	General Fund	City Auditor	\$10,000			Training to fulfill required CPE for Performance auditors, including travel expenses			X	Training to obtain City Charter required continuing professional educations credits.
4	11	General Fund	City Auditor	\$15,000			Consultant services			X	Consultant services to assist with audits.
5	11	General Fund	City Auditor	\$4,000			Audit management software			X	Audit management software to provide the public with audit information in a way that provides the most meaning.
6	11	General Fund	City Auditor	\$10,000			Overtime due to FLSA work			X	Overtime resulting from FLSA and other work impacting Payroll staff's capacity.
7	11	General Fund	City Attorney		\$204,196		Add 1.0 FTE Deputy City Attorney		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
8	11	General Fund	City Attorney		\$150,000		Add 1.0 FTE Senior Legal Secretary		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
9	11	General Fund	City Attorney		\$25,000		Calendar Software		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
10	11	General Fund	City Clerk		\$20,000		Software costs for Lobbyist Registration System		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
11	11	General Fund	City Clerk	\$12,000		18-11166-C	Replace MS Access Commissioner Tracking Database			X	Approved Phase 1 Project in Digital Strategic Plan - Additional funds needed for maintenance and fixes for deployed software
12	11	General Fund	City Clerk	\$60,000			Purchase of redistricting module and licenses from GIS software vendor			X	Allocated funds for redistricting software in FY 19. Funds not expended, will purchase licenses in FY 20
13	11	General Fund	City Clerk	\$27,000			Konica Minolta Business Solutions, Inc Contract		X		Carryover funds for contract amendment - KMBS. Approved by Council on 9/10/19 through Resolution 69,062-N.S.
14	11	General Fund	City Clerk	\$159,977			Special Election March 2020			X	Carryover funds for Special California Primary Election March 2020
15	11	General Fund	City Manager		\$100,000		Citywide Risk Assessment		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
16	11	General Fund	City Manager		\$160,000		Add 1.0 FTE Community Services Specialist II		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
17	11	General Fund	City Manager		\$200,000		Berkeley Contracting Availability Study		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
18	11	General Fund	City Manager		\$50,000		Bay Area Book Festival		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
19	11	General Fund	City Manager	\$10,000			Graphic Design Services and program expenses				Carry over \$10,000 from FY 2019 that were previously set aside for graphic design services and other program expenses.
20	11	General Fund	City Manager	\$30,000			Program expenses			X	Carry over \$30,000, which would include: \$5,000 designated for graphic design services; \$15,000 designated for TNC supplemental operating expenses (tents, carts, and water); and \$10,000 for one-time special event purchases (e.g. a-frames)
21	11	General Fund	City Manager	\$81,185			Program expenses			X	Carry over \$81,185, which will be used to fund the Workload Analysis outlined in the Code Enforcement 2018 Audit, the purchase of licensing and support equipment for a new case management module which is anticipated to be included in the Planning Department's Digital Permitting Software.
22	11	General Fund	City Manager	\$35,000			Financial Model for Labor Negotiations			X	Funds to hire a consultant to prepare an easy to use financial model that will enable staff to estimate the savings and / or costs of labor proposals that may be generated by either the City or its unions, associations, or bargaining groups in upcoming labor negotiations.
23	11	General Fund	City Manager	\$75,000			Survey Registered Voters for Potential 2020 Ballot Initiatives			X	Survey registered voters to determine public opinion about revenue and other measures that may be considered for the November 2020 ballot
24	11	General Fund	City Manager	\$13,000			Outside Investigator contract			X	Contract with Karen Kramer to investigate a complaint filed by a Police Review Commission commissioner. Staff cannot do investigation due to a conflict.
25	11	General Fund	Finance	\$150,000			Software			X	New revenue-generating collection and audit management software to enhance our Short Term Rental, business license, and Measure U1 programs
26	11	General Fund	Finance	\$45,000			Customer Service Counter			X	Funds for the Customer Service Counter to make the work environment more ergonomic friendly.

Item #	Fund #	Fund Name	Department	Recommended Carryover	Recommended Adjustment	Project Number	Description/Project name	Mandated by Law	Authorized by Council	City Manager Request	Comments/Justification
27	11	General Fund	Fire		\$1,008,274		Wittman Enterprises LLC Contract		X		FY 2020 funds for Wittman Enterprises LLC contract to provide emergency response billing, fire inspection billing, and related hardware, software, and program oversight. Approved by Council on 12/11/18 through Resolution No. 68,707-N.S.
28	11	General Fund	Fire	\$74,522			Vegetation Management		X		Carryover unspent vegetation management funds from FY 2019. Funds were approved by Council on 11/27/18
29	11	General Fund	Fire		\$185,000		Ground Emergency Medical Transport Quality Assurance Fee	X			Funds to pay the State of California Department of Health Care Services the Ground Emergency Medical Transport Quality Assurance Fee for emergency medical transport services.
30	11	General Fund	Fire		\$39,714		Gurneys for Fire Department Ambulances		X		A sole source contract and any amendments with Stryker to finance the purchase of three additional gurneys and equip all seven ambulances with the power cot fastener system (power load system) for Fire Department ambulances which will allow transport of the sick and injured, increasing the amount by \$39,714 for a total not to exceed amount of \$74,000. Approved by Council on 10/15/19 through Resolution No. 69,128 - N.S.
31	11	General Fund	Fire		\$120,000		Vehicle Purchase			X	Funds to purchase two trucks for the fire stations
32	11	General Fund	Fire		\$16,237		Vehicle Outfitting Costs			X	Funds to outfit two trucks for the fire stations
33	11	General Fund	Fire		\$45,000		Vehicle Purchase			X	Funds to purchase a Prius for the Fire Prevention Division
34	11	General Fund	Health, Housing & Community Services		\$29,023		Senior Center Rental Revenues		X		10% of Revenues to be used exclusively for Maintenance at the Senior Centers. Approved by Council on 5/26/15 through Resolution #67,044-N.S.
35	11	General Fund	Health, Housing & Community Services	\$72,730			North Berkeley Senior Center Renovation			X	Funds for the North Berkeley Senior Center closure and relocation
36	11	General Fund	Health, Housing & Community Services		\$154,768		Sugar Sweetened Beverage Community Agency Allocations		X		Increase Sugar Sweetened Beverage Community Agency Allocations for Berkeley Unified School District and Sugar Sweetened Beverage Panel of Experts from \$1,745,232 to \$1,900,000. Approved by Council on Consent Calendar on 5/14/19
37	11	General Fund	Health, Housing & Community Services	\$40,000			UC Berkeley Sugar Sweetened Beverage Tax Evaluation contract		X		Contract with UC Berkeley to conduct to evaluate the impact of the sugar sweetened beverage tax. Approved by Council on 7/9/19 through Resolution No. 69,015 - N.S.
38	11	General Fund	Health, Housing & Community Services	\$49,999			Legal & Mental Health Support for Immigrant & Religious Communities		X		Carryover of funds for Council-designated project to FY 2019 budget. Funds approved by Council on 12/5/17. Contract with Multicultural Institute to perform work will expire on 11/30/19
39	11	General Fund	Health, Housing & Community Services	\$9,485			Resources for Community Development		X		The FY 2018 encumbrance in FUND\$ PO#115114 was not rolled into the ERMA PO#21900626. Vendor was late in submitting Quarter 4 of FY2018, not requested until April 2019. Once Quarter 4 requested for FY 2019 the ERMA PO was underfunded.
40	11	General Fund	Health, Housing & Community Services	\$5,940			Dorothy Day House		X		Resolution 68,916 - N.S. was passed on 5/14/2019. Once contract amendment was processed deadline to encumber FY19 funds had passed. Of the \$60,000 authorized only \$5,940.00 is needed.
41	11	General Fund	Health, Housing & Community Services	\$1,248			Bay Area Outreach & Recreation (BORP)			X	An invoice for Bay Area Community Land Trust, PO#115083, was mistakenly applied to Bay Area Outreach's PO#115089. BORP repaid this amount in October 2018. The returned funds were never added back into PO# 115089 and subsequently never added to the ERMA PO# 21900964. Quarter 4 FY2019 was then short \$1,248.00
42	11	General Fund	Health, Housing & Community Services		\$368,000		Measure U1 Funds - 2001 Ashby Avenue		X		Reserve \$368,000 in Measure U1 Funds for predevelopment costs to Resources for Community Development's proposed development of 2001 Ashby Avenue. Approved by Council on 4/23/19 through Resolution No. 68,824-N.S.
43	11	General Fund	Health, Housing & Community Services		\$10,260	HHHGHD2001	Transfer Tax Refund for 1638 Stuart Street			X	Transfer tax refund of an estimated \$10,260 to the Bay Area Community Land Trust (BACL T) refund in support of the renovation of 1638 Stuart Street and BACL T's operation of the property as affordable housing. Recommendation was approved by Housing Advisory Commission on 9/5/19 and is being sent to Council for approval on 12/3/19. Staff concurs with HAC recommendation

Item #	Fund #	Fund Name	Department	Recommended Carryover	Recommended Adjustment	Project Number	Description/Project name	Mandated by Law	Authorized by Council	City Manager Request	Comments/Justification
44	11	General Fund	Health, Housing & Community Services		\$1,750,000		Measure U1 - Housing Trust Fund Predevelopment Applications		X		Reserve General Funds received pursuant to Measure U1 in the following amounts: \$500,000 for Satellite Affordable Housing Associates' new construction development at 2527 San Pablo Avenue, \$1.2 million for Resources for Community Development's new construction development at 2001 Ashby Avenue, and \$50,000 for Northern California Land Trust's renovation of 2321-2323 10th Street. Approved by Council on 10/29/19.
45	11	General Fund	Health, Housing & Community Services	\$52,437			African American Holistic Center		X		Carry forward for work to develop African American Holistic Center. Funds approved by Council on 6/27/17 with FY 2018 & FY 2019 Biennial Budget Adoption.
46	11	General Fund	Health, Housing & Community Services	\$200,000		HHFFFF2001	Aquatic Park Water Quality Investigation			X	An contract with Wood Environment and Infrastructure for the Aquatic Park Water Quality Investigation.
47	11	General Fund	Health, Housing & Community Services		\$33,912		Sugar Sweetened Beverage Program Public Health Division		X		Revise Public Health Division Sugar Sweetened Beverage Program budget to match approved allocation of \$475,000. Approved by Council on 5/14/19 through Resolution No. 68,914-N.S.
48	11	General Fund	Health, Housing & Community Services	\$11,873			Public Health Program Expenses			X	To reimburse Public Works for PG&E and EBMUD charges paid for 1011 University in FY19. \$5,000 for relocation consultant for WBSC. Will AJ the funds to Public Works.
49	11	General Fund	Health, Housing & Community Services	\$24,750		HHHGFA2001- NONPERSO NN- GENERAL- MISCPROFS V	Office Move to 1st Floor			X	Due to new staff hires, the decision was made, with Public Works input, to move HCS staff into the 1st floor room. This room was previously for HHCS Employment Services but HHCS was directed to move out of the room for another purpose before being asked to move back in with the new hires.
50	11	General Fund	Health, Housing & Community Services	\$31,545		HHHYTH2001- PERSONNE L -YOUTH - SALARY	Youthworks Minimum Wage	X			Increase in Minimum Wage will require more resources in FY 2020.
51	11	General Fund	Health, Housing & Community Services	\$10,337		HHHYTH2001- NONPERSO NN- GENERAL- CMMNTYAG Y	BUSD Workplace Skills Training Contract		X		Contract with Berkeley Unified School District in an amount not to exceed \$26,694 from 6/12/19 to 8/31/22 for the purpose of workplace skills training for YouthWorks participants. Approved by Council on 6/11/19 through Resolution No. 68,946-N.S.
52	11	General Fund	Health, Housing & Community Services	\$28,200		HHHLS2001- NONPERSO NN- GENERAL- MISCPROFS V	2019 Point in Time			X	This cost should have been paid in FY 2019, but we didn't receive invoice til FY 2020.
53	11	General Fund	Health, Housing & Community Services	\$882		HHHLS2001- NONPERSO NN-GENERA MISCPROFS V	Fire Inspection at STAIR Center			X	This is an unexpected internal City cost that is not accounted for in the STAIR budget available to HCS.
54	11	General Fund	Health, Housing & Community Services		\$167,212		Measure O Staff Position	X			Funds for a Community Development Project Coordinator position to manage Measure O activities. Position will be funded through Measure U1 General Fund revenues.
55	11	General Fund	Human Resources		\$50,000		EEO Division Case Management Software		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
56	11	General Fund	Human Resources		\$50,000		Sexual Harassment Training	X			Funds for Sexual Harassment Training that must be completed for the entire organization by January 1, 2020 per SB 1343
57	11	General Fund	Human Resources	\$25,000			NeoGov Onboarding Software			X	Software to unify new employee onboarding experiences, support a paperless efforts, generate metrics easily, automated work flows for new employees and HR staff. Estimated cost-savings in terms of HR staff time to the City is at least \$35,000 annually.
58	11	General Fund	Human Resources	\$127,442			Class & Compensation Studies for Labor Negotiations			X	Fund classification projects per Union agreement also conduct a study to see ERMA's impact on classifications.
59	11	General Fund	Human Resources	\$70,000	\$450,000		Labor Negotiations			X	Funds to hire outside negotiators to assist with upcoming labor negotiations.
60	11	General Fund	Information Technology	\$469,700			Website Redesign		X		Carryover funding per Resolution No. 68,651- N.S. for contract: Rolling Orange for Website Redesign, Web Content Management System and Support

Item #	Fund #	Fund Name	Department	Recommended Carryover	Recommended Adjustment	Project Number	Description/Project name	Mandated by Law	Authorized by Council	City Manager Request	Comments/Justification
61	11	General Fund	Information Technology	\$395,931			Nutanix: Switches, Prof. Svcs., Maintenance		X		Purchase order with Carahsoft Technology Corporation for the purchase of server hardware, software, and related services for a data center upgrade and disaster recovery implementation, utilizing pricing established by the General Services Administration (GSA), for a total amount not to exceed \$1,678,953 for the period May 15, 2019 to June 1, 2024. Approved by Council on 5/14/19 through Resolution 68,868-N.S. Funds will be budgeted in Non-Departmental and transferred to IT Cost Allocation Fund
62	11	General Fund	Information Technology	\$192,570			IT Space Needs - Ongoing for 1947			X	Facilities fee for 1947 space. Funds will be budgeted in Non-Departmental and transferred to IT Cost Allocation Fund.
63	11	General Fund	Information Technology	\$45,000			VoIP Support and Maintenance RFP		X		Contract amendment with Communication Strategies for Consulting Services for Voice over IP (VoIP). Approved by Council on 7/23/19 through Resolution No. 69,044-N.S.
64	11	General Fund	Information Technology	\$71,000			Website License Maintenance - Atera Prime: City intranet		X		Amendment to Contract No. 10853A with Atera Prime, Inc. DBA Emgage Inc. for implementation services of Emgage's Sharepoint and Intranet implementation services, for an amount not-to-exceed \$72,000 and a total contract value not-to-exceed \$156,275 from March 28, 2018 to June 30, 2020. Approved by Council on 12/4/18 through Resolution 68,652-N.S.
65	11	General Fund	Information Technology	\$25,600			Peak Democracy's OpenGov Licenses for City Manager's Office			X	Software licenses for City Manager's Office
66	11	General Fund	Information Technology		\$550,000		Redundant Cooling System for Public Safety Data Center			X	Contract with Stanton Engineering for the Redundant Cooling System for the Public Safety Data Center.
67	11	General Fund	Information Technology		\$270,000		FY 2010 & FY 2020: Rent Board IT Cost Allocation Contributions			X	FY 2019 & FY 2020 Rent Stabilization Board contributions to be transferred into IT Cost Allocation. Funds will be budgeted in Non-Departmental and transferred to IT Cost Allocation Fund.
68	11	General Fund	Information Technology		\$350,000		Police Department FY 2020 Tyler/New World Licenses			X	CAD Licenses
69	11	General Fund	Information Technology		\$6,500		Fire FY 2019 RedNMX Licenses			X	Fire department records management software bills
70	11	General Fund	Information Technology		\$100,969		Facilities Fee from General Fund			X	Facilities fees for 2180 4th floor. Funds will be - budgeted in Non-Departmental and moved to IT Cost Allocation Fund.
71	11	General Fund	Mayor & Council	\$65,099			Council Office Budgets		X		Mayor & Council Office budgets FY 2019 carryover
72	11	General Fund	Non-Departmental	\$68,510			Bay Cities Joint Powers Insurance	X			Carryover funds from FY 2019 to pay for FY 2020 Bay Cities Joint Powers Insurance Authority bill
73	11	General Fund	Non-Departmental		\$605,000		FLSA Payments	X			Appropriation of funds for FLSA overtime payments to Fire and Police. Approved by Council on 7/16/19 in Closed Session
74	11	General Fund	Non-Departmental		\$35,000		Transfer to Phone System Replacement Fund			X	Revise transfer amount to Phone System Replacement Fund to match expenditure budget of \$198,000 in FY 2020
75	11	General Fund	Non-Departmental		\$1,200,000		Transfer to Public Liability Fund			X	Increase transfer to Public Liability Fund to pay for outside counsel, court costs, and claims and judgements in FY 2020
76	11	General Fund	Non-Departmental		\$406,952		Transfer to Workers' Compensation Fund		X		Transfer of Excess Property Transfer Tax Revenue to Capital Improvement Fund and then transferred to Workers' Compensation Fund to repay loan to purchase Premier Cru (University Center).
77	11	General Fund	Non-Departmental		\$946,163		Transfer of Measure U1 Funds to Workers' Compensation Fund		X		Transfer of Measure U1 Revenues to Workers' Compensation Fund to repay loan to purchase Premier Cru (University Center).
78	11	General Fund	Non-Departmental		\$1,899,000		Transfer to FUNDS Replacement Fund			X	Transfer additional funds to FUNDS Replacement Fund above original \$15.1 million.
79	11	General Fund	OED		\$25,000		Bayer Development Agreement Update		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
80	11	General Fund	OED	\$4,998			Small Business Support Services		X		Funding will be used to implement the "Small Business Support" initiatives, including small business retention services and educational workshops. These are Council referred projects and are included in the CoB Strategic Plan for FYs 2020-21. For more information, see 1/16/18 and 2/5/19 "Small Business Support" council reports.
81	11	General Fund	OED	\$5,000			Berkeley Flea Market Support		X		This is to implement a Council referral from February 26, 2019 to provide assistance to support the capacity and sustainability of the Berkeley Flea Market.

Item #	Fund #	Fund Name	Department	Recommended Carryover	Recommended Adjustment	Project Number	Description/Project name	Mandated by Law	Authorized by Council	City Manager Request	Comments/Justification
82	11	General Fund	OED	\$18,100			Discovered in Berkeley Marketing & Communications Campaign		X		The CoB Strategic Plan for FYs 2018-19 including a strategic objective to develop a campaign to market the City of Berkeley as a place to do business. That campaign, Discovered in Berkeley, launched in September 2019. It also relates to the "Small Business Support" initiatives referenced above. This carryover will support a slight expansion of the campaign.
83	11	General Fund	OED	\$3,000			Shattuck Reconfiguration small business mitigations			X	Funds to provide mitigations to small businesses affected by Shattuck Reconfiguration
84	11	General Fund	Parks, Recreation & Waterfront	\$7,886			Freitas Landscaping Work			X	Funds for vegetation management work done by Freitas Landscaping for 6 blocks of the Santa Fe Right of Way
85	11	General Fund	Parks, Recreation & Waterfront	\$59,709		PRWPK19002	Fire Fuel		X		Carryover funds from FY 2019 to complete fire fuel-related tree and vegetation removal.
86	11	General Fund	Parks, Recreation & Waterfront	\$30,000		PRWPK19002	Portable Toilets & Handwashing stations			X	Carryover funds from FY 2019 for portable toilets and handwashing stations
87	11	General Fund	Parks, Recreation & Waterfront	\$60,000			ADA Transition Plan		X		Carryover funds from FY 2019 to pay for Parks, Recreation & Waterfront's portion of the ADA Transition Plan contract with DAC Consulting. Approved by Council on 12/11/18 through Resolution 68,713-N.S.
88	11	General Fund	Parks, Recreation & Waterfront	\$16,000			Fence at Dwight Triangle			X	Funds to replace fence at the Dwight Triangle area/median that was destroyed recently with a more permanent fence
89	11	General Fund	Planning	\$50,000			Rincon Consultants, Inc. Contract		X		Contract with Rincon Consultants, Inc. to develop a Berkeley Pathways to Clean Energy Buildings Report. Funds were originally approved as part of the FY 2019 Budget Adoption on 6/26/18. Contract with Rincon Consultants, Inc. was approved by Council on 6/25/19 through Resolution 68,985-N.S.
90	11	General Fund	Planning	\$51,160			Short-Term Rental Planning Technician position		X		Funds for 2 Year Temporary Planning Technician to assist with implementation of the City's Short-Term Rental program charged 60% to Permit Service Center Fund and 40% to General Fund (\$51,160). Approved by Council on 6/26/18 with the Adoption of the FY 2019 Mid-Biennial Budget Update.
91	11	General Fund	Planning	\$117,738			2 Year Senior Planner for LRDP		X		Planning will hire a consultant due to the specialized nature of this work. Hence the request is to move carryforward in professional services. Funds approved by Council on 11/27/18
92	11	General Fund	Planning	\$250,000			EIR Southside Area		X		Carryover funds for Environmental Impact Report for Southside area land use changes (implementing the More Student Housing Now Resolution). Funds approved by Council on 11/27/18.
93	11	General Fund	Planning	\$106,849			Density Standards RFP		X		\$62,625 spent out of the \$169,484 allocated in FY18-19. Funds were approved by Council in FY 2018 as part of the Mayor's FY 2018 Mid-Year Budget Amendments.
94	11	General Fund	Planning	\$45,000			CEQA study for student housing		X		Carryover of funds approved by Council on 11/27/18.
95	11	General Fund	Police		\$60,000		Gun Buyback and Art of Peace Program		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
96	11	General Fund	Police		\$200,000		Increase Vehicle Replacement Budget due to higher costs from shift from Ford Crown Victoria Police Interceptor to Ford Explorer SUV Police Interceptor		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
97	11	General Fund	Public Works		\$150,000		Solano Avenue Revitalization Plan		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
98	11	General Fund	Public Works	\$200,000		Public WorksSUCW 1901	Fire Safety		X		Carryover of unspent Public Works funds for Fire Safety, Education, Prevention and Disaster Preparedness. Approved by Council on 11/27/18.
99	11	General Fund	Public Works		\$350,000		Sweeper			X	Appropriate funds for a new sweeper (\$300k, plus approx. \$50k/yr for replacement funds)
100	11	General Fund	Public Works	\$34,845			Cameras at San Pablo Park, 1-yr. data storage			X	Carryover funds for camera installation. Parks, PD and CMO leads; Public Works's role solely for installation of camera
101	11	General Fund	Public Works	\$160,000			Underground Utility District #48			X	Carryover funds for easement acquisitions
102	11	General Fund	Public Works		\$8,293		Reclass Warehouse Operations Specialist to Building Maintenance Mechanic		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
103	11	Total		\$4,177,247	\$12,549,473						

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104	111	Fund Raising Activities	Health, Housing & Community Services		\$21,000	HHADNB2001	Senior Center Donations			X	Appropriate donation funds for kitchen supplies and regular supplies at the North Berkeley and South Berkeley Senior Centers, purchase outreach materials for Meals on Wheels clients and volunteer drivers, and supplies and materials for special fundraising and volunteer appreciation events
105	111 Total			\$0	\$21,000						
106	113	Gilman Sport Field	Parks, Recreation & Waterfront		\$20,000		Gilman/Harrison Fields			X	Appropriate funds for Gilman and Harrison Field operations for Gardener's Guild, Water/Sewer and Gas/Electricity
107	113	Gilman Sport Field	Parks, Recreation & Waterfront		\$10,000		Gilman Fields Re-Lamp			X	Funds to re-lamp the fixtures in Gilman Field
108	113 Total			\$0	\$30,000						
109	120	Affordable Housing Mitigation Fee	Health, Housing & Community	\$4,045,237			Housing Trust Fund			X	Carryover funds for Housing Trust Fund Projects in FY 2020
110	120 Total			\$4,045,237	\$0						
111	122	Inclusionary Housing Program	Health, Housing & Community	\$525,872			Housing Trust Fund			X	Carryover funds for Housing Trust Fund Projects in FY 2020
112	122 Total			\$525,872	\$0						
113	123	Condo Conversion	Health, Housing & Community	\$997,980			Housing Trust Fund			X	Carryover funds for Housing Trust Fund Projects in FY 2020
114	123 Total			\$997,980	\$0						
115	125	Playground Camp	Parks, Recreation & Waterfront		\$116,479	PRWCP08001	Berkeley Tuolumne Camp Project Permit Fees			X	Appropriate for payment of Project Permit Fees for Berkeley Tuolumne Camp - PRWCP08001
116	125	Playground Camp	Parks, Recreation & Waterfront		\$423,354	PRWEM14001	Tree Removal Contract for Berkeley Tuolumne Camp		X		Appropriate for payment of Tree Removal Contract with Leslie Heavy Haul, LLC at Berkeley Tuolumne Camp - PRWEM14001. Approved by Council on 7/23/19 through Resolution 69,047-N.S.
117	125	Playground Camp	Parks, Recreation & Waterfront	\$1,655,000		PRWCP19001	Construction Management for Berkeley Tuolumne Camp			X	Appropriate for Construction Management at Berkeley Tuolumne Camp - PRWCP19001
118	125	Playground Camp	Parks, Recreation & Waterfront	\$30,000			Echo Lake Bus			X	Appropriate \$30K from Camps Fund Reserve to fund Echo Lake Bus costs
119	125	Playground Camp	Parks, Recreation & Waterfront		\$228,735		Berkeley Tuolumne Camp Cabin Repairs		X		Contract with Don Fowler Construction for the Berkeley Tuolumne Camp Cabin Repairs. Approved by Council on 9/24/19 through Resolution No. 69,113-N.S.
120	125 Total			\$1,685,000	\$768,568						
121	127	State Transportation Tax	Public Works	\$190,049		18SD04	Hillview Woodside			X	Carryover funds from FY 2019 for construction phase of Hillview Woodside
122	127	State Transportation Tax	Public Works	\$300,000			Roadway & Streets			X	Carryover funds from FY 2019 for construction of Roadway and Streets
123	127	State Transportation Tax	Public Works	\$131,120		Public WorksENSG1801	Cratus Inc. Contract			X	Carryover funds from FY 2019 for the Cratus Inc contract #31900192.
124	127	State Transportation Tax	Public Works		\$24,302	Public WorksENSD1819	18SD19 Codornices Creek @ Kains				Appropriate funds to continue the project into the construction phase
125	127	State Transportation Tax	Public Works		\$22,704		Add 1.0 FTE Assistant Planner		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
126	127	State Transportation Tax	Public Works		\$35,503		Add 1.0 FTE Senior Management Analyst 20%		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
127	127 Total			\$621,169	\$82,508						
128	129	Rental Housing Safety Program	Planning		\$353,505		Inspector Positions		X		Funds for 2 FTE Inspector (Rental Housing Safety Program expansion). Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
129	129 Total			\$0	\$353,505						
130	130	Measure B	Public Works		\$80,000		Bobcat				Appropriate funds -100% 391-5506-431-7041 included in FY 2020 base
131	130 Total			\$0	\$80,000						
132	131	Measure B Bike & Pedestrian	Public Works	\$40,632		Public WorksTRBP1801	Alameda/Hopkins Intersection Improvement			X	Carryover funds from FY 2019 for improvement of the aesthetics and visibility of the traffic islands at Hopkins/Alameda Intersection

Item #	Fund #	Fund Name	Department	Recommended Carryover	Recommended Adjustment	Project Number	Description/Project name	Mandated by Law	Authorized by Council	City Manager Request	Comments/Justification
133	131	Measure B Bike & Pedestrian	Public Works		\$83,562	Public WorksTRPL1802	Best Plan Update & Vision Zero Action Plan		X		Appropriate funds for Planning Phase of Best Plan Update & Vision Zero Action Plan
134	131 Total			\$40,632	\$83,562						
135	133	Measure F ALA CT VRF ST & RD	Public Works	\$100,000		Public WorksENSW2002	Roadway & Streets			X	Carryover funds from FY 2019 for construction of Roadway and Streets
136	133 Total			\$100,000	\$0						
137	134	Measure BB - Local Streets & Road	Public Works	\$100,000			Roadway & Streets			X	Carryover funds from FY 2019 for construction of Roadway and Streets
138	134	Measure BB - Local Streets & Road	Public Works		\$50,000	Public WorksTRPL1802	Best Plan Update & Vision Zero Action Plan		X		Appropriate funds for Planning Phase of Best Plan Update & Vision Zero Action Plan
139	134	Measure BB - Local Streets & Road	Public Works		\$432,394	Public WorksTRCS1406	Shattuck Reconfiguration Project		X		Appropriate fund to continue the construction phase of the Shattuck Reconfiguration project.
140	134 Total			\$100,000	\$482,394						
141	136	Measure BB - Paratransit	Health, Housing & Community Services		\$60,000	HHAMB2001	Taxi Scrip and EDI Contract			X	Appropriate funds for Paratransit program printing costs (\$10,000) and for a contract with Easy Does It to wheel chair van paratransit and emergency transportation services \$50,000)
142	136 Total			\$0	\$60,000						
143	138	Parks Tax	Parks, Recreation & Waterfront		\$5,000		Cesar Chavez Solar Calendar Maintenance		X		Funds for Cesar Chavez Solar Calendar Maintenance. Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
144	138	Parks Tax	Parks, Recreation & Waterfront		\$16,000		ADA Transition Plan				Funds for PRW's portion of initial survey work for the ADA Transition Plan to be conducted by Disability Access Consultants. Approved by Council on 12/11/18 through Resolution 68,713 - N.S.
145	138	Parks Tax	Parks, Recreation & Waterfront	\$900,000			Rose Garden Pathways, Tennis and Pergola			X	Carryover funding for the Rose Garden Project.
146	138	Parks Tax	Parks, Recreation & Waterfront	\$131,068		PRWPK15002	James Kenney Park, Picnic and Play Project			X	Carryover funding for constructio of the James Kenney park, picnic, and play project.
147	138	Parks Tax	Parks, Recreation & Waterfront	\$371,584			John Hinkel Park			X	Contract with Ghilotti Construction Company for John Hinkel Park Improvement Project
148	138	Parks Tax	Parks, Recreation & Waterfront		\$600,000	Public WorksWT119005	Live Oak Park Community Center Seismic Upgrade		X		Funds for contract with Mar Con Builders for the Live Oak Community Center Seismic Upgrade project. Approved by Council on 9/24/19 through Resolution No. 69,112-N.S.
149	138	Parks Tax	Parks, Recreation & Waterfront	\$800		PRWPK19003	King School Park Renovation			X	Appropriate funds from Parks Tax Fund for the King School Park Renovation
150	138	Parks Tax	Parks, Recreation & Waterfront	\$56,104			John Hinkel			X	Appropriate funds for construction at John Hinkel Park Lower.
151	138	Parks Tax	Parks, Recreation & Waterfront	\$9,812			John Hinkel			X	Appropriate funds for Inspector/Labor Cost for the John Hinkel Park Project.
152	138	Parks Tax	PRW	\$1,950			John Hinkel			X	Appropriate funds for John Hinkel Printing and Binding costs
153	138 Total			\$1,471,318	\$621,000						
154	141	1st Response Advanced Life Support	Fire	\$55,144			Vehicle Purchase			X	Purchase new vehicle for Paramedic Supervisor I
155	141 Total			\$55,144	\$0						
156	142	Street Lighting	Public Works		\$8,876		Add 1.0 FTE Senior Management Analyst		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
157	142	Street Lighting	Public Works		\$17,313		Occupational Health & Safety Officer (.5 FTE addition) 10%			X	.5 FTE needs to be adopted-- .5 FTE has already been adopted and is budgeted with funding from Zero Waste Fund. The remaining .5 FTE is needed to make 1 FTE.
158	142 Total			\$0	\$26,189						
159	143	Business Economic Development	Economic Development		\$12,000		Nabolom Bakery & Pizzeria Loan		X		Additional funds for a \$150,000 loan to Nabolom Bakery & Pizzeria. Approved by Loan Administration Board on 11/29/18 through Resolution 18-02
160	143 Total			\$0	\$12,000						

FY 2019 Departmental Carryover Requests and FY 2020 Adjustments

Attachment 2

Item #	Fund #	Fund Name	Department	Recommended Carryover	Recommended Adjustment	Project Number	Description/Project name	Mandated by Law	Authorized by Council	City Manager Request	Comments/Justification
161	146	Employee Training	Information Technology	\$37,583			ServiceNow Training for City Staff and IT Staff Training		X		Training city staff to use the ServiceNow ticketing and project management tool. To Council 19NOV19, budgeted in FY19.
162	146	Employee Training	Information Technology	\$25,000			IT Coaching		X		Coaching services for IT. 68,442-N.S. 15MAY18
163	146 Total			\$62,583	\$0						
164	148	Cultural Trust	Economic Development	\$141,144			Private Percent for Arts			X	Carryover funds for Private Percent for Arts projects
165	148 Total			\$141,144	\$0						
166	149	Private Party Sidewalks	Public Works	\$50,000			Roadway & Streets			X	Carryover funds from FY 2019 for construction of Roadway and Streets
167	149	Private Party Sidewalks	Public Works	\$49,973			Roadway & Streets Field Supplies			X	Carryover funds from FY 2019 for roadway & Streets Field Supplies
168	149 Total			\$99,973	\$0						
169	150	Public Art Fund	OED	\$10,516			Various public art projects			X	There are a number of pending Public Art projects to utilize this funding. Historically this funding is carried over from year to year, in accordance with the City's Public Art policy.
170	150 Total			\$10,516	\$0						
171	157	Tobacco Control	Health, Housing & Community	\$131,815						X	State Tobacco Carryforward from FY19 to FY20
172	157 Total			\$131,815	\$0						
173	158	Mental Health State Aid Realignment	Health, Housing & Community Services		\$50,000		Merrit Hawkins Contract		X		To pay for 50% for an expenditure contract with Merrit Hawkins: Recruitment Services for a Psychiatrist. Approved by Council on 7/23/19 through Resolution No. 69,034-N.S.
174	158	Mental Health State Aid Realignment	Public Works	\$362,595		Public WorksENCB 1405	Mental Health Services Center Renovation			X	Carryover from FY 2019 for Mental Health Center Renovation Project
175	158 Total			\$362,595	\$50,000						
176	159	City Optional Public Safety	Police		\$50,000		Citizens' Option for Public Safety			X	Increased funding for departmental contracts.
177	159 Total			\$0	\$50,000						
178	309	OTS DUI Enforcement Education Program	Police		\$200,000		FY 2020 Office of Traffic Safety Grant		X		New Grant from the Office of Traffic Safety to fund strategies to reduce the number injuries and deaths related to traffic collisions in the City of Berkeley. Approved by Council on 7/23/19 through Resolution #69,052 -N.S.
179	309 Total			\$0	\$200,000						
180	312	Health (General)	Health, Housing & Community		\$1,279	HHHPTB2001	Tuberculosis Grant			X	Revise budget for Tuberculosis Grant for FY 2020 based on additional allocation from State.
181	312	Health (General)	Health, Housing & Community		\$15,187	HHPMCA2001	Maternal Child and Adolescent Grant			X	Revise budget for Maternal Child and Adolescent Health Grant for FY 2020 based on additional allocation from State.
182	312 Total			\$0	\$16,466						
183	313	Target Case Mgmt/Linkages TCM Link	Information Technology	\$100,320			Persimmony International for Electronic Case Management System Implementation		X		Carryover funding per Reso 67,605 for contract: Persimmony International, Inc. for Electronic Case Management System Implementation
184	313 Total			\$100,320	\$0						
185	315	Mental Health Services Act	Mental Health		\$100,000		Funds for MHSA Expenditure Contracts for FY20: Primary Care Planning Project (\$100,000)			X	Appropriate to add Mental Health Services Act (MHSA) funds to Mental Health's FY 2020 budget to support MHSA plan
186	315	Mental Health Services Act	Mental Health		\$1,731,875		To Support Various MHSA-funded position and contracts			X	Appropriate funds to add Mental Health Services Act (MHSA) funds to Mental Health's FY20 budget to support MHSA plan
187	315 Total			\$0	\$1,831,875						
188	316	Health (Short/Doyle)	Mental Health		\$109,000		To procure evaluation services of the current mental health crisis in			X	Appropriate Medi-Cal funds to required to FY 2020 budget for mental health crisis evaluation

Item #	Fund #	Fund Name	Department	Recommended Carryover	Recommended Adjustment	Project Number	Description/Project name	Mandated by Law	Authorized by Council	City Manager Request	Comments/Justification
189	316	Health (Short/Doyle)	Mental Health		\$50,000		Merrit Hawkins Contract		X		To pay for 50% for an expenditure contract with Merrit Hawkins: Recruitment Services for a Psychiatrist. Approved by Council on 7/23/19 through Resolution No. 69,034-N.S.
190	316 Total			\$0	\$159,000						
191	318	Alcoholic Beverage Container OTS/UC	Police		\$15,000		FY 19-20 Alcoholic Beverage Control Grant		X		New Grant Award from California Department of Alcoholic Beverage Control for FY 2020 for the enforcement of alcohol related laws. Approved by Council on 7/23/19 through Resolution No. 69,053 - N.S.
192	318 Total			\$0	\$15,000						
193	320	Senior Nutrition (Title III)	Health, Housing & Community Services		\$9,673	HHAMOW2001	Senior Meals Program Grants			X	Revise Grant budgets for the Congregate Meal Program and Home Delivered Meal Program based on the funding awarded by Alameda County.
194	320 Total			\$0	\$9,673						
195	326	Alameda County Grants	Health, Housing & Community Services		\$12,038		School Linked Health Services			X	Revise Grant budget from Alameda County Public Health Nursing for School Linked Health Services.
196	326	Alameda County Grants	Health, Housing & Community Services		\$3,746	HHPTOB2001	MSA Tobacco Grant-Alameda County			X	To adjust budget to match FY2020 funds awarded by Alameda County
197	326 Total			\$0	\$15,784						
198	327	Senior Supportive Social Services	Health, Housing & Community Services		\$1,822	HHACON2001	Information & Assistance Grant			X	Revise Senior Information & Assistance Grant Budget based on funding awarded by Alameda County.
199	327 Total			\$0	\$1,822						
200	331	Housing Mitigation	Health, Housing & Community Services	\$1,051,751			Housing Trust Fund			X	Carryover funds for Housing Trust Fund Projects in FY 2020
201	331 Total			\$1,051,751	\$0						
202	336	One-Time Grant: No Cap Exp	Health, Housing & Community Services		\$2,816,827	HHHEAP1901	Homeless Emergency Aid Program Grant		X		Appropriate FY 2020 grant funds from Alameda County Housing & Community Development Department for the Californian Homeless Emergency Program. Adopted by Council on 3/12/19 through Resolution 68,779 N.S.
203	336	One-Time Grant: No Cap Exp	Health, Housing & Community Services		\$75,000	HHHNPL2001	No Place Like Home Grant		X		Appropriate funds from the California Department of Housing and Community Development for its No Place Like Home Program Technical Assistance grant. Approved by Council on 10/3/17 through Resolution 68,165-N.S.
204	336	One-Time Grant: No Cap Exp	Health, Housing & Community Services		\$150,000	HHHKSR2001	Kaiser Permanente Grant		X		Grant from Kaiser Permanente to support the Pathways STAIR Center. Approved by Council on 2/26/19 through Resolution 68,767-N.S.
205	336	One-Time Grant: No Cap Exp	Health, Housing & Community Services		\$265,347		Homeless Mentally Ill and Treatment Team - MH-Adult Triage Grant			X	Appropriate unexpended FY2019 Mental Health grant funds awarded in FY 2019.
206	336	One-Time Grant: No Cap Exp	Mental Health		\$50,000		Fund New MH Grant-One Time Grant-Medication Assisted Treatment Grant (Sierra Foundation)-Contract #CA19MAT025		X		A \$50,000 grant from The Center at Sierra Health Foundation for expansion of Medication Assisted Treatment (MAT) services for individuals with Opioid Use Disorders at Berkeley Mental Health. Approved by Council on 10/15/19 through Resolution No. 69,126 - N.S.
207	336	One-Time Grant: No Cap Exp	Parks, Recreation & Waterfront		\$250,000	PRWT119007	Water Emergency Tmosp Authority (WETA) Funding		X		Appropriate FY 2020 grant funds from the Water Emergency Transportation Authority (WETA) for the Planning Phase for the Viability of a new WETA Ferry Service and Public Recreation Pier @ the Berkeley Marina Resolution 68,782 N.S.
208	336	One-Time Grant: No Cap Exp	Planning		\$7,000		San Francisco Foundation Grant		X		Grant from the San Francisco Foundation to receive technical assistance from SEEDs Collaborative to help develop a competitive Partnership for the Bay's Future Challenge Grant proposal. Approved by Council on 9/24/19 through Resolution No. 69,114-N.S.
209	336	One-Time Grant: No Cap Exp	Planning	\$9,959			11th Hour Grant		X		Grant from the Schmidt Family Foundation for the 11th Hour Project to support a City of Berkeley Curbside Electric Vehicle Charging Project. Approved by Council on 10/7/14 through Resolution 66,808-N.S.
210	336	One-Time Grant: No Cap Exp	Public Works		\$14,000		CARE California Carpet Stewardship Program - Carpet Recycling Grant			X	Appropriate unexpended FY 2019 Carpet Collection/Reuse Program Grant funds that need to be spent by November 1, 2019.
211	336	One-Time Grant: No Cap Exp	Parks, Recreation & Waterfront		\$25,000		B.U.R.P.'s ERA Construction			X	Appropriate funds for B.U.R.P.'s ERA construction costs.

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212	336	One-Time Grant: No Cap Exp	Public Works	\$300,971		Public WorksENSD 1819	18SD19 Codornices Creek @ Kains			X	Carryover request to continue the project into the construction phase
213	336 Total			\$310,930	\$3,653,174						
214	340	FEMA	Public Works		\$22,650	18CB01	North Berkeley Senior Center			X	Appropriate remaining available budget for North Berkeley Senior Center project.
215	340 Total			\$0	\$22,650						
216	344	CALTRANS GRANT	Public Works	\$10,227		Public WorksTRCT1 803	NB Bart/Sacramento St Complete Streets			X	Carryover funds from FY 2019 to complete the design phase of North Berkeley BART/Sacramento St Complete Streets project.
217	344 Total			\$10,227	\$0						
218	345	Measure WW	Parks, Recreation & Waterfront	\$1,060,274			James Kenney Park, Picnic and Play Project			X	Carryover funding for construction of the James Kenney park, picnic, and play project.
219	345	Measure WW	Parks, Recreation & Waterfront	\$387,555			John Hinkel Park			X	Contract with Ghilotti Construction Company for John Hinkel Park Improvement Project
220	345 Total			\$1,447,829	\$0						
221	349	JAG Grant	Police		\$70,000		FFY2017 JAG			X	New Grant Changed to a Reimbursement Grant. Grant funding delayed due to Sanctuary City Lawsuit resolution.
222	349 Total			\$0	\$70,000						
223	501	Capital Improvement	Information Technology	\$544,357			Replacement of Backup System			X	Replacement of the existing Barracuda backup system. Funds will be transferred to IT Cost Allocation Fund.
224	501	Capital Improvement	Information Technology		\$500,000		IT Move			X	Move of IT Staff to 1947 Center Street and remodel of existing IT space at 2180 Milvia Street
225	501	Capital Improvement	Non-Departmental		\$406,952		Transfer to Workers' Compensation Fund		X		Transfer of Excess Property Transfer Tax Revenue from General Fund then transferred to Workers' Compensation Fund to repay loan to purchase Premier Cru (University Center).
226	501	Capital Improvement	Parks, Recreation & Waterfront	\$467,000			Echo Lake and Cazadero capital projects			X	Carryover funds from FY 2019 for Echo Lake and Cazadero capital projects that were scheduled for FY2019, but have been delayed to FY 2020.
227	501	Capital Improvement	Parks, Recreation & Waterfront		\$1,505,000		Waterfront Immediate Capital Needs		X		Appropriate funds for Waterfront Immediate Capital Needs from Excess Property Transfer Tax/Excess Equity. Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution
228	501	Capital Improvement	Public Works	\$127,078		Public WorksENCB 1507	Fire Station #2 Kitchen Remodel			X	Carryover funds from FY 2019 for Design-Closeout of Fire Station #2 Kitchen Remodel
229	501	Capital Improvement	Public Works	\$120,000		Public WorksENSD 1804	Hillview Woodside			X	Carryover funds from FY 2019 for construction phase of Hillview Woodside
230	501	Capital Improvement	Public Works		\$250,000		Relocate PEOs to Marina (University)		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
231	501	Capital Improvement	Public Works		\$120,000		Fleet, Zero Waste, Facilities Software Costs Above ERMA		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
232	501	Capital Improvement	Public Works		\$100,000		Reserved for Pedestrian/Bicycle Safety Improvements		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
233	501	Capital Improvement	Public Works		\$500,000		50/50 Sidewalk (backlog)		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
234	501	Capital Improvement	Public Works		\$600,000		EV charging stations at the corp yard and the University parking lot for alternative fuel vehicles		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
235	501	Capital Improvement	Public Works	\$195,000			Roadway & Streets			X	Carryover funds from FY 2019 for construction of Roadway and Streets
236	501	Capital Improvement	Public Works	\$237,980			Professional Misc Svcs & Field Supplies			X	Carryover funds from FY 2019 for miscellaneous professional services and field supplies
237	501	Capital Improvement	Public Works	\$597,950			Deferred Building Repairs			X	Carryover funds from FY 2019 for emergency and deferred building repairs.
238	501	Capital Improvement	Public Works	\$76,767		Public WorksTRCT1 803	NB Bart/Sacramento St Complete Streets			X	Carryover funds from FY 2019 to complete the design phase of North Berkeley BART/Sacramento St Complete Streets project.
239	501	Capital Improvement	Public Works	\$1,936,509		Public WorksENSG 1801	Cratus Inc. Contract			X	Carryover funds from FY 2019 for the Cratus Inc contract #31900192.
240	501	Capital Improvement	Public Works	\$32,620	\$12,380		7th/Anthony Traffic Signals Improvement			X	Carryforwad funds and appropriate new funds for the final design phase of the 7th/Anthony Traffic Signals Improvements.
241	501	Capital Improvement	Public Works		\$800,000		1951 Shattuck		X		Appropriate funds for the traffic signal at 1951 Shattuck. It needs to be in place prior to certificate of occupancy.
242	501	Capital Improvement	Public Works		\$143,802		Add 1.0 FTE Associate Civil Engineer		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)

Item #	Fund #	Fund Name	Department	Recommended Carryover	Recommended Adjustment	Project Number	Description/Project name	Mandated by Law	Authorized by Council	City Manager Request	Comments/Justification
243	501	Capital Improvement	Public Works		\$80,986		Add 1.0 FTE (Traffic) Engineering Inspector		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
244	501	Capital Improvement	Public Works		\$14,643		Convert Assistant Architect to Assistant Engineer		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
245	501	Capital Improvement	Public Works		\$20,000		Convert existing Sr. Building Inspector to Senior Engineering Inspector		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
246	501	Capital Improvement	Public Works		\$35,503		Add 1.0 FTE Senior Management Analyst 20%		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
247	501	Capital Improvement	Public Works		\$42,000		Intern		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
248	501	Capital Improvement	Public Works		\$116,260		Converting existing temp. Associate Civil Engineer position to permanent FTE			X	This change is for .70 FTE of the position and will cost the fund \$116,260.
249	501 Total			\$4,335,261	\$5,247,525						
250	503	FUND\$ Replacement	Information Technology		\$649,000		FUND\$ Application Upgrade			X	Current FUND\$ Application Software Support ends DEC 2020
251	503	FUND\$ Replacement	Information Technology		\$1,250,000		New FUND\$ Replacement Project			X	Additional Funding Needs for FUND\$ Replacement Project
252	503	FUND\$ Replacement	Information Technology	\$7,492,060			Existing FUND\$ Replacement Project			X	FUND\$ Replacement Project
253	503 Total			\$7,492,060	\$1,899,000						
254	506	Measure M - ST and WTRSHD IMPRV	Public Works	\$1,000		18SG01/ Public WorksENSG 1801	Measure M LID FY18 Woolsey			X	Carryover funds from FY 2019 for Printing of LID FY18 Woolsey.
255	506	Measure M - ST and WTRSHD IMPRV	Public Works		\$440,748	Public WorksENSG 1801	Cratus Inc. Contract			X	Carryover funds from FY 2019 for the Cratus Inc contract #31900192.
256	506 Total			\$1,000	\$440,748						
257	511	Measure T1 Infrastructure & Facilities	OED	\$345,535			T1 Public Art Projects			X	Public art projects at North Berkeley Senior Center and San Pablo Park are in development.
258	511	Measure T1 Infrastructure & Facilities	Parks, Recreation & Waterfront	\$27,725		T1PK10	Citywide restroom assessments			X	Carryover funding appropriated in FY 2019 to complete the citywide restroom assessment.
259	511	Measure T1 Infrastructure & Facilities	Parks, Recreation & Waterfront	\$68,183			Aquatic Park Tide Tubes			X	Carryover funding appropriated in FY 2019 for the Aquatic Park Tide Tubes
260	511	Measure T1 Infrastructure & Facilities	Parks, Recreation & Waterfront	\$27,612		T1PK03	Frances Albrier Community Center			X	Carryover funds from FY 2019 to complete the design of the Frances Albrier Community Center.
261	511	Measure T1 Infrastructure & Facilities	Parks, Recreation & Waterfront	\$75,000		T1PK16	Willard Clubhouse			X	Carryover funds from FY 2019 to complete the design of Willard Clubhouse
262	511	Measure T1 Infrastructure & Facilities	Parks, Recreation & Waterfront		\$1,144,907	PRWT119005	Live Oak Park Community Center Seismic Upgrade		X		Funds for contract with Mar Con Builders for the Live Oak Community Center Seismic Upgrade project. Approved by Council on 9/24/19 through Resolution No. 69.112-N.S.
263	511	Measure T1 Infrastructure & Facilities	Parks, Recreation & Waterfront	\$71,766		PRWT119008	George Florence Park Playground Renovation Project			X	Carryover funds from FY 2019 to complete the renovation of the playground at George Florence Park
264	511	Measure T1 Infrastructure & Facilities	Parks, Recreation & Waterfront		\$26,978	PRWT119007	Add'l Funding for GHD Contract			X	Appropriate FY 2020 Measure T1 funds for GHD Contract.
265	511	Measure T1 Infrastructure & Facilities	Parks, Recreation & Waterfront	\$120,490	\$0	PRWT119010	Hyphae contract for Citywide Restroom Assessment			X	Carryover funds for Hyphae contract for the Citywide Restroom Assessment. Entered as a NTE instead of Encumbered contract.
266	511	Measure T1 Infrastructure & Facilities	Public Works		\$128,072	Public WorksT1PG1902	T1 Facilities/Equipment/Services/Supplies			X	Appropriate FY 2020 Measure T1 funds for facilities, equipment, supplies, and services costs.
267	511	Measure T1 Infrastructure & Facilities	Public Works	\$735,683		T1Public Works07 & T1Public Works08	Adeline & Hearst & Monterey & Ward			X	Carryover funding appropriated in FY 2019 to continue the street rehabilitation at various locations.
268	511	Measure T1 Infrastructure & Facilities	Public Works	\$376,430		Public WorksT1CB1902	Old City Hall/Vet's Bldg/Civic Center Park			X	Carryover funding appropriated in FY 2019 for consultant contract (T1Public Works02) to complete the Civic Center Vision Plan project.
269	511	Measure T1 Infrastructure & Facilities	Public Works	\$1,144,887		Public WorksT1CB1901 T1Public Works01	North Berkeley Senior Center			X	Carryover funding appropriated in FY 2019 for Seismic Upgrade and Renovation of North Berkeley Senior Center
270	511	Measure T1 Infrastructure & Facilities	Public Works	\$662,000		Public WorksT1G1906 T1Public Works06	T1 Green Infrastructure			X	Carryover funding appropriated in FY 2019 to Install Bio Swales, Rain Gardens & Pervious pavers for clean Storm water.
271	511	Measure T1 Infrastructure & Facilities	Public Works		\$287,290	Public WorksT1ST1907-511	T1 Streets: Adeline & Hearst			X	Appropriate funds for Adeline and Hearst Pavement Engineering Task Order.

Item #	Fund #	Fund Name	Department	Recommended Carryover	Recommended Adjustment	Project Number	Description/Project name	Mandated by Law	Authorized by Council	City Manager Request	Comments/Justification
272	511 Total			\$3,655,311	\$1,587,247						
273	601	Zero Waste Fund (Clean Cities Program)	Public Works		\$28,000		Pressure Washer			X	Appropriate funds for pressure washer
274	601	Zero Waste	Public Works		\$30,271		Add 1.0 FTE Assistant Planner		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
275	601	Zero Waste	Public Works		\$86,566		Occupational Health and Safety Officer shared (.50 FTE)			X	Establish budget; .5 FTE is approved from ZW (in the amount of \$86,566)
276	601	Zero Waste	Public Works		\$35,503		Add 1.0 FTE Senior Management Analyst 20%		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
277	601 Total			\$0	\$180,340						
278	606	MAR - Coastal Conservancy	Parks, Recreation & Waterfront	\$125,400		PRWWF17003	SouthCove ADA Accessible Ramp			X	Appropriate funds for the South Cove ADA Accessible Ramp.
279	606 Total			\$125,400	\$0						
280	608	Marina Fund	Parks, Recreation & Waterfront	\$95,000		PRWWF19004	Cover expenses for 199 Seawall Security and Janitorial Services			X	Appropriate from the Marina Fund Reserve to pay for 199 Seawall security and janitorial services.
281	608	Marina Fund	Parks, Recreation & Waterfront	\$435		PRWWF20003	Permit Fees for Hana Japan			X	Appropriate from the Marina Fund to pay for an outstanding invoice from the Building Permits department the Hana Japan Beam Repair
282	608	Marina Fund	Parks, Recreation & Waterfront	\$216,512		PRWWF17003	SouthCove ADA Accessible Ramp			X	Appropriate funds for the South Cove ADA Accessible Ramp.
283	608	Marina Fund	Parks, Recreation & Waterfront	\$109,873		PRWWF19005	South Cove Small Dock Replacements			X	Appropriate funds for the South Cove Small Dock Replacements
284	608	Marina Fund	Parks, Recreation & Waterfront	\$10,670			South Cover Small Dock Replacements - Accudock Use Tax 9.25%			X	Appropriate funds to cover the 9.25% use tax for Accudock for the South Cove Small Dock Replacements
285	608 Total			\$432,490	\$0						
286	611	Sanitary Sewer Operation	Public Works	\$629,522		Public WorksENSR 1904	Portland Avenue, Santa Fe, Kains, et. Al Construction			X	Carryforwad funds to complete construction of project at Portland Avenue, Santa Fe, Kains, et. Al
287	611	Sanitary Sewer Operation	Public Works		\$68,111		Add 1.0 FTE Assistant Planner		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
288	611	Sanitary Sewer Operation	Public Works		\$50,751		Add 1.0 FTE Administrative Assistant		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
289	611	Sanitary Sewer Operation	Public Works		\$23,328		Convert existing Architect position to Assistant Civil Engineer		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
290	611	Sanitary Sewer Operation	Public Works		\$26,887		Convert existing Drafting Technician to a Junior Public Works Engineer		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
291	611	Sanitary Sewer Operation	Public Works		\$35,503		Add 1.0 FTE Senior Management Analyst 20%		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
292	611	Sanitary Sewer Operation	Public Works		\$42,000		Intern		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
293	611	Sanitary Sewer Operation	Public Works		\$25,970		Occupational Health & Safety Officer (.5 FTE addition) 15%			X	.5 FTE needs to be adopted-- .5 FTE has already been adopted and is budgeted with funding from ZW, the remaining .5 FTE is needed to make 1 FTE
294	611 Total			\$629,522	\$272,549						
295	616	Clean Storm Water	Public Works	\$120,000		18SD04	Hillview Woodside			X	Carryover funds from FY 2019 for construction phase of Hillview Woodside
296	616	Clean Storm Water	Public Works		\$30,271		Add 1.0 FTE Assistant Planner		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
297	616	Clean Storm Water	Public Works		\$310,000		Skilled Laborer		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
298	616	Clean Storm Water	Public Works		\$153,000		Laborer		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
299	616	Clean Storm Water	Public Works		\$8,876		Add 1.0 FTE Senior Management Analyst		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
300	616	Clean Storm Water	Public Works		\$42,000		Intern		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
301	616	Clean Storm Water	Public Works		\$8,657		Occupational Health & Safety Officer (.5 FTE addition) 5%			X	.5 FTE needs to be adopted-- .5 FTE has already been adopted and is budgeted with funding from ZW, the remaining .5 FTE is needed to make 1 FTE.
302	616 Total			\$120,000	\$552,804						

Item #	Fund #	Fund Name	Department	Recommended Carryover	Recommended Adjustment	Project Number	Description/Project name	Mandated by Law	Authorized by Council	City Manager Request	Comments/Justification
303	621	Permit Service Center	Information Technology		\$339,706		Contract Amendment No. 10036C for Truepoint Solutions, LLC for ACCELA		X		Amend Contract No. 10036C with TruePoint Solutions, LLC for professional services, increasing the amount by \$276,000, for a total not-to-exceed amount of \$617,200, and for the term beginning June 1, 2015 to June 30, 2021. Approved by Council on June 25, 2019 through Resolution 68,978-N.S.
304	621	Permit Service Center	Public Works		\$25,376		Add 1.0 FTE Administrative Assistant		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
305	621	Permit Service Center	Public Works		\$221,132		Add 1.0 FTE Associate Traffic Engineer		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
306	621	Permit Service Center	Public Works		\$63,740		Add 1.0 FTE Associate Civil Engineer		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
307	621	Permit Service Center	Public Works		\$80,986		Add 1.0 FTE (Traffic) Engineering Inspector		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
308	621	Permit Service Center Fund	Public Works		\$175,000		5 Priuses			X	Add expenditure budget to Public Works's Permit Service Center Fund allocation, supported by revenue
309	621	Permit Service Center Fund	Public Works		\$63,740		Converting existing temp. Associate Civil Engineer position to permanent FTE			X	Cost to Permit Service Center Fund is for .3 FTE (\$63,740)
310	621 Total			\$0	\$969,680						
311	627	Off Street Parking Fund	Public Works		\$30,000		New Vehicles			X	Appropriate funds for new vehicle for the garages daily operations.
312	627	Off Street Parking Fund	Public Works	\$554,340			Center Street Garage Project			X	Carryforward funds for Center Street Garage project to complete it
313	627 Total			\$554,340	\$30,000						
314	631	Parking Meter Fund	Public Works		\$85,000					X	Appropriate funds for new vehicle for meter revenue and overall operations.
315	631	Parking Meter Fund	Public Works		\$8,876		Add 1.0 FTE Senior Management Analyst		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
316	631	Parking Meter Fund	Public Works		\$50,751		Add 1.0 FTE Administrative Assistant		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
317	631 Total			\$0	\$144,627						
318	636	BLDG Purchases & MGMT	Public Works		\$4,146		Reclass Warehouse Operations Specialist to Building Maintenance Mechanic		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
319	636 Total			\$0	\$4,146						
320	671	Equipment Replacement	Public Works		\$25,970		Occupational Health & Safety Officer (.5 FTE addition) 15%			X	.5 FTE needs to be adopted-- .5 FTE has already been adopted and is budgeted with funding from ZW, the remaining .5 FTE is needed to make 1 FTE.
321	671 Total			\$0	\$25,970						
322	672	Equipment Maintenance	Public Works		\$120,245		Add 1.0 Office Specialist III		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
323	672 Total			\$0	\$120,245						
324	673	Building Maintenance	Public Works		\$83,257		Public Works Lease Payments @ 1947 Center Street			X	Appropriate funds for FY 2018, 2019 & 2020 Public Works Lease Payments for 1947 Center Street, 5th Floor Occupancy
325	673	Building Maintenance	Public Works		\$19,024		Reclass Warehouse Operations Specialist to Building Maintenance Mechanic		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
326	673	Building Maintenance	Public Works		\$14,643		Convert Assistant Architect to Assistant Engineer		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
327	673	Building Maintenance	Public Works		\$8,876		Add 1.0 FTE Senior Management Analyst		X		Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69,010-N.S.)
328	673	Building Maintenance	Public Works		\$8,657		Occupational Health & Safety Officer (.5 FTE addition) 5%			X	.5 FTE needs to be adopted-- .5 FTE has already been adopted and is budgeted with funding from ZW, the remaining .5 FTE is needed to make 1 FTE.
329	673 Total			\$0	\$134,456						
330	675	Computer Replacement Fund	Information Technology	\$114,000			Tech ISF: Network Devices			X	IT cost allocation replacement smoothing
331	675 Total			\$114,000	\$0						

Item #	Fund #	Fund Name	Department	Recommended Carryover	Recommended Adjustment	Project Number	Description/Project name	Mandated by Law	Authorized by Council	City Manager Request	Comments/Justification
332	678	Public Liability	City Attorney		\$1,200,000		City Attorney Outside Counsel, Court Costs, and Claims & Judgements			X	Additional funds to pay for outside counsel, court costs, and claims and judgements in FY 2020
333	678 Total			\$0	\$1,200,000						
334	680	IT Cost Allocation	Information Technology	\$322,000			TechISF: Servers and Storage			X	IT cost allocation replacement smoothing
335	680	IT Cost Allocation	Information Technology	\$149,139			TechISF: Network Devices			X	IT cost allocation replacement smoothing
336	680	IT Cost Allocation	Information Technology	\$28,260			TechISF: Wifi Replacement			X	IT cost allocation replacement smoothing
337	680	IT Cost Allocation	Information Technology	\$5,202			TechISF: UPS			X	IT cost allocation replacement smoothing
338	680	IT Cost Allocation	Information Technology	\$224,200			TechISF: Microsoft EA			X	IT cost allocation replacement smoothing
339	680	IT Cost Allocation	Information Technology	\$16,616			TechISF: PC Replacement			X	IT cost allocation replacement smoothing
340	680	IT Cost Allocation	Information Technology	\$171,876			GIS Master Plan: Master Address Database			X	Update address management system that feeds the FUNDS LX module and E911.
341	680	IT Cost Allocation	Information Technology	\$65,000			PRA tool: Implementation and Licenses			X	Digital Strategic Plan project no. 3.10
342	680	IT Cost Allocation	Information Technology	\$178,895			CRM Tool: Implementation and Licenses			X	RFP to be released December 2019
343	680	IT Cost Allocation	Information Technology	\$250,000			Data Architecture and Integrations			X	Data integration for FUNDS Replacement-Phase 2 projects into Munis
344	680	IT Cost Allocation	Information Technology	\$18,000			Security Intern			X	Program support for the cyber security program
345	680	IT Cost Allocation	Information Technology	\$12,000			SolarWinds Subscription			X	FY19 Close PO 21902811
346	680	IT Cost Allocation	Information Technology	\$51,305			Firewall Subscription			X	FY19 Close PO 21902886
347	680	IT Cost Allocation	Information Technology	\$54,700			Gartner Subscription			X	FY19 Close PO 21902888
348	680	IT Cost Allocation	Information Technology		\$395,931		Nutanix: Switches, Prof. Svcs., Maintenance			X	Data center upgrade and implementation of a disaster recovery system. 68,868-N.S. 14MAY19. Funds transferred from General Fund to IT Cost Allocation Fund.
349	680	IT Cost Allocation	Information Technology		\$192,570		IT Space Needs - Ongoing for 1947			X	Facilities fee for 1947 space. Funds transferred from General Fund to IT Cost Allocation Fund.
350	680	IT Cost Allocation	Information Technology		\$544,357		Replacement of Backup System			X	Replacement of the existing on-premise server backup solution. Moved from Capital Improvement Fund.
351	680	IT Cost Allocation	Information Technology		\$100,969		Facilities Fee from General Fund			X	Facilities fees for 2180 4th floor. Moved from General Fund to IT Cost Allocation Fund
352	680 Total			\$1,547,193	\$1,233,827						
353	778	CFD No. 1 Disaster Fire Protection Bond	Fire		\$280,000		Fire Captain Position		X		Funds for 1.0 FTE Fire Captain for Above Ground Water System. Approved by Council on 6/25/19 as part of the FY 2020 & FY 2021 Budget Adoption (Resolution 69.010-N.S.)
354	778 Total			\$0	\$280,000						
355	Grand Total			\$36,555,858	\$35,588,807						



Office of the City Manager

26

ACTION CALENDAR

December 3, 2019

(Continued from November 19, 2019)

To: Honorable Mayor and Members of the City Council

From: Dee Williams-Ridley, City Manager

Submitted by: Phillip L. Harrington, Director, Public Works

Subject: goBerkeley Residential Shared Parking Pilot Project Update

RECOMMENDATION

Receive a presentation providing an update on the Residential Shared Parking Pilot project, and offer any comments to staff on the implementation of the project.

FISCAL IMPACTS OF RECOMMENDATION

None.

CURRENT SITUATION AND ITS EFFECTS

The Residential Shared Parking Pilot (RSPP) is a grant-funded pilot project with goals of increasing parking availability, reducing greenhouse gas emissions, and improving travel and mobility in the Elmwood and Southside/Telegraph neighborhoods.¹ Inspired by feedback received during the initial goBerkeley pilot, the project is designed to support several groups of people currently sharing residential parking during the day, including residents, local employees, business owners, and visitors. While existing Residential Preferential Parking (RPP) restrictions may work well for residents, the two-hour time limits are challenging for people who need to stay longer, and some non-permitted users move their car every two hours to avoid a citation. This practice causes traffic congestion in neighborhoods, frustration and lost productivity for employees and their employers, and increased pollution from circling for parking, even in areas that have adequate parking availability.

The RSPP project is currently in its information gathering stage, with a consultant team supporting data collection, public outreach, and communication efforts.² As of September 2019, staff are convening a Technical Advisory Committee (TAC), which will provide feedback on the operational feasibility of pilot recommendations, and a Community Advisory Group (CAG), which will provide opportunities for local neighborhood groups and other representatives to help shape and evaluate the pilot

¹ February 23, 2016 Council Meeting: <http://bit.ly/2me6EHN>

² July 24, 2018 Council Meeting: <http://bit.ly/2me7og3>

October 2, 2018 Council Meeting: <http://bit.ly/2lOz4bf>

project. Staff will also use a range of public outreach tools to ensure that all voices are heard so the pilot best responds to community needs.

Staff expect to finalize a summary of existing conditions by the end of 2019, and to develop recommendations for a pilot project that would go into effect in fall 2020.

The Residential Shared Parking Pilot project is a Strategic Plan Priority Project, advancing our goals to:

- Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities;
- Foster a dynamic, sustainable, and locally-based economy;
- Be a global leader in addressing climate change, advancing environmental justice, and protecting the environment; and
- Be a customer-focused organization that provides excellent, timely, easily-accessible service and information to the community.

BACKGROUND

In 2015, the City was awarded a \$950,000 grant from the Metropolitan Transportation Commission (MTC) for the goBerkeley Residential Shared Parking Pilot (Resolution No. 67,382–N.S.). The pilot will test policies to increase parking availability for residents, employees, and visitors; reduce circling for parking; and expand access to non-motorized means of transportation within Residential Preferential Parking (RPP) areas in the Southside and Elmwood neighborhoods.

ENVIRONMENTAL SUSTAINABILITY

According to the State of California Legislative Analyst's Office, transportation was the largest source of greenhouse gas emissions in California in 2016, with 69% of these emissions generated by passenger vehicles.³ Reducing greenhouse gas emissions produced by vehicular traffic is one of the City's 2009 Climate Action Plan goals. Parking management based on user demand should ultimately improve parking availability in commercial and residential areas, and lessen traffic congestion and vehicle emissions as drivers are anticipated to spend less time searching for available parking spaces.

RATIONALE FOR RECOMMENDATION

The RSPD seeks to improve parking availability, air quality, and ease of travel for a variety of stakeholders in its two study areas. Moreover, Council has long supported the goals of the RSPD, authorizing staff to submit a grant application to the MTC (Resolution No. 67,216-N.S.) and subsequently accepting the grant funding to complete the project (Resolution No. 67,382-N.S.).

³ Legislative Analyst's Office Report, December 21, 2018 *Assessing California's Climate Policies—Transportation*: <http://bit.ly/2kKfcFN>

ALTERNATIVE ACTIONS CONSIDERED

None.

CONTACT PERSON

Farid Javandel, Transportation Manager, Public Works, 981-7061

Danette Perry, Parking Services Manager, Public Works, 981-7057

Gordon Hansen, Senior Planner, Public Works, 981-7064



Homeless Services Panel of Experts

27a

ACTION CALENDAR

December 3, 2019

(Continued from November 19, 2019)

To: Honorable Mayor and Members of the City Council
From: Homeless Services Panel of Experts
Submitted by: Katharine Gale, Chairperson
Subject: Recommendations for Allocation of FY19/20 Measure P Funds

RECOMMENDATION

Approve recommendations for the allocation of FY19/20 General Funds at least commensurate with resources accrued to date from the passage of Measure P. Refer to the City Manager to produce data regarding the percentage of those transported with County Emergency Mental Health Transport who are homeless, and other sources that could be used to cover this cost.

SUMMARY

The Homeless Services Panel of Experts recommends that the City allocate general funds to a variety of critical activities including permanent housing, shelter, supportive services and other program types to address the current crisis of homelessness in Berkeley. The recommended priority order, percentages, types of activities and subpopulation considerations are included as Attachment 1 to this report.

FISCAL IMPACTS OF RECOMMENDATION

Recommendations covered by this report allocate general fund resources for homeless housing and services in an undetermined amount to be at least commensurate with those raised to date under the transfer tax authorized under Measure P (minus those previously allocated by Council).

CURRENT SITUATION AND ITS EFFECTS

Homeless is increasing in the City of Berkeley and throughout the Bay Area. Between 2017 and 2019 homelessness in Berkeley at a point-in-time has risen by 13%, affecting more than 1,100 people on any given night. Recognizing the need for additional housing and services and for humane measures to address the impacts of homelessness, the Voters of Berkeley passed Measure P in November 2018 which collects a specified transfer tax with the intention to use these additional funds to address homelessness in the City of Berkeley.

Measure P established a Homeless Services Panel of Experts to advise the City Council. The Panel consists of nine members with a deep level of expertise in areas relevant to homelessness, including persons with extensive professional and/or lived experience with homelessness. The Panel began meeting in May 2019. Katharine Gale and Yesica Prado are the elected chair and vice-chair of the Panel.

Addressing homelessness is a Strategic Plan Priority Project, advancing the City's goal to create affordable housing and supportive services for our most vulnerable community members.

Process

This report provides the Panel's first recommendations for initial investments from General Funds to increase and improve housing and services to address homelessness in Berkeley. In order to develop these recommendations, the Panel first adopted a Purpose Statement (attached). The Panel reviewed all of the referrals made to us since the Measure's passage in light of our adopted statement. This included the funding requests and referrals included in the January 2019 Measure P Informational report to Council as well as additional referrals, formal and informal, sent to the Panel since that time. We also considered information we were presented by City staff regarding current City of Berkeley investments, local and regional strategies, the 2019 Point-in-Time Count, and the 1,000 Person Plan.

A Mission and Budget Subcommittee of the Panel meet and categorized the referrals we received by areas of investment (permanent housing, shelter, etc.) and proposed initial percentages to each area, as well as a process to determine the final recommendations. The full Panel reviewed the investment areas, added additional activities/program types to the areas, prioritized the program types within each area, and made recommended adjustments to the percentages, resulting in the recommended allocations attached to this report. Our recommendation regarding shelter and temporary accommodations includes the potential to use funds to support sanctioned encampments if approved by a Council policy and we encourage the City to give consideration to this approach.

The Panel also adopted subpopulation priorities within the key investment areas of permanent housing subsidies, and flexible housing subsidies. These include establishing a \$500,000 set-aside for permanent housing subsidies for homeless families with children. This also includes a recommended 20% set-aside for families and transition-age youth in flexible housing subsidies, using the McKinney-Vento (i.e. Berkeley Unified School Districts) definition of homelessness, though not limited to families with school-age children.

As stated above, the actual amount of funding to be allocated has yet to be determined. The agreed upon order of priority and percentages is included as Attachment 1. The Panels' priorities within each area are expressed in the order of activities. We

recommend that higher ranked activities be given a greater priority for resources, but we recognize that some activities we have recommended may be funded using other resources at the City's disposal. Activities left out of our table, such as Public Works street cleaning, and general street outreach, were not recommended for funding from Measure P at this time.

Objection to Full Funding for Emergency Mental Health Transport

The Panel notes that the amount available for us to allocate was reduced by nearly \$1.5 million in FY19/20 based on commitments recommended previously by the City Manager for City staff and for Mental Health Emergency Transport. We understand that FY19/20 funding is already committed but we wish to express our strong objection to the pre-allocation of \$2.4 million in FY20/21 Measure P-generated funding to fully cover these transportation costs. Measure P was passed by the voters of Berkeley to address the crisis of homelessness; while some people who experience homelessness may require emergency mental health transportation, this service is not limited to people who are homeless and was not budgeted with consideration that most people who will be transported will be people who are housed. In addition, this service does not result in greater housing or shelter for people who are homeless and we believe is not consistent with the purpose of Measure P. **We recommend the Council refer to the City Manager to produce information regarding the percentage of those transported who are homeless and other potential sources to cover this expense.** We hope to make recommendations for next year's investments with consideration to this.

Next Steps

The HSPE recognizes that it was established not only to make recommendations about investment amounts but also to advise on methods and practices. A companion letter will be sent to Council to accompany this report with additional recommendations and considerations for how to ensure Berkeley's programming is consistent with best practices.

Future work of the Panel will include developing an Action Plan for the coming year, and coordinating with Measure O to plan for future developments. Future work may include recommendations regarding establishing a goal of ending family homelessness or other City-wide goals.

BACKGROUND

Measure P was passed by the voters of Berkeley in 2018. The Homeless Services Panel of Experts began meeting in May of 2019. To guide our work, in August 2019 we have adopted a Statement of Purpose. This Statement is provided as Attachment 2 to this report and is a guide to the recommendations made in this Report.

At their September 4, 2019 regular meeting, the Homeless Services Panel of Experts took the following action regarding these recommendations:

Action: M/S/C Sutton/Trotz to adopt Budget A as amended:

- (i) Re-prioritize item #2 (Permanent Housing) as item #1 (and vice-versa), and within the Permanent Housing category:
 - a. Replace “permanent supportive housing” with “permanent housing”;
 - b. Strike the language under “Additional considerations”;
 - c. Add “establish a minimum set-aside of \$500,000 for homeless families in this category”; Note that Transition-Age Youth should be included in funding for adults.
- (ii) Remove the recommended dollar amounts in each funding category, replacing them with percentage allocations, and change the allocations to each category as follows:
 - a. #1 – Permanent Housing: 30%
 - b. #2--Shelter and Temporary Accommodations: 30%
 - c. #3--Immediate Street Conditions and Hygiene: 14%
 - d. #4--Supportive Services: 14%
 - e. #5--Short/Medium Term Housing Subsidies: 10%
 - f. #6--Infrastructure: 2%.
- (iii) Within Category #2 (Shelter and Temporary Accommodations),
 - a. Add “City should ensure there is a focus on families living on the street”;
 - b. Remove “Support sanctioned encampments” as a specific line-item, and instead add reference to sanctioned encampments as a possible modality in line-item #1 (Expand shelter capacity), with the language “if the City should adopt such a policy”;
 - c. Add language in the report to reflect that City should study the potential for sanctioned encampments as a form of shelter expansion and if it adopts such a policy these funds could be used to support that modality.
- (iv) Within Category #3 (Immediate Street Conditions and Hygiene):
 - a. Add “storage units” to the “lockers” item;
 - b. Add “including for encampments” to the “Toilets and Hygiene Stations” item.
- (v) Within Category #5 (Short/Medium Term Housing Subsidies), remove the language on additional considerations and replace with:
 - a. Establish a 20% set-aside for families and youth (including transition-aged youth).
 - b. Use the McKinney-Vento definition of “homelessness” as an eligibility criterion, without limiting to BUSD-enrolled households to ensure coverage of families with children under school age.

Vote: Ayes: Carrasco, cheema, Gale, Jordan, Metz, Patil, Prado, Sutton, Trotz.
Noes: None. *Abstain:* None. *Absent:* None.

ENVIRONMENTAL SUSTAINABILITY

There are no identifiable environmental costs or opportunities associated with these recommendations; the determination regarding how to invest in shelter expansion activities may require environmental consideration.

RATIONALE FOR RECOMMENDATION

The exact amount of funds that will be generated by Measure P are unknown at this time, and additional State and local funds may become available to the City to cover similar cost areas to address homelessness as those recommended by the Panel. Thus, the Panel is recommending key categories for investment, relative priorities expressed as percentages, and priorities within each of these areas. City staff and Council are encouraged to use these recommendations to determine the specific investments within each area.

ALTERNATIVE ACTIONS CONSIDERED

The HSPE considered various options for allocating resources to families and Transition Age Youth (TAY) including allocating resources based on each population's percentages in the Point in Time (PIT) count, establishing a specific priority for unsheltered families, and adopting a significant percentage of housing resources for families. The HSPE ultimately adopted and recommends a specific set-aside in the first allocation of at least \$500,000 of funding for permanent housing for families and a 20% percent set-aside in flexible subsidies for families and transition age youth.

CITY MANAGER

See Companion Report.

CONTACT PERSON

Peter Radu, Homeless Services Coordinator and Secretary to the Homeless Services Panel of Experts, HHCS, (510) 981-5435.

Attachments:

- 1: Recommendations for First Year Measure P Allocations - By Category and Activity
- 2: Homeless Services Panel of Experts Statement of Purpose

**ATTACHMENT 1:
Recommendations for General Fund Allocations Associated with Measure P - By
Category and Activity**

Because the total amount of funding available is unknown, recommendations are based on a percentage of funding to each category. Within investment areas, activities are listed in the order they were prioritized and we generally recommend higher priority be given to these activities over those that are listed further down in higher priority categories. Additional considerations and recommendations include subpopulation priorities and service types considered within each activity.

Investment Area and Sub-Category Activities listed in Priority Order	Percent	Additional Considerations/ Recommendations
<p>1. PERMANENT HOUSING</p> <p>Permanent Housing Subsidies and Services</p>	30%	Establish a minimum set-aside of \$500,000 for homeless families in this category. Transition-age youth should be included in funding for Adults.
<p>2. SHELTER & TEMPORARY ACCOMMODATIONS</p> <p>1. Expand Shelter Capacity</p> <p>2. Invest in improving existing shelter capacity</p>	30%	<p>1. Adding new sheltering capacity may include the development of dedicated RV parking, use of tiny houses, or other means to increase shelter capacity. If the City should adopt a policy approving sanctioned encampments then this use would also be included. City should ensure there is a focus on meeting needs of any families living on the street.</p> <p>2. Increase services and housing connections in existing shelters so that they are able to function as Navigation Centers.</p>
<p>3. IMMEDIATE STREET CONDITIONS & HYGIENE</p> <p>1. Toilets and Hygiene Stations, including for encampments</p> <p>2. Lockers and Storage Units</p>	14%	Note: These funds were not recommended for general clean-up and other Public Works functions and should be spent on activities that directly benefit homeless people.

Investment Area and Sub-Category Activities listed in Priority Order	Percent	Additional Considerations/ Recommendations
<p>4. SUPPORTIVE SERVICES</p> <p>1. Health Care services</p> <p>2. Employment and Income Development Activities</p> <p>3. Substance Use Treatment</p>	14%	<p>1. Health care services dedicated to people experiencing homelessness which may include street medicine.</p> <p>2. Activities may include job development and support as well as benefits advocacy and other services to improve incomes.</p> <p>3. Substance use treatment services dedicated for persons who are experiencing homelessness.</p>
<p>5. FLEXIBLE HOUSING SUBSIDIES</p> <p>Flexible housing subsidies may include prevention, diversion and/or rapid resolution support.</p>	10%	Establish a 20% set-aside for homeless families and transition-age youth, using the McKinney-Vento definition of homelessness.
<p>6. INFRASTRUCTURE</p> <p>1. Training ~80%</p> <p>2. Evaluation ~20%</p>	2%	<p>1. Use resources in this category for training for Berkeley community-based organizations working with people who are homeless.</p> <p>2. Use resources in this category to ensure that the experiences of service users are captured and considered in performance evaluation.</p>
TOTAL	100%	

**ATTACHMENT 2:
Homeless Services Panel of Experts Mission/Purpose Statement
(adopted August 14, 2019)**

The Voters of Berkeley passed Measure P to generate additional General Funds to use to address the crisis of homelessness. The Homeless Services Panel of Experts created by the Measure was established to “make recommendations on how and to what extent the City should establish and/or fund programs to end or prevent homelessness in Berkeley and provide humane services and support.”

We understand the current crisis of homelessness requires investments in prevention, health services and permanent housing which we know to be the solution to homelessness, as well as in shelters, supports and other temporary measures that get people immediately out of the elements. We will seek to strike a balance between these needs in our recommendations.

We will consider currently unmet needs, gaps and opportunities, best practices and currently available data on outcomes. We will make recommendations for increased local investment, including program types, target populations and geographic areas as appropriate. We will seek to consider the best use of these investments in the context of other available Federal, State and local funding. In general, we will not make recommendations on the specific agencies to receive funding, nor run our own proposal process, recognizing this as a role for staff and the Council. We will request updates on the performance of Measure P investments and the homeless service system overall, including the experience of service users, and use this information to inform future recommendations and provide oversight.

We recognize that homelessness is a regional issue and requires a regional approach, including recognizing that people from Berkeley may live in other places and remain connected to Berkeley services.

To ensure Measure P funding recommendations further efforts to create more housing for people experiencing homelessness in Berkeley, we will coordinate with the Measure O panel to ensure that very low cost housing is connected to services and operating support so that it can successfully targeted to people who are homeless.

We will meet as needed to fulfill this Mission, and to make recommendations to the City Council at least annually.



Office of the City Manager

27b

ACTION CALENDAR

December 3, 2019

(Continued from November 19, 2019)

To: Honorable Mayor and Members of the City Council

From: Dee Williams-Ridley, City Manager

Submitted by: Kelly Wallace, Interim Director, Health, Housing and Community Services

Subject: Companion Report: Recommendations for Allocation of FY19/20 Measure P Funds

RECOMMENDATION

The City Manager recommends that Council:

1. Approve the Homeless Services Panel of Experts' recommendation for the allocation of FY20 General Funds (Measure P) in the following investment areas:
 - a. Immediate Street conditions & Hygiene
 - b. Flexible Housing Subsidies; and
 - c. Infrastructure.

For any allocation of "Flexible Housing Subsidies" to families, limit eligibility to those who are imminently at-risk of homelessness, and allow the City Manager to sole-source contracts for the implementation of these subsidies.

2. Refer discussion of the recommendations pertaining to the following areas to the Council Budget & Finance Policy Committee:
 - a. Permanent Housing,
 - b. Shelter & Temporary Accommodations, and
 - c. Supportive Services.

The City Manager recommends that the Policy Committee consider the following pertaining to these funding areas:

- Allow the "permanent subsidies" allocation to fund tenancy sustaining services, and dedicate 10% of total funding to homeless families.
- Allow the "Shelter and temporary accommodations" allocation to fund the creation of new programs (including for new RV parking programs) or maintenance of existing shelter programs funded by HEAP, when that funding is exhausted.
- Authorize the City Manager to award any funding for shelter expansion and tenancy sustaining services to agencies that have already responded to the FY20-23 Community Agency Request for Proposals (RFP).
- Authorize the City Manager to release one or more RFPs for an RV parking program that would require a non-profit operator and for any supportive

services including street medicine, substance abuse treatment or mental health outreach.

FISCAL IMPACTS OF RECOMMENDATION

Approving the above recommendation would commit \$899,566 in General Fund revenues resulting from Measure P. The funds would be appropriated as part of the Second Amendment to the FY 2020 Annual Appropriations Ordinance and allocated to City departments as follows:

- To the City Manager Community Agencies Budget (011-51-507-506-5002-000-459-636110-):
 - 345,987 to short and medium term housing subsidies;
- To the FY2020 HHCS budget (011-51-504-535-5002-000-444-636120 - 011-51-504-535-5002-000-444-612990):
 - \$69,197 to training and evaluation.
- To the FY2020 budget of the Public Works Department(011-54-623-677-5002-000-444-612990) and/or PRW Department (011-52-541-598-5002-000-461-612990):
 - \$484,382 for immediate street conditions and hygiene.

CURRENT SITUATION AND ITS EFFECTS

The Homeless Services Panel of Experts (HSPE) convened its inaugural meeting on May 6, 2019 and on September 4, 2019 unanimously approved budget recommendations for the initial tranche of general fund revenues generated by the Measure P transfer tax increase. The City Manager commends the HSPE for this achievement and for the process by which it was accomplished. Over the course of two regular meetings and two subcommittee meetings, the Panel worked diligently with staff to ensure that all referrals to the Measure P process from Council, staff, and outside agencies to date were considered. The City Manager believes the final recommendations, in general, are an excellent reflection of City priorities and will help make a meaningful impact on homelessness in Berkeley.

The City Manager offers this companion report to complement, rather than contradict, the HSPE's recommendations. The goal is for Council to consider staff's perspectives on implementation processes and feasibility before making budget allocations.

While the City Manager supports these recommendations, she recommends referring investment areas that will require a significant ongoing investment (Permanent Housing, Shelter & Temporary Accommodations, and Supportive Services) to the Budget & Finance Committee for full vetting. The City Manager's Budget Office recommends monitoring revenues collected pursuant to Measure P to ensure that long-term commitments made now can be supported over time. The City Manager does, however, agree with immediate funding for investment areas that do not implicate future Measure P revenues. The City Manager further recommends that the Budget & Finance Policy

Committee consider the staff input outlined below for all recommended investment areas.

The HSPE's recommendations make categorical allocations to 6 focus areas. Staff's recommendations differ from the HSPE's in several areas, and we offer reasoning below:

1. **Permanent Housing:** as explained in the 1000 Person Plan,¹ staff have identified permanently subsidized housing as the single greatest need among people experiencing homelessness in Berkeley, and we are pleased that this need is reflected so prominently in the HSPE's proposed budget. We recommend that Council approve the HSPE's recommendation, with the following modifications and considerations:
 - a. First, we wish to clarify that the final amount of money allocated to permanent housing includes and authorizes funds for associated case management, or "tenancy sustaining services", to assist people in accessing and/or maintaining this housing. This is a critical component of Housing First, especially for populations with disabilities and/or substantial housing barriers. For ease and speed of implementation, we recommend allowing the City Manager to offer such funding to any agency that applied for tenancy sustaining case management in response to the FY2020-2023 Community Agency Funding Request for Proposals.
 - b. Second, we appreciate the HSPE's focus on families, but believe their proposed minimum set-aside of \$500,000 for families is disproportionate to the need actually reflected in the City's primary source of homeless data, the 2019 Point-in-Time Count,² which found that only 5% of Berkeley's homeless population lives in a household with minor children but 95% are single adults without minors.³ Moreover, the 2019 Count found that more than one third of Berkeley's population is now chronically homeless—a designation far more likely to afflict single adults and highly amenable to permanent subsidies and supportive case management. Recent evidence suggests that local increases in targeted homeless family assistance actually *increases* family homelessness, as homeless

¹ See: https://www.cityofberkeley.info/Clerk/City_Council/2019/02_Feb/Documents/2019-02-26_Item_20_Referral_Response_1000_Person_Plan.aspx

² See: http://everyonehome.org/wp-content/uploads/2019/09/2019HIRDReport_Berkeley_2019-Final.pdf

³ For example, suppose Council allocates \$4.5M of Measure P to homeless efforts, and 30% of this allocation, as recommended by the Panel, to permanent subsidies. In that scenario, a \$500,000 set-aside results in 37% of all permanent subsidy funding going to families. If instead the overall Measure P allocation was \$8M—the upper bound of the expected annual proceeds from Measure P—a \$500,000 family set-aside results in 21% of all subsidies to families. As families represent 5% of the Point-in-Time population, both scenarios disproportionately favor families relative to chronically homeless and/or single adults, who remain the single largest (and growing) population of need in the City.

families relocate to jurisdictions with more generous funding; the same is not true for individual programs, which measurably reduce individual homelessness.⁴ With this in mind, and given the disproportionality of individual homelessness in Berkeley, we recommend no minimum dollar set-aside for families, but rather setting 10% of any permanent housing allocation aside for families. In practice, this would mean that every tenth voucher that becomes available through this funding source would be set aside for a Berkeley family, with a preference for unsheltered families.

2. **Shelter and Temporary Accommodations:** staff agree with the high priority placed on this category and offers the following considerations for Council:
 - a. First, staff continue to believe that the best use of new shelter funding is to invest in existing shelter capacity so all programs in Berkeley are able to function as Navigation Centers. This would allow our shelters to serve and house a greater number of people not otherwise prioritized for intensive services and subsidies through Coordinated Entry, and would position the City strategically to leverage any new State funds intended for navigation centers. For ease and speed of implementation, we recommend allowing the City Manager to offer such funding to any agency that applied for emergency shelter funding in response to the FY2020-2023 Community Agency Funding Request for Proposals.
 - b. Second, staff recommend allowing any funding allocated to sub-category #1 (“Expand shelter capacity”), to be used to “expand or maintain” shelter capacity. Currently, staff are using California HEAP to fund FY20 operations of the STAIR Center and Dorothy Day House Shelter—two shelter projects that are not fully funded beyond June 30, 2020. In the absence of guidance from the State and County on forthcoming Homeless Housing, Assistance, and Prevention Program (HHAPP) funding, and the amount (if any) that will be formulaically allocated to Berkeley, the City may need to use existing General Fund revenues in FY21 to keep these priority projects afloat when current funding sources expire.
 - c. Third, if a new program is most desired by Council, we recommend prioritizing such funding for any RV parking program(s) and associated services established in response to the Council referrals from March 26⁵ and July 23,⁶ 2019. Such a proposed use is consistent with the HSPE’s

⁴ See: <https://siepr.stanford.edu/sites/default/files/publications/16-022.pdf>

⁵ See: https://www.cityofberkeley.info/Clerk/City_Council/2019/03_Mar/Documents/2019-03-26_Supp_3_Reports_Item_21_Supp_Mayor_pdf.aspx

⁶ See: https://www.cityofberkeley.info/Clerk/City_Council/2019/07_Jul/Documents/2019-07-23_Supp_2_Reports_Item_39_Rev_Kesarwani_pdf.aspx

report, and full implementation of this Council priority is currently unfunded.

3. **Supportive Services:** staff agree with this recommended use of funding. To solicit the best possible uses of any funding allocated to this category, staff recommend widely circulating a new Request for Proposals that would include, but not be limited to, the following areas previously recommended by staff⁷ or recommended by the Panel:
 - a. Street medicine or mental health services;
 - b. Substance abuse treatment for persons experiencing homelessness;
 - c. Employment services.

4. **Short/Medium-Term Housing Subsidies:** Staff is supportive of the spirit of this recommendation. However, while the HSPE recommends funding for any family meeting the McKinney-Vento homeless definition (which includes households that are couch surfing or doubled up), staff recommend limiting eligibility to families who meet the criteria in Category 2 of the Federal definition of homelessness⁸--i.e., families who will lose their residence or sleeping situation within 14 days, have no identified alternative, and lack the resources or support networks needed to obtain other housing. Staff's reasoning is simply that these limited funds be prioritized for those families who are most at-risk of entering a shelter or the streets. In the Bay Area's housing crisis, households of all economic means are frequently forced into shared housing situations; staff believe those who can remain stably housed in such an arrangement should not be prioritized for flexible homelessness funding of this sort, which could likely result in a different shared housing accommodation.

For ease and speed of implementation, we recommend:

- a. Allowing the City Manager to sole source any funding set-aside for transition-aged youth to the Coordinated Entry Services provider. The CES provider has experience in administering this type of program and is best placed to quickly provide funding for this population and report on the use of those funds to the City.

⁷ See:

⁸ See: https://www.usich.gov/resources/uploads/asset_library/Federal-Definitions-of-Youth-Homelessness.pdf. The HUD definition of homelessness includes four categories. Households who are at imminent risk of homelessness are included in Category 2; families and households who are doubled-up or couch surfing but not otherwise literally or imminently at-risk of homelessness are included in Category 3. Generally, households who are not literally homeless but otherwise homeless under Category 3 are ineligible for HUD CoC or ESG-funded homeless resources.

- b. Allowing the City Manager to sole-source funding set-aside for families to an agency currently providing housing navigation services through the Family Front Door. Specifically, staff recommend circulating a Request for Information (RFI) asking agencies who are interested, and believe they are capable of executing a sole-sourced contract to serve families that meet the McKinney-Vento definition of homelessness, to respond with their credentials and budget proposal for doing so. This ensures North County families continue to access the system through the Family Front Door, but creates more referral options for Berkeley families through that process.

BACKGROUND

In November of 2018, Berkeley voters passed Measure P, which raises transfer taxes on high-value real estate transactions by an estimated \$6-8M annually. As of June 30, 2019, \$3,459,868 in proceeds had been realized from this tax. With the adoption of the FY20-21 Biennial Budget, a portion of these funds have already been set aside for emergency mental health transport and for a new Community Services Specialist II position in HHCS.

While these are General Fund revenues, the ballot measure also created the Homeless Services Panel of Experts to advise the Council on best uses of this and other sources of funding for homeless services. The Panel of Experts convened for their inaugural meeting on May 6, 2019.

On September 4, 2019, the Homeless Services Panel of Experts took the following action with respect to any proceeds generated to date from Measure P:

Action: M/S/C Sutton/Trotz to adopt Budget A as amended:

- i. Re-prioritize item #2 (Permanent Housing) as item #1 (and vice-versa), and within the Permanent Housing category:
 - a. Replace “permanent supportive housing” with “permanent housing”;
 - b. Strike the language under “Additional considerations”;
 - c. Add “establish a minimum set-aside of \$500,000 for homeless families in this category”; Note that Transition-Age Youth should be included in funding for adults.
- ii. Remove the recommended dollar amounts in each funding category, replacing them with percentage allocations, and change the allocations to each category as follows:
 - a. #1 – Permanent Housing: 30%
 - b. #2--Shelter and Temporary Accommodations: 30%
 - c. #3--Immediate Street Conditions and Hygiene: 14%
 - d. #4--Supportive Services: 14%

- e. #5--Short/Medium Term Housing Subsidies: 10%
 - f. #6--Infrastructure: 2%.
- iii. Within Category #2 (Shelter and Temporary Accommodations),
 - a. Add “City should ensure there is a focus on families living on the street”;
 - b. Remove “Support sanctioned encampments” as a specific line-item, and instead add reference to sanctioned encampments as a possible modality in line-item #1 (Expand shelter capacity), with the language “if the City should adopt such a policy”;
 - c. Add language in the report to reflect that City should study the potential for sanctioned encampments as a form of shelter expansion and if it adopts such a policy these funds could be used to support that modality.
 - iv. Within Category #3 (Immediate Street Conditions and Hygiene):
 - a. Add “storage units” to the “lockers” item;
 - b. Add “including for encampments” to the “Toilets and Hygiene Stations” item.
 - v. Within Category #5 (Short/Medium Term Housing Subsidies), remove the language on additional considerations and replace with:
 - a. Establish a 20% set-aside for families and youth (including transition-aged youth).
 - b. Use the McKinney-Vento definition of “homelessness” as an eligibility criterion, without limiting to BUSD-enrolled households to ensure coverage of families with children under school age.

Vote: Ayes: Carrasco, cheema, Gale, Jordan, Metz, Patil, Prado, Sutton, Trotz.

Noes: None. *Abstain:* None. *Absent:* None.

ENVIRONMENTAL SUSTAINABILITY

There are no identifiable environmental effects or opportunities associated with the subject of this report.

RATIONALE FOR RECOMMENDATION

The City Manager commends the recommendations made by the Homeless Services Panel of Experts as thoughtful and inclusive of numerous staff and Council priorities. The clarifications made in this companion report simply advise Council of important staff considerations, namely administrative flexibility and implementation feasibility.

ALTERNATIVE ACTIONS CONSIDERED

Any budget allocation made to Permanent Subsidies could:

- Also be allowed to support capitalized operating reserves and/or project-based subsidies. This flexibility would allow staff to permanently buy down affordability

on units, rather than tying those subsidies to particular tenants who would be subject to unit availability on the open market.

- Fund the subsidies as “extended” rather than permanent, which allows for housing subsidy longer and more intensively than rapid rehousing would, but does not obligate City General Funds indefinitely for this purpose.

CONTACT PERSON

Peter Radu, Homeless Services Coordinator, HHCS (510) 981-5435.



Disaster and Fire Safety Commission

28

ACTION CALENDAR

December 3, 2019

To: Honorable Mayor and Members of the City Council

From: Disaster and Fire Safety Commission

Submitted by: Gradiva Couzin, Chairperson, Disaster and Fire Safety Commission

Subject: Recommendation to Immediately Fund and Implement the Safe Passages Program and Additional Actions to Ensure Emergency Equipment Access to All Parts of the City

RECOMMENDATION

The recommendation as stated above from the Disaster and Fire Safety Commission (DFSC) to the Council includes the following seven components:

1. Allocate full funding of the Fire Department's Safe Passages Program;
2. Initiate immediate action;
3. Recognize that parking restrictions are necessary on some streets for the health and well-being of Berkeley residents;
4. Establish priorities for enacting parking restrictions;
5. Develop a departmental coordinated team effort;
6. Inform the public; and
7. Document and distribute the extent of the access and egress problem.

FISCAL IMPACTS OF RECOMMENDATION

Exact costs and staff time are to be determined. This program is expected to require a substantial investment of staff time from multiple departments, including the City Attorney, Fire Department, Public Works and the Police Department - Parking Enforcement.

CURRENT SITUATION AND ITS EFFECTS**1. Funding the Fire Department's Safe Passages Program:**

On February 5, 2019: At a Council Work Session, Fire Chief Brannigan described the Fire Department's Safe Passages Program as follows:

"The Berkeley Safe Passages pilot program is designed to blend traditional parking restrictions with innovative road markings and signage. Many roads in Fire Zones 2 and 3 are too narrow for parking and safe passage of vehicles when emergencies arise. Three locations will be selected to demonstrate Keep Clear corridors, no parking zones, and pedestrian access so that staff and the public can evaluate the efficacy and impact of Safe Passage corridors."

The Chief listed three actions that needed to be done for the Safe Passages Program:

- Identify, paint, and provide signage for new “Keep Clear” pinch points on streets
- Expand “No Parking” areas throughout dangerously narrow streets
- Identify funding for additional capacity for parking enforcement

2. There is a clear historic need for immediate action:

There is consensus among fire officials throughout California that while the risk of fire is high throughout the entire year, and communities must be ever vigilant, the months in the fall are the times of the greatest danger.

This is born out historically as shown by the following list of the top 10 most destructive wildfires in California ranked by structures (homes, commercial properties, barns, garages, sheds, etc.) destroyed since 1900. Please note that 80% occurred in the months of October through December:

<u>Destroyed</u>	<u>Date</u>	<u>Deaths</u>	<u>Structures</u>
1. Camp Fire (Butte)	Nov 2018	86	18,804
2. Tubbs Fire (Napa, Sonoma)	Oct 2017	22	5,636
3. Tunnel Fire (Alameda)	Oct 1991	25	2,900
4. Cedar Fire (San Diego)	Oct 2003	15	2,820
5. Valley Fire (Lake, Napa, Sonoma)	Sept 2015	4	1,955
6. Witch Fire (San Diego)	Oct 2007	2	1,650
7. Woolsey Fire (Ventura)	Nov 2018	3	1,643
8. Carr Fire (Shasta, Trinity)	July 2018	8	1,614
9. Nuns (Sonoma)	Oct 2017	3	1,355
10. Thomas (Ventura, Santa Barbara)	Dec 2017	2	1,063

The 1923 fire in Berkeley occurred on September 17th and, according to notarized affidavits at the time, the first house to be destroyed was at 125 Shasta Road (presumably this address was in the upper portion of Shasta Road), and the second

was at 1350 Tamalpais Road. The fire destroyed around 640 structures of which 584 were homes and depending on which article is sourced, it burned to around Oxford or to Hearst at Shattuck before the strong northeasterly wind shifted. Most articles about this fire state that it was stopped only because of the wind shift. The origin of the fire is said to have come into Berkeley from Wildcat Canyon, somewhere around Inspiration Point, or possibly close to where Fire Station 7 is now located, 3000 Grizzly Peak Blvd. It is interesting to note that while the origin of this fire was never determined, one of the factors mentioned was that the City Council had declined that year to pay for the usual allocation to fund a fire break along the City's northern border.

At that time, the City of Berkeley had a total population of 56,000. Today's current population is approximately 122,000.

In addition, Berkeley is among those communities in the State that are at high risk from earthquakes. It is likely that fires will occur after such an event. The Hayward Fault runs north to south in the eastern part of our community. This area, known as the Alquist-Priolo Zone, is well-mapped. The vulnerable mapped quake areas also include identified liquefaction zones in West Berkeley. According to the USGS website, they have found evidence of 11 major earthquakes along the Hayward Fault over the past 1,900 years: The last six (in years 1134, 1317, 1475, 1629, 1725 and 1856) occurred at average intervals of 150 years. The 150th year anniversary following the 1856 quake occurred on October 21, 2018. In 1856, there were 24,000 residents living in the area, today there are close to 3 million, which places the Hayward Fault in the category of being highly dangerous due to potential death and injuries to residents and the adverse economic impacts to the communities that lie within the fault area. It is important to note that the USGS website states much can be done to prevent loss of life and reduce economic impact, IF local jurisdictions and populations take action to prepare ahead of time.

3. The importance of enacting as official City policy in all appropriate documents the recognition that parking restrictions on streets that impede emergency equipment access are necessary for the health and well-being of Berkeley residents:

Although full documentation is difficult to establish, it can be established that the City has known of emergency equipment access problems for at least 41 years. In March 1978, a 29-year old woman lost her life and world-renowned conductor George Cleve suffered severe burns when fire equipment was hampered in responding to a house fire on Tamalpais Road. Despite years of knowing about the access problem and numerous recommendations and referrals, some, but not all narrow streets in Berkeley have had parking restrictions enacted. Examples of that history are as follows:

On June 24, 2005, Berkeley attorney, Paul M. Schwartz wrote a letter "placing the City of Berkeley on notice" about hazardous conditions that continued to exist on Tamalpais Road. He wrote that when two cars are parked across from one another, fire equipment

access is denied, that blockages caused by dumpsters and construction equipment exist, and he suggested ways to alleviate such situations. He wrote that this was “a formal request” for the City to “create a parking plan for this street that assures the safety of all individuals and protection of property.”

On February 9, 2016 the Council approved a January 12, 2016 recommendation from DFSC requesting that they:

“refer to staff the Design of a parking restriction program in the Hills Fire Zone to ensure access for emergency vehicles and to allow for safe evacuations in an emergency and to hold public meetings to get community input in the design of such a program

That report stated:

“Today we are 24 years after the devastating Oakland Hills Fire and 50 years after concern was first expressed for the safety of residents given the conditions that will save lives in the Berkeley Hills”

On November 28, 2017 the City Council asked the DFSC and the City Manager’s Office to explore developing a five-year plan for expanded disaster preparedness services which specifically included limiting parking to one side of streets narrower than 26 feet.

On January 30, 2018: The City Council asked the City Manager to study and evaluate in consultation with relevant Commissions several fire safety and prevention measures which included a “red curb program to address specific identified conditions on streets that are impassable by Emergency Vehicles or present unusual ingress or egress challenges.”

On March 28, 2018: The DFSC recommended that the City Council review some 80 items listed on a spread sheet regarding wildfires. Eight of the items pertained to parking, one of which was identified as “immediate priority” which is to:

Item 9: Enforce CVC 22514 for stopping or parking near a fire hydrant, including adding proper signage and/or red paint.

The other seven parking-related items are:

#8: Design and Propose a tailored red-curb program to address specific identified conditions on streets impassable by emergency vehicles or present ingress or egress challenges.

#10: Complete installation of blue reflectors marking location of fire hydrants.

#11: Have Beat Police Officers ticket hydrant infractions when making rounds in the hills fire zone.

#12: Adopt parking restrictions on narrow streets in hills fire zone.

#13: Limit parking one side of street narrower than 26 feet.

#14: Restrict parking on red flag days, similar to the LA Red Flag restricted parking program.

#15: Have traffic control personnel randomly canvass hills fire zones to ensure parking compliance.

On February 27, 2019: The DFSC approved submitting comments for the Local Hazard Mitigation Plan update to “recommend coordination with other City plans including the General Plan, the Climate Action Plan and Zero Waste Plan, addition of maps including narrow streets and pinch points and improving the plan’s maps via the City’s GIS portal, inclusion of a transparent process to real homeless, ESL and disabled population and inclusion of a list of priority goals for each of the upcoming years of the 5-year plan.”

There can be no doubt that many streets in Berkeley’s Hazardous Fire Zones are too narrow and/or winding to accommodate both unrestricted on-street parking and access by emergency response vehicles, and while parked cars are the main culprit intruding on access, the problem is exacerbated by lack of sidewalks, on-street storage of trash bins and intruding vegetation, and construction and delivery vehicles. Additionally, even in areas where parking has been restricted, there have been instances of non-compliance, particularly involving parking that hinders access to fire hydrants. This situation creates a life-safety hazard in the hills in all emergency situations, but especially in a wildfire scenario, when rapid evacuation of residents will be necessary.

4. Establish priorities for enacting parking restrictions:

As parking restrictions on narrow streets that impede emergency equipment access involve a large area, it is recommended that a ranking system be created. Such a system would place a higher priority on locations within Hazardous Fire Zones which have particularly dangerous conditions and designation of streets that are established as, or will be, potential evacuation routes. Since not all work will be able to be done at the same time, the purpose of such ranking will be to enable the City to proceed in an orderly fashion which will first place such restrictions on streets where they will be most effective in saving lives.

5. Develop a departmental coordinated team effort

Enactment and implementation of a program of ensuring emergency access to all properties in the City of Berkeley will require coordination among many Departments. Particularly Police, Public Works, Zero Waste and Transportation. It is recommended that the Fire Department have the lead position in such an effort but that the duties and responsibilities of each department in the team be fully defined.

Further, deadlines for completion of tasks must be established in order to receive progress reports from appropriate departments at regular intervals until the completion especially of:

- installing signs and other markers which indicate No Parking or Stopping Zones around fire hydrants
- installing pavement markers to identify hydrant locations – particularly important for guiding mutual aid responders who are unfamiliar with Berkeley streets
- developing and implementation of the enforcement of new parking restrictions, including ticketing and towing

Enforcement of restrictions by the Police Department is of high import because the public must fully understand that violation of parking regulations is of such seriousness that it will be enforced consistently. Additionally, over and above those issues, there needs to be a definition of Police Department responsibility in an early evacuation plan for vulnerable residents (seniors and disabled) who may require not only early notice but also auto-related assistance in evacuation, as well as use of the announcement system in police cars as an integral part of the City's alert system both for red flag days and impending fire danger.

6. Inform the Public

It is recommended that the City institute a broad public outreach campaign which includes direct mailing to property owners with instructions to notify any tenants of properties or in homes of affected properties, all rental agencies including those that offer short term rentals such as Abnb, all job and home care placement agencies, and all news and social media that the City is undertaking a program of new parking restrictions in the Hazardous Fire Zones and other areas which impede emergency access vehicles.

7. Assess and document the extent of the access and egress problem

Produce a current and accurate map that displays:

- all narrow streets without parking restrictions along with their width
- all narrow streets with parking restrictions already in place
- “pinch-points” on other streets that constrain emergency equipment access
- major streets and “collector” streets planned for use in evacuation

- include pathways if technically possible within such a map. If not possible, attach a separate map identifying the exact location of pathways
- indications of the priority ranking as that information becomes available

This map shall be available to the public and kept up to date as the status changes. As a visual example, this map will assist residents to understand the need for parking restrictions. It will also serve as an information tool that would be helpful to residents during an emergency.

BACKGROUND

During the Council discussion of the 2020-2021 budget, the Council received a recommendation from the Council Committee on Budget and Finance that funding for the Safe Passages Program should be deferred and that the City should seek grants for this program. The City's website indicates that the recommendation from the Council Committee was adopted, but that the Safe Passages Program would be reviewed again in November 2019 and grant funding would be considered.

Because of concerns generated by the disastrous recent wildfires around our City and the increased fire danger due to the heavy vegetation fuel level generated by rains earlier in the year, the Fire Department began to evaluate and document the problem of emergency equipment access on the many narrow roads in the City's designated high fire risk areas. While that process has begun, it has been significantly hampered by the lack of adequate staffing. The DFSC also points out that seeking grant funding to do this work would take a considerable amount of time before any action would occur.

ENVIRONMENTAL SUSTAINABILITY

More parking restrictions in residential areas of the City may have a positive environmental impact by reducing the use of private vehicles for transportation.

In addition to potentially saving lives and property, providing improved access for firefighting equipment may reduce the spread of house-fires and wildland-urban interface fires, reducing the pollution, hazardous waste, loss of habitat, and other environmental damage caused by uncontrolled fire

RATIONALE FOR RECOMMENDATION

As seen in the years of background and the multiple times that parking restrictions have been recommended by the DFSC and by Council, we believe there appears to be a

consensus that narrow streets that impede emergency vehicle access are a threat to life safety in Berkeley, and that parking restrictions are needed to address this problem.

Given the many years that the City has been aware of this problem, it is perplexing that no action has been taken to complete what needs to be done, nor has funding been allocated for the Safe Passages program. This issue must not be delayed any further. It is time to recognize the reality of the often-repeated statement that “it is impossible to evacuate everyone safely at the same time,” and with that recognition, take immediate action.

ALTERNATIVE ACTIONS CONSIDERED

In the DFSC recommendation from 2016, “Restrict Parking in the Hills Hazardous Fire Area” numerous alternative actions were considered and discussed with staff, following models used in other jurisdictions including LA, Pasadena, Santa Barbara, and Mill Valley.

CITY MANAGER

The City Manager refers the recommendations of the Commission’s Report to the budget process.

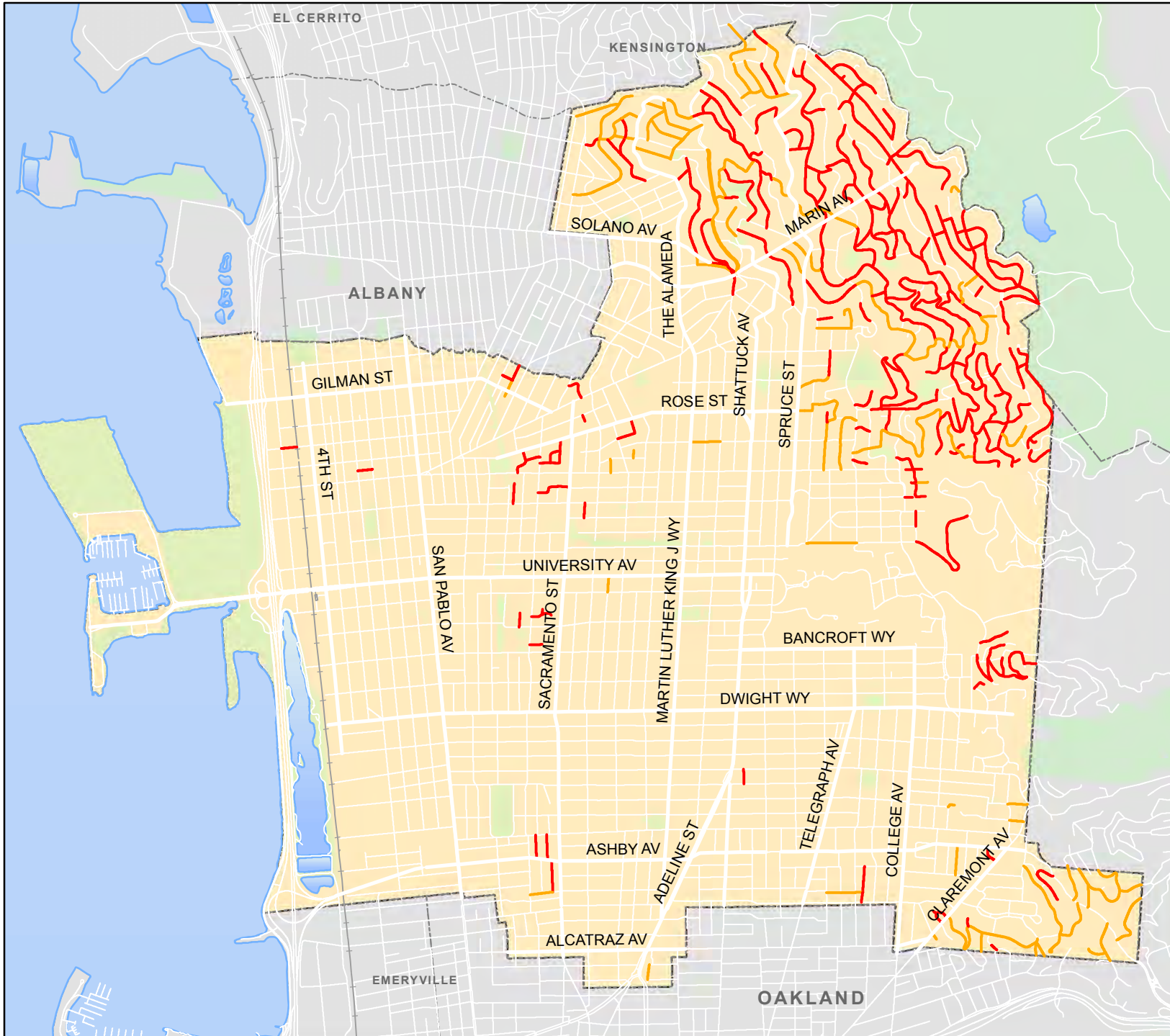
CONTACT PERSON

Keith May, Secretary, Disaster and Fire Safety Commission, 510-981-5508

Attachments:

1: Fire Access Map: Streets with Pavement Width Less than 26 Feet

FIRE ACCESS MAP



- Pavement Width Less than 24 ft
- Pavement Width Less than 26 ft
- Parks
- City Limits

This map is for reference purposes only. Care was taken in the creation of this map, but it is provided "AS IS". Please contact the City of Berkeley to verify map information or to report any errors.

October 2, 2015

0 1,000 2,000 Feet

CITY OF BERKELEY
 Land Use Planning Division
 Dept of Planning & Development
 2120 Milvia Street, 2nd Floor
 Berkeley, CA 94704

TOTAL LENGTH (FEET) 231,679

Street Name	Beginning Location	Ending Location	Lanes	Fire Code	Pavement Width (ft)	Pavement Length (ft)
ACACIA AVE (5-98)	CRAGMONT AVE	EUCLID AVE	2	R	22	500
ACROFT CT (1400-1499)	ACTON ST	DEAD END (ACTON ST)	2	R	20	270
ACTON CIR (2-7)	DEAD END (ACTON CRESCENT)	ACTON CRESCENT	2	R	21	120
ACTON CIR (1401-1480)	ACTON ST	EAST DEAD END (ACTON ST)	2	R	21	470
AJAX PL (1-20)	AJAX LANE	SUMMIT RD	2	R	20	240
ALAMO AVE (5-98)	SPRUCE ST	HALKIN LANE	2	R	20	840
ALTA RD (20-60)	SPRUCE ST	CRAGMONT AVE	2	R	22	390
ALVARADO RD (145-617)	BRIDGE RD	NORTH CITY LIMIT AB WILLOW WK	2	R	24	1890
ALVARADO RD (1-59)	TUNNEL RD	NORTH CITY LIMIT	2	R	24	770
ALVARADO RD (111-142)	NORTH CITY LIMIT	BRIDGE RD	2	R	24	450
ARCADE AVE (1-6)	GRIZZLY PEAK BLVD	FAIRLAWN DR	2	R	23	310
ARCH ST	SPRUCE ST	SCENIC AVE	2	R	25	820
ARDEN RD (9-100)	MOSSWOOD RD	PANORAMIC WAY	2	R	15	610
ARLINGTON AVE (700-974)	THOUSAND OAKS BLVD	THE CIRCLE	2	C	25	2940
ATLAS PL (1-10)	HILL RD	SUMMIT RD	2	R	20	200
AVALON AVE (3016-3017)	CLAREMONT BLVD	CLAREMONT AVE	2	R	25	300
AVENIDA DR (27-33)	OLYMPUS AVE	QUEENS RD	2	R	20	145
AVENIDA DR (1-27)	CAMPUS DR	OLYMPUS AVE	2	R	23	300
AVENIDA DR (41-191)	QUEENS RD	GRIZZLY PEAK BLVD	2	R	18	1315
AVIS RD (20-68)	SAN ANTONIO AVE	SAN LUIS RD	2	R	16	440
BATAAN AVE (900-920)	7TH ST	8TH ST	2	R	22	330
BATEMAN ST (3015-3071)	WEBSTER ST	108 N/O PRINCE ST.	2	R	14	411
BONNIE LN (10-95)	HILLDALE AVE	MARIN AVE	2	R	18	750
BRET HARTE RD (12-51)	KEITH AVE	CREGMONT AVE	2	R	21	300
BRET HARTE RD (131-198)	CRAGMONT AVE	KEELER RD	2	R	17	750
BROOKSIDE CT (152-156)	DEAD END NR BROOKSIDE DR	BROOKSIDE DR	2	R	22	110
BROOKSIDE DR (110-190)	CLAREMONT AVE	CLAREMONT AVE	2	R	22	535
BUENA AVE (1705-1738)	MCGEE AVE	CYPRESS ST	2	R	23	400
BUENA VISTA WAY	DELMAR AVE	260' NORTH OF PRIVATE PROP	2	R	22	470
BUENA VISTA WAY (2500-3025)	EUCLID AVE	DEL MAR AVE	2	R	24	3775
CAMPUS DR (1205-1238)	SHASTA RD	QUAIL AVE	2	R	22	370
CAMPUS DR (1250-1298)	QUAIL AVE	GLENDALE AVE	2	R	22	385
CAMPUS DR (1405-1456)	DELMAR AVE	AVENIDA DRIVE	2	R	21	525
CAMPUS DR (1462-1511)	AVENIDA DR	PARNASSUS RD	2	R	22	540
CAMPUS DR (1521-1590)	PARNASSUS RD	DEAD END, U C PLOT 82	2	R	19	760
CAMPUS DR (1300-1405)	GLENDALE AVE	DELMAR AVE	2	R	22	1090
CANYON RD (15-67)	RIM ROAD (UC CAMPUS)	DEAD END	2	R	15	583
CAPISTRANO AVE (1901-1937)	THE ALAMEDA	CONTRA COSTA AVE	2	R	16	1075
CATHERINE DR (1420-1475)	KEONCREST DR	KEONCREST DR	2	R	23	410
CEDAR ST (2710-2716)	LA LOMA AVE	END ABOVE LA VEREDA	2	R	12	515
CLAREMONT CRES (1-26)	ASHBY AVE	CLAREMONT AVE	2	R	20	410

TOTAL LENGTH (FEET) 231,679

Street Name	Beginning Location	Ending Location	Lanes	Fire Code	Pavement Width (ft)	Pavement Length (ft)
CODORNICES RD (40-100)	DEAD END (EUCLID AVE)	EUCLID AVE	2	R	15	600
COLORADO AVE (42-99)	VERMONT AVE	MICHIGAN AVE	2	R	24	260
COLORADO AVE (24-32)	BOYNTON AVE	VERMONT AVE	2	R	24	250
COLUMBIA CIR (1-22)	COLUMBIA PATH	FAIRLAWN DR	2	R	21	230
COMSTOCK CT (1526-1537)	JAYNES ST	CEDAR ST	2	R	24	300
CONTRA COSTA AVE (712-929)	YOSEMITE RD	SOLAND	2	R	18	2775
CONTRA COSTA AVE (939)	SOLANO	LOS ANGELES AVE	2	R	24	150
CORONA CT (2310-2358)	ARCH ST	DEAD END (ARCH ST)	2	R	22	320
CRAGMONT AVE (1000-1032)	SANTA BARBARA RD	EUCLID AVE	2	R	22	830
CRAGMONT AVE (900-996)	MARIN AVE	SANTA BARBARA RD	2	R	23	1110
CRAGMONT AVE (1041-1099)	EUCLID AVE	BRET HARTE RD	2	R	20	1420
CRAGMONT AVE (1100-1106)	BRET HARTE RD	SHASTA RD	2	R	21	1625
CRAGMONT AVE (471-897)	GRIZZLY PEAK BLVD	MARIN AVE	2	C	22	4100
CRAGMONT AVE	SPRUCE ST	MARIN AVE	2	R	24	1050
CRESTON RD (600-798)	GRIZZLY PEAK BLVD	SUNSET LANE	2	R	22	1910
CRESTON RD (821-1097)	SUNSET LANE	GRIZZLY PEAK BLVD	2	R	22	1910
CYCLOTRON RD	HIGHLAND PL	DEAD END (CYCLOTRON RD)	2	R	23	140
CYPRESS ST (1404-1417)	ROSE ST	BUENA AVE	2	R	22	325
DEL MAR AVE (2-100)	BUENA VISTA WAY	GLENDALE AVE	2	R	21	795
DOHR ST (2905-2950)	RUSSELL ST	ASHBY AVE	2	R	22	489
EL CAMINO REAL (1-118)	DOMINGO AVE	THE UPLANDS	2	R	25	1840
EL CAMINO REAL (151-220)	THE UPLANDS	DEAD END ABOVE THE UPLANDS	2	R	24	320
EL PORTAL CT (5-11)	DEAD END (LA LOMA AVE)	LA LOMA AVE	2	R	18	250
EOLA ST (1702-1715)	VIRGINIA ST	FRANCISCO ST	2	R	22	325
ETON CT (1-15)	CLAREMONT AVE	DEAD END (CLAREMONT AVE)	2	R	25	150
EUCALYPTUS RD (1-29)	HILLCREST RD	SOUTH CITY LIMIT	2	R	25	440
EUCLID AVE	BEG OF DIVIDED ROAD	END OF DIVIDED ROAD	2	R	18	850
EUCLID AVE	CRAGMONT AVE	HILLDALE AVE	2	R	20	1240
FAIRLAWN DR (249-293)	AVENIDA DR	OLYMPUS DR	2	R	20	615
FAIRLAWN DR (9-231)	QUEENS RD	AVENIDA DR	2	R	21	1645
FOREST LN (1-95)	HILLDALE AVE	KEELER AVE	2	R	19	520
FOREST LN (106-263)	KEELER AVE	CRESTON RD	2	R	22	1160
FOUNTAIN WALK (1011)	SANTA BARBARA RD	SPRUCE ST	2	R	23	1150
GARBER ST (2710-3020)	CLAREMONT BLVD	EAST CITY LIMIT (TANGLEWOOD)	2	R	24	4505
GLEN AVE (1202-1299)	EUNICE ST	CORNER BETWEEN SUMMER/ARCH	2	R	22	620
GLEN AVE (2201-2323)	CORNER BETWEEN SUMMER/ARCH	SPRUCE ST	2	R	24	380
GLENDALE AVE (1400-1444)	LA LOMA AVE	DEL MAR AVE	2	R	22	875
GREENWOOD TER (1-1491)	ROSE ST	BUENA VISTA WAY	2	R	17	850
GRIZZLY PEAK BLVD	FAIRLAWN DR	GRIZZLY PEAK BLVD	2	R	24	700
HALKIN LN (27-70)	SPRUCE ST	CRAGMONT AVE	2	R	20	515
HAWTHORNE TER (2501-2535)	LE ROY AVE	EUCLID AVE	2	R	22	365

TOTAL LENGTH (FEET) 231,679

Street Name	Beginning Location	Ending Location	Lanes	Fire Code	Pavement Width (ft)	Pavement Length (ft)
HAWTHORNE TER (1400-1598)	EUCLID AVE	CEDAR ST	2	R	24	1465
HEARST AVE (2309-2451)	ARCH ST	EUCLID AVE	2	A	25	1160
HIGH CT (1101-1151)	DEAD END	OAK ST	2	R	24	710
HIGHLAND PL (1730-1771)	LE CONTE AVE	RIDGE RD	2	R	13	280
HILGARD AVE (2709)	LA LOMA AVE	LA VEREDA	2	R	10	180
HILGARD AVE (2725-2808)	LA VEREDA	DEAD END	2	R	24	340
HILL CT (2501-2525)	EUCLID AVE	DEAD END (EUCLID AVE)	2	R	14	310
HILL RD (80-185)	DEAD END NR AJAX LANE	GRIZZLY PEAK BLVD (SOUTH)	2	R	17	510
HILL RD (11-75)	SHASTA RD	DEAD END	2	R	14	530
HILLCREST CT (2-18)	THE FOOTWAY	HILLCREST RD	2	R	20	190
HILLCREST RD	CLAREMONT AVE	ROANOK RD	2	R	25	3150
HILLCREST RD (6-240)	ROANOK RD	DEAD END ABOVE ROANOK RD	2	R	24	390
HILLDALE AVE (900-998)	MARIN AVE	REGAL RD	2	R	20	1265
HILLDALE AVE (630-876)	GRIZZLY PEAK BLVD	MARIN AVE	2	R	21	1870
HILLSIDE CT (11-23)	DEAD END (HILLSIDE AVE)	HILLSIDE AVE	2	R	16	290
HILLVIEW RD (1100-1149)	WOODSIDE RD	PARK HILLS RD	2	R	22	1265
HOPKINS CT (2-39)	ALBINA AVE	HOPKINS ST	2	R	22	570
JEFFERSON AVE (2015-2060)	UNIVERSITY AVE	ADDISON ST	2	R	24	335
JUANITA WAY (1505-1569)	ROSE ST	CEDAR ST	2	R	23	595
KEELER AVE (1064-1099)	STERLING AVE	BRET HARTE RD	2	R	18	400
KEELER AVE (1000-1049)	MILLER AVE	POPPY LANE	2	R	18	600
KEELER AVE (900-998)	MARIN AVE	MILLER AVE	2	R	19	1025
KEELER AVE (700-893)	GRIZZLY PEAK BLVD	MARIN AVE	2	R	20	1350
KEELER AVE (1101-1199)	BRET HARTE RD	SHASTA RD	2	R	23	1760
KEITH AVE (1001-1067)	SPRUCE ST	EUCLID AVE	2	C	22	1472
KEITH AVE (1075-1202)	EUCLID AVE	SHASTA RD	2	C	25	2570
KENTUCKY AVE (433-494)	MARYLAND AVE	MICHIGAN AVE	2	R	18	840
KEONCREST DR (1410-1558)	ROSE ST	ACTON ST	2	R	23	950
LA LOMA AVE (1343-1401)	QUARRY RD	ROSE ST	2	C	22	400
LA VEREDA RD (1550-1595)	LA LOMA AVE	CEDAR ST	2	R	15	550
LA VEREDA RD (1601-1736)	CEDAR ST	DEAD END ABOVE VIRGINIA ST	2	R	15	820
LATHAM LN (125-130)	CRESTON RD	OVERLOOK RD	2	R	21	275
LATHAM LN (11-70)	MILLER AVE	GRIZZLY PEAK	2	R	21	550
LINCOLN ST (1400-1483)	ACTON ST	SACRAMENTO ST	2	R	22	750
LOS ANGELES AVE (1928-1992)	THE CIRCLE	CONTRA COSTA AVE	2	R	24	845
M L KING JR WAY (3333-3359)	63RD ST	MARTIN LUTHER KING JR WAY	2	R	24	520
MAGNOLIA ST (2930-2970)	ASHBY AVE	WEBSTER ST	2	R	24	660
MARIN AVE (2314-2457)	SPRUCE ST	EUCLID AVE	2	C	23	1050
MARIN AVE (2520-2637)	EUCLID AVE	GRIZZLY PEAK BLVD	2	C	23	1078
MARIN AVE (2006-2275)	THE CIRCLE	SPRUCE ST	2	C	23	1646
MENDOCINO AVE (811-965)	ARLINGTON AVE	LOS ANGELES AVE	2	R	22	1650

Streets with Pavement Width less than 26 feet

TOTAL LENGTH (FEET) 231,679

Street Name	Beginning Location	Ending Location	Lanes	Fire Code	Pavement Width (ft)	Pavement Length (ft)
MENLO PL (1-51)	THOUSAND OAKS BLVD	SANTA ROSA AVE	2	R	25	490
MENLO PL (53-90)	SANTA ROSA AVE	THE ALAMEDA	2	R	24	450
MICHIGAN AVE (401-500)	MARYLAND AVE	SPRUCE ST	2	R	24	1480
MIDDLEFIELD RD (1000-1019)	THE CROSSWAYS	THE SHORTCUT	2	R	21	360
MIDDLEFIELD RD (1020-1050)	THE SHORTCUT	PARK HILLS RD	2	R	21	410
MILLER AVE (959-1190)	HILLDALE AVE	SHASTA RD	2	R	21	3510
MILLER RD	HILLDALE AVE	SHASTA RD	2	R	21	3510
MIRAMONTE CT (1358-1367)	ADA ST	SOUTH DEAD END (ADA ST)	2	R	21	180
MONTROSE RD (1-44)	SAN LUIS RD	SANTA BARBARA RD	2	R	23	375
MONTROSE RD (101-194)	SANTA BARBARA RD	SPRUCE ST	2	R	24	640
MOSSWOOD RD (1-48)	PANORAMIC WAY	DEAD END ABOVE ARDEN RD	2	R	15	800
MUIR WAY (3-16)	GRIZZLY PEAK BLVD	PARK HILLS RD	2	R	25	385
NORTH ST (1501-1515)	NORTH DEAD END (JAYNES ST)	JAYNES ST	2	R	24	155
NORTHAMPTON AVE (4-98)	SANTA BARBARA RD	SPRUCE ST	2	R	23	1150
NORTHBRAE TUNNEL	SANTA BARBARA RD	SPRUCE ST	2	R	23	1150
NORTHGATE AVE (1-99)	DEAD END (NORTHGATE PATH)	SHASTA RD	2	R	21	880
OAK ST (2301-2395)	ARCH ST	HIGH CT	2	R	24	660
OAK ST (2410)	DEAD END	OAK ST	2	R	24	710
OAKRIDGE RD (10-92)	TUNNEL RD	DEAD END (OAK RIDGE STEPS)	2	R	17	1200
OLYMPUS AVE (1530-1590)	FAIRLAWN DR	DEAD END (U C PLOT 82)	2	R	21	760
OLYMPUS AVE (1451-1520)	AVENIDA DR	FAIRLAWN DR	2	R	21	1140
OVERLOOK RD (964-1072)	END NORTH OF THE CROSSWAYS	PARK HILLS RD	2	R	22	1715
OXFORD ST (807-850)	INDIAN ROCK AVE	MARIN AVE	2	R	23	975
OXFORD ST (900-1053)	MARIN AVE	LOS ANGELES AVE	2	R	23	1400
PAGE ST (648)	2ND ST	RAILROAD TRACKS	2	R	16	345
PALM CT (2817-2828)	KELSEY ST	DEAD END (KELSEY ST)	2	R	25	150
PANORAMIC WAY (1-61)	CANYON RD	1ST TURN	2	R	17	670
PANORAMIC WAY (62-130)	1ST TURN	ARDEN RD	2	R	15	1215
PANORAMIC WAY (136-367)	ARDEN RD	EAST CITY LIMIT	2	R	15	1695
PARK HILLS RD (1002-1042)	WILDCAT CANYON RD	MIDDLEFIELD RD	2	R	22	850
PARK HILLS RD (1141-1180)	PARK GATE	SHASTA RD	2	R	22	920
PARK HILLS RD (1051-1131)	MIDDLEFIELD RD	PARK GATE	2	R	22	1305
PARNASSUS CT (5-12)	PARNASSUS RD	DEAD END (PARNASSUS RD)	2	R	22	210
PARNASSUS RD (2-100)	DEL MAR AVE	CAMPUS DR	2	R	24	1145
POPLAR ST (10-190)	CRAGMONT AVE	HILLDALE AVE	2	R	20	1240
POPPY LN (8-80)	HILLDALE AVE	KEELER AVE	2	R	22	860
PRINCE ST (1401-1490)	ACTON ST	STANTON ST	2	R	24	523
PRINCE ST (2436-2511)	DANA ST	BATEMAN ST	2	R	24	771
QUAIL AVE (60-90)	CAMPUS DR	QUEENS RD	2	R	21	325
QUAIL AVE (1-39)	NORTHGATE AVE	CAMPUS DR	2	R	21	340
QUEENS RD (1200-1260)	SHASTA RD	QUAIL AVE	2	R	22	640

Streets with Pavement Width less than 26 feet

TOTAL LENGTH (FEET) 231,679

Street Name	Beginning Location	Ending Location	Lanes	Fire Code	Pavement Width (ft)	Pavement Length (ft)
QUEENS RD (1263-1345)	QUAIL AVE	FAIRLAWN DR	2	R	21	880
QUEENS RD (1355-1444)	FAIRLAWN DR	AVENIDA DR	2	R	21	1075
REGAL RD (931-990)	EUCLID AVE	CRAGMONT AVE	2	R	22	1325
REGAL RD (801-894)	SPRUCE ST	MARIN AVE	2	R	24	1050
REGAL RD (900-925)	MARIN AVE	EUCLID AVE	2	R	24	550
ROANE	EUCLID AVE	CRAGMONT AVE	2	R	22	1325
ROANOKE RD (20-46)	HILLCREST RD & THE UPLANDS	SOUTH CITY LIMIT	2	R	24	300
ROBLE CT (5-40)	DEAD END (ROBLE RD)	ROBLE RD	2	R	24	430
ROBLE RD (6-59)	TUNNEL RD	SOUTH CITY LIMIT (ROBLE CT)	2	R	24	920
ROCK LN (1-95)	POPLAR ST	CRAGMONT AVE	2	R	22	800
ROSE ST (2555-2707)	LE ROY AVE	LA LOMA AVE	2	R	15	750
ROSE ST (2224-2333)	SPRUCE ST	SCENIC AVE	2	R	25	820
ROSEMONT AVE (1-10)	CRESTON RD	VISTAMONT AVE	2	R	23	460
ROSLYN CT (2-19)	THE SOUTH CROSSWAYS	CHABOLYN TERRACE	2	R	20	150
RUGBY AVE (355-371)	NORTH CITY LIMIT (VERMONT)	VERMONT AVE	2	R	25	210
SAN ANTONIO AVE (1901-1940)	ARLINGTON AVE	300 FT +/- EAST OF AVIS RD	2	R	17	525
SAN ANTONIO AVE (1800-1891)	SAN RAMON AVE & THE ALAMEDA	ARLINGTON AVE	2	R	24	865
SAN BENITO RD (900-954)	MARIN AVE	SPRUCE ST	2	R	24	810
SAN DIEGO RD (743-824)	SOUTHAMPTON AVE	INDIAN ROCK AVE	2	R	19	1850
SAN FERNANDO AVE (614-686; 1930)	ARLINGTON AVE	YOSEMITE RD	2	R	24	1055
SAN JUAN AVE (1815-1895)	SANTA CLARA AVE	SAN FERNANDO AVE	2	R	24	900
SAN LUIS RD (501-846)	ARLINGTON AVE	INDIAN ROCK AVE	2	R	22	3430
SAN MATEO RD (7-96)	DEAD END (SOMERSET PL)	INDIAN ROCK AVE	2	R	24	780
SAN MIGUEL AVE (600-630)	THOUSAND OAKS BLVD	SANTA ROSA AVE	2	R	22	470
SAN RAMON AVE (1800-1895)	SAN ANTONIO AVE & THE ALAMEDA	SAN FERNANDO AVE	2	R	24	1060
SANTA BARBARA RD (501-630)	ARLINGTON AVE	FLORIDA AVE	2	R	23	1040
SANTA BARBARA RD (551-699)	SPRUCE ST	CRAGMONT AVE	2	R	24	605
SANTA BARBARA RD (900-948)	MARIN AVE	SPRUCE ST	2	R	24	510
SANTA CLARA AVE (945; 951-993)	SAN RAMON AVE	THOUSAND OAKS BLVD	2	R	24	870
SANTA ROSA AVE (551-699)	MENLO PLACE	SAN LORENZO AVE	2	R	22	1735
SCENIC AVE (1350-1589)	ROSE ST	CEDAR ST	2	R	24	1720
SENIOR AVE (3-48)	FAIRLAWN DR	GRIZZLY PEAK BLVD	2	R	24	700
SHASTA RD (2701-2737)	TAMALPAIS RD	KEITH AVE	2	R	20	565
SHASTA RD (3000-3085)	PARK GATE	EAST CITY LIMIT (GOLF COURSE)	2	C	20	565
SHASTA RD (2601-2699)	TAMALPAIS RD AND ROSE ST	TAMALPAIS RD	2	R	22	1540
SHASTA RD (2800-2827)	CRAGMONT AVE	KEELER AVE	2	C	25	680
SHASTA RD (2834-2925)	KEELER AVE	QUEENS RD	2	C	24	1315
SHASTA RD (2931-2998)	QUEENS RD	GRIZZLY PEAK BLVD	2	C	25	1130
SHASTA RD (2740-2798)	KEITH AVE	CRAIGMONT AVE	2	C	24	1000
SHATTUCK AVE (800-840)	INDIAN ROCK AVE	MARIN AVE	2	R	24	615
SHATTUCK AVE (900-964)	MARIN AVE	LOS ANGELES AVE	2	R	24	950

TOTAL LENGTH (FEET) 231,679

Street Name	Beginning Location	Ending Location	Lanes	Fire Code	Pavement Width (ft)	Pavement Length (ft)
SOLANO AVE	SANTA BARBARA RD	SPRUCE ST	2	R	23	1150
SOMERSET PL (30-49)	SOUTHAMPTON AVE	DEAD END (JOHN HINKEL PARK)	2	R	22	425
SOMERSET PL (2)	ARLINGTON AVE	SAN LUIS RD	2	R	24	2050
SOUTHAMPTON AVE (221-260)	SAN LUIS RD	SANTA BARBARA RD	2	R	22	4000
SOUTHAMPTON AVE (11-180)	ARLINGTON AVE	SAN LUIS RD	2	R	24	2050
SPRING WAY (1402-1418)	DEAD END	SCENIC AVE	2	R	18	260
STANTON ST (2907-2952)	RUSSELL ST	ASHBY AVE	2	R	22	560
STANTON ST (3001-3053)	ASHBY AVE	PRINCE ST	2	R	23	706
STERLING AVE (1050-1195)	KELLER	SHASTA RD	2	R	20	2310
STEVENSON AVE (5-69)	GRIZZLY PEAK BLVD	MILLER AVE	2	R	24	520
STODDARD WAY (25-40)	DEAD END	GRIZZLY PEAK BLVD	2	R	20	260
SUMMIT LN (6-12)	SUMMIT RD NR GRIZZLY PEAK	DEAD END	2	R	6	180
SUMMIT RD	AJAX LANE	ATLAS PL	2	R	20	240
SUMMIT RD (1500-1545)	GRIZZLY PEAK BLVD	END SOUTH OF GRIZZLY PEAK BL	2	R	18	740
SUMMIT RD (1300-1498)	ATLAS PL	GRIZZLY PEAK BLVD	2	R	23	2530
SUNSET LN (50-70)	WOODMONT RD	WILDCAT CANYON RD	2	R	17	318
SUNSET LN (4-6)	GRIZZLY PEAK BLVD	WOODMONT RD	2	R	17	344
TAMALPAIS RD (1-190)	SHASTA RD	ROSE ST	2	R	22	2075
TEVLIN ST (1200-1306)	NORTH CITY LIMIT	WATKINS ST	2	R	18	300
TEVLIN ST (1248-1305)	WATKINS ST	END SOUTH OF GILMAN ST	2	R	25	425
THE ALAMEDA (500-597)	SAN ANTONIO AVE	THOUSAND OAKS BLVD	2	R	24	1385
THE BRIDGE RD (9-30)	ALVARADO RD	TUNNEL RD	2	R	24	450
THE CRESCENT (2-60)	PARK HILLS RD (NORTH)	PARK HILLS RD (SOUTH)	2	R	20	1020
THE CROSSWAYS (202-209)	OVERLOOK RD	MIDDLEFIELD RD	2	R	21	230
THE SHORT CUT	MIDDLEFIELD RD	PARK HILLS RD	2	R	22	200
THE SPIRAL (304-319)	DEAD END	WILDCAT CANYON RD	2	R	25	305
THE UPLANDS (220-305)	EL CAMINO REAL	TUNNEL RD	2	R	25	1048
THOUSAND OAKS BLVD (1601-1665)	COLUSA AVE	VINCENTE AVE	2	C	20	380
THOUSAND OAKS BLVD (1666-1797)	VINCENTE AVE	THE ALAMEDA	2	C	24	850
TOMLEE DR (1355-1380)	JUANITA WAY	ACTON ST	2	R	23	330
TWAIN AVE (1-71)	KEELER AVE	STERLING AVE	2	R	18	740
VALLEJO ST (6-52)	THE ALAMEDA	SAN RAMON AVE	2	R	24	460
VALLEY ST (2150-2183)	NORTH DEAD END (ALLSTON)	ALLSTON WAY	2	R	23	375
VASSAR AVE (350-399)	NORTH CITY LIMIT (KENTUCKY)	KENTUCKY AVE	2	R	23	375
VASSAR AVE (401-486)	KENTUCKY AVE	SPRUCE ST	2	R	24	1160
VERMONT AVE (424-499)	MARYLAND AVE	COLORADO AVE	2	R	25	750
VERMONT AVE (300-420)	DEAD END (VERMONT)	MARYLAND	2	R	24	780
VICENTE RD (1-95)	EAST CITY LIMIT NR GRAND VIEW	TUNNEL RD	2	R	24	1310
VICENTE RD (150-181)	ALVARADO RD	EAST CITY LIMIT NR GRAND VIEW	2	R	24	550
VINCENTE AVE (750-814)	COLUSA AVE	PERALTA AVE	2	R	24	1000
VINCENTE AVE (451-595)	NORTH END (VINCENTE WALK)	THOUSAND OAKS BLVD	2	R	24	1400

TOTAL LENGTH (FEET) 231,679

Street Name	Beginning Location	Ending Location	Lanes	Fire Code	Pavement Width (ft)	Pavement Length (ft)
VINE ST	COLUSA AVE	PERALTA AVE	2	R	24	1000
VIRGINIA GDNS (1-22)	NORTH DEAD END (CEDAR)	VIRGINIA ST	2	R	20	470
VIRGINIA ST (2701-2711)	LA LOMA AVE	DEAD END (AT LA VEREDA)	2	R	17	220
VISALIA AVE (1500-1598)	WEST CITY LIMIT (NEILSON)	COLUSA AVE	2	R	24	325
VISALIA AVE (1606-1697)	COLUSA AVE	VINCENTE AVE	2	R	24	890
VISTAMONT AVE (520-669)	WOODMONT AVE	WOODMONT AVE NR SUNSET LANE	2	R	18	2410
WALKER ST (2701-2708)	DERBY ST	WARD ST	2	R	18	330
WATKINS ST (1341-1350)	NEILSON ST	TEVLIN ST	2	R	22	250
WHITAKER AVE (1-99)	MILLER AVE	STERLING AVE	2	R	18	550
WILSON CIR (2-14; 1579)	OLYMPUS DR	WILSON WALK	2	R	23	180
WOODMONT AVE (515-581)	WILDCAT CANYON & GRIZZLY PEAK	ROSEMONT AVE	2	R	20	1355
WOODMONT AVE (600-691)	ROSEMONT AVE	SUNSET LANE	2	R	20	1700
WOODMONT AVE (800)	SUNSET LANE	DEAD END	2	R	12	1950
WOODMONT CT (1-5)	WOODMONT AVE (NORTH)	WOODMONT AVE (SOUTH)	2	R	23	285
WOODSIDE RD (1051-1155)	THE CRESCENT	PARK HILLS RD	2	R	22	1450
YOSEMITE RD (1800-1891)	THE ALAMEDA	SAN FERNANDO AVE	2	R	24	870



Homeless Commission

29a

ACTION CALENDAR
December 3, 2019

To: Honorable Mayor and Members of the City Council

From: Homeless Commission

Submitted by: Carole Marasovic, Chair, Homeless Commission

Subject: Taxi scripts to be provided to residents of Pathways/the STAIR Center

RECOMMENDATION

The Homeless Commission recommends that taxi scripts be provided to persons referred to Pathways/ the STAIR Center and that continued taxi scripts be provided to Pathways/STAIR residents, during their stay, in order to insure safe, accessible transport.

Alternatively, the Commission recommends that transportation arrangements be made with ride share services such as Lyft or Uber, or a public shuttle system coordinated by the City of Berkeley and Alameda County.

FISCAL IMPACTS OF RECOMMENDATION

Staff would have to identify the costs of this recommendation. It should be easy to implement and far less costly than the potential loss of a life from an accident crossing the railroad tracks or injuries to persons walking the distance between the bus routes and Pathways/the STAIR Center.

CURRENT SITUATION AND ITS EFFECTS

The Pathways STAIR Center is located in a remote area of West Berkeley. The two closest bus line stops, the 72 and the 51, stop eight streets and seven streets away, respectively.

Walking to Pathways also requires walking across railroad tracks, challenging for able-bodied persons, particularly in late hours, and even more challenging for persons with disabilities. Pathways has been identified as a low-barrier shelter so that persons residing there can enter and leave at all hours.

BACKGROUND

Approximately fifty persons reside at Pathways/the STAIR Center at any one time. Pathways is currently the primary navigation center for housing unhoused persons. Former and current Pathways residents often describe the challenge of walking from remote bus lines and the dangers of safely crossing the nearby railroad tracks. Many Pathway residents have serious physical disabilities, with and without equipment.

Transportation to and from Pathways is difficult for them. Residents staying at Pathways come and go freely and need to leave the navigation center to conduct everyday business and make appointments. Some return late in the evening.

At our September 11, 2019 regular meeting, the Homeless Commission approved the report, "Taxi scripts to be provided to residents of Pathways/the STAIR Center," with the following motion:

Action: M/S/C Hill/ Mulligan to approve the report to Council with the following amendments: (i) add "..., as well as public shuttle system coordinated by the City of Berkeley and Alameda County" to the last sentence under the Recommendation section, and (ii) remove the sentence under the Alternative Actions Considered section, and replace it with "We considered changes to the AC Transit bus routes."

Vote: Ayes: Hill, Mulligan, Marasovic, Hirpara, Kealoha-Blake, Hollyman, Behm-Steinberg.
Noes: None. *Abstain:* None. *Absent:* None.

ENVIRONMENTAL SUSTAINABILITY

There are no identifiable environmental impacts as the taxis or ride shares providing transportation services are already operative in Berkeley.

RATIONALE FOR RECOMMENDATION

The Homeless Commission believes that persons staying at Pathways, particularly given their disability and aging status, need accessible, safe transportation. Potential injuries or possible deaths from crossing the railroad tracks also need to be avoided.

ALTERNATIVE ACTIONS CONSIDERED

We considered changes to the AC Transit bus routes.

CITY MANAGER

See companion report.

CONTACT PERSON

Brittany Carnegie, HHCS, Community Services Specialist II, (510) 981-5415



Office of the City Manager

29b

ACTION CALENDAR

December 3, 2019

To: Honorable Mayor and Members of the City Council

From: Dee Williams-Ridley, City Manager

Submitted by: Kelly Wallace, Interim Director, Health, Housing and Community Services

Subject: Companion Report: Taxi scrips to be provided to residents of Pathways/the STAIR Center

RECOMMENDATION

The City Manager will ensure that STAIR Center staff are incorporating applications and access to existing community transportation programs, such as East Bay Paratransit and Berkeley Rides for Seniors and the Disabled, into routine provision of services to mobility-impaired STAIR guests.

FISCAL IMPACTS OF RECOMMENDATION

Staff time.

CURRENT SITUATION AND ITS EFFECTS

The Homeless Commission raises a very important concern for the well-being of clients at the STAIR Center. As of this writing in early October, 71% of clients currently at the STAIR Center, and 75% of clients who have ever used a STAIR bed, report having a disability of any kind; of that, 42% of current clients, and 47% of clients ever using a bed, specifically report having a physical disability. At any given time, the STAIR Center serves a large number of clients who are mobility-impaired and use wheelchairs or walkers. Therefore, the program's physical location, from which crossing the railroad tracks is necessary to access almost every other service in Berkeley, does pose challenges and potential danger to these individuals.

It is important to note that disabled STAIR residents already have access to a number of existing Berkeley and Alameda County transportation programs, including East Bay Paratransit and Berkeley Rides for Seniors and the Disabled (BRSD),¹ which includes taxi scrips for low-income seniors over the age of 70 or anyone certified as disabled by East Bay Paratransit.

Therefore, staff advise against creating a separate taxi scrip program for three reasons:

¹ See: <https://www.cityofberkeley.info/ContentDisplay.aspx?id=3992>

1. Mobility impairment affects clients at all of Berkeley's homeless programs, so targeted investment in transportation services for one program without consideration of similar needs elsewhere would not be equitable.
2. Creating a new transportation program would duplicate existing City and County transportation services, which would not be an efficient use of limited city resources.
3. Assistance with the BRSD application² for anyone who is mobility-impaired can and should become a routine part of existing STAIR case management services for mobility-impaired program guests, and helps empower these individuals to access similar resources in their community once they transition out of the shelter and into housing.

Accordingly, we recommend that Council direct the City Manager to ensure that BRSD and other community transportation application assistance is incorporated into the day-to-day service provision at the STAIR Center.

BACKGROUND

At their September 11, 2019 regular meeting, the Homeless Commission approved the report, "Taxi scripts to be provided to residents of Pathways/the STAIR Center," with the following motion:

Action: M/S/C Hill/ Mulligan to approve the report to Council with the following amendments: (i) add "..., as well as public shuttle system coordinated by the City of Berkeley and Alameda County" to the last sentence under the Recommendation section, and (ii) remove the sentence under the Alternative Actions Considered section, and replace it with "We considered changes to the AC Transit bus routes."

Vote: Ayes: Hill, Mulligan, Marasovic, Hirpara, Kealoha-Blake, Hollyman, Behm-Steinberg.
Noes: None. *Abstain:* None. *Absent:* None.

ENVIRONMENTAL SUSTAINABILITY

Helping clients access existing resources, rather than adding new shuttles/vehicle programs, helps reduce vehicle congestion and greenhouse gas emissions, and is therefore consistent with Berkeley's climate goals.

RATIONALE FOR RECOMMENDATION

The STAIR Center's case management philosophy aims to minimize dependence on the program by providing connections to community resources and teaching skills that

² A copy of the application can be found here:

[https://www.cityofberkeley.info/uploadedFiles/Housing/Level_3_-_General/Berkeley%20Paratransit%20Non-ADA%20Appication_FILLABLE\(1\).pdf](https://www.cityofberkeley.info/uploadedFiles/Housing/Level_3_-_General/Berkeley%20Paratransit%20Non-ADA%20Appication_FILLABLE(1).pdf)

last after the client has been housed. Utilizing existing case management resources to access existing community transportation programs is consistent with this philosophy and represents the most efficient and equitable use of limited resources.

ALTERNATIVE ACTIONS CONSIDERED

None.

CONTACT PERSON

Peter Radu, Homeless Services Coordinator, HHCS, (510) 981-5435.



30a

Public Works Commission

ACTION CALENDAR
December 3, 2019

To: Honorable Mayor and Members of the City Council
From: Public Works Commission
Submitted by: Ray Yep, Chair, Public Works Commission
Subject: Public Works Commission Recommendation for the Five-Year Paving Plan

RECOMMENDATION

Adopt a resolution that recommends approval of the Five-Year Paving Plan for FY2020 to FY2024 as proposed by Staff and recommends the creation of a Long-Term Paving Master Plan.

SUMMARY

This Report to Council is comprised of three sections:

1. Recommendations on the City's Proposed 5-Year Paving Plan
2. Report to Council on requested actions from 2017 and 2018
3. Recommendation from the Public Works Commission (PWC) to address the on-going paving condition deficit through the creation and implementation of a Long-Term Paving Master Plan.

The City of Berkeley's Street Rehabilitation and Repair Policy (Street Policy) requires that a 5-year paving plan be reviewed each year and adopted formally by the City Council, with advice from the PWC. The Rehabilitation Plan (commonly called the Paving Plan) for FY 2020 to FY 2024 has been reviewed by the PWC and it is recommending adoption of all five years of the plan.

At their meetings in December 2017 and 2018, City Council directed Staff to coordinate with the PWC on the items outlined in their motions. A progress report on the action items was submitted to Council on July 24, 2018. All of the action items have been worked on and this report highlights the status.

Berkeley's streets are in an "at-risk" condition, far from the City's target of having our streets in "good" condition, and continue to decline year on year. The PWC recommends that a master plan be prepared to understand the funding and resources needed to improve Berkeley's streets to a "good" condition.

FISCAL IMPACTS OF RECOMMENDATION

This Paving Plan is based on the Adopted Biennial Budget for Fiscal Years 2020 & 2021, and on the following estimated available funding levels from all sources, including State Transportation (Gas) Tax, Measure B, Measure BB, Measure F, and the General Fund.

Five-Year Paving Program Funding Sources by Year, in \$					
Fund Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
State Transportation Tax	495,303	495,303	495,303	495,303	495,303
State Transportation Tax –SB1	1,500,000	1,700,000	1,700,000	2,000,000	2,000,000
Measure B - Local Streets & Roads	700,000	1,000,000	700,000	0	0
Measure BB – Local Streets & Roads	2,200,000	1,700,000	2,000,000	2,700,000	2,700,000
Measure F Vehicle -Registration Fee	155,000	155,000	155,000	155,000	155,000
Capital Improvement Fund	1,925,000	1,925,000	1,925,000	1,925,000	1,925,000
TOTAL	6,975,303	6,975,303	6,975,303	7,272,303	7,272,303

In addition to the City's program funding, additional grant and bond funding has been made available for paving in FY 2020 and 2021, summarized below.

Other Funding for Paving by Year, in \$					
Funding Source	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Measure T1 approved	7,500,000	1,000,000	0	0	0
Grants	2,777,000	1,200,000	0	0	0
TOTAL	10,277,000	2,200,000	0	0	0

The PWC is recommending the preparation of a Long-Term Paving Master Plan. This is currently not budgeted and a request to fund the work needs to be prepared and submitted.

CURRENT SITUATION AND ITS EFFECTS

In December 2017 and 2018, the PWC made recommendations on the 5-year paving plan and provided a detailed analysis of Berkeley's street condition in our reports to Council. Based on the city-wide Pavement Condition Index (PCI), Berkeley's streets continue to be evaluated as "at risk," and do not meet the City's target to be in "good" condition. Council requested certain analysis and action be taken.

This report addresses the following topics:

1. Recommendations on the City's Proposed 5-Year Paving Plan
2. Report to Council on requested actions from 2017 and 2018

3. Recommendation from the Public Works Commission (PWC) to address the on-going paving condition deficit through the creation and implementation of a Long-Term Paving Master Plan.

Review of 5-year Paving Plan

A significant amount of street paving was done in the summer of 2019. This includes the paving delayed from 2018, the paving approved for 2019, and paving the Panoramic Hill area.

Staff prepared a list of paving projects for the new 5-year planning period (FY 2020 – 2024). This was prepared using guidance from Berkeley’s Street Rehabilitation Policy, StreetSaver program analysis, knowledge of what has been accomplished in recent years, and available funding. The proposed plan is summarized as follows.

	FY2020	FY2021	FY2022	FY2023	FY2024	Total	% of Total
<u>Square Footage of Paving</u>							
Arterials, sq. ft.	84,360	0	77,580	6,600	0	168,540	6
Collectors, sq. ft.	400,480	6,900	58,810	63,250	163,170	754,710	26
Residential, sq. ft.	284,758	477,584	474,528	366,739	365,668	1,969,277	68
Total sq. ft.	769,598	546,584	610,918	436,589	528,838	2,892,527	100
<u>Miles</u>							
Arterials, miles	0.32	0.00	0.41	0.04	0.00	0.77	5
Collectors, miles	1.77	0.51	0.23	0.62	0.81	3.94	24
Residential, miles	1.58	3.33	2.39	2.17	1.93	11.40	71
Total miles	3.67	3.84	3.03	2.83	2.74	16.11	100
<u>Cost</u>							
Arterials, \$millions	\$0	\$0	\$0.896	\$0.078	\$0	\$0.974	3
Collectors, \$millions	\$2.521	\$0.881	\$0.956	\$1.290	\$1.946	\$7.594	24
Residential, \$millions	\$3.744	\$5.041	\$2.996	\$3.252	\$3.957	\$18.990	60
Discretionary, \$millions	\$0	\$1.046	\$1.046	\$1.091	\$1.091	\$4.274	13
Total cost, \$millions	\$6.265	\$6.968	\$5.894	\$5.711	\$6.994	\$31.832	100

The above summary does not include \$7.5 million in FY 2020, and \$1 million in FY 2021 from Measure T1 funding. It also does not include \$3.98 million in grant funding in FY2020 and FY2021.

The PWC paving subcommittee discussed the plan with Public Works Department staff and we have the following comments.

1. The Paving Plan uses asphalt paving technology. As such, the plan is not contributing to reducing greenhouse gas emissions. The PWC encourages staff to use greener and more sustainable technologies to help meet our climate action

goals. One suggestion is to start calling this a “street surface treatment plan” and not paving plan.

2. Staff prepared a process flow diagram that describes the inputs used to prepare the 5-year paving plan. This document provides a high-level overview of all the work that staff puts into the development of the paving plan and it has been very informative for the PWC. This has been included as Attachment 3 to this report for Council’s review.
3. Many of the City’s streets with the lowest PCI are residential streets. The proposed plan by staff shifts more focus of the paving plan to residential streets. While this is outside of the City’s Paving Policy for allocation of paving funds by street type, this plan helps address the roads that are in the greatest need and will do the most to improve the City-wide average PCI. The PWC believes that on a long-term basis, the Paving Policy is still valid to prioritize funding for arterials, collectors, bike routes, and bus routes. The following is a breakdown as compared to the Paving Policy:

	Cost Breakdown Per Paving Policy	Cost Breakdown Per 5-Year Paving Plan (FY2020-2024)
Arterial streets	10%	3%
Collector streets	50%	24%
Residential streets	25%	60%
Discretionary	15%	13%

4. The plan was reviewed with the City of Berkeley’s Bicycle Plan 2017. Of the total length of streets to be paved, 5.8 miles (36%) are current or future bike routes. However, of those 5.8 miles, 1.6 miles (27%) are on Hopkins or Cedar and just doing the pavement does not bring the streets to the requirements of the Berkeley Bicycle Plan. To complete the bikeways on these streets, additional funding is needed from the Transportation Division and a project is needed prior to paving beginning on these streets. The plan was also reviewed with the Transportation Commission and with their concerns about bike routes.
5. The PWC has reviewed the plan for contiguous streets and that the work is bundled for cost effective implementation. This is balanced with having the paving work be spread across all Council Districts of the City. Over the 5-year Paving Plan, the cost is distributed between 7% to 16% for each District.
6. The PWC agrees with including the streets that were approved under Phase 1 of Measure T1. However, the PWC recommends that bond funds be used only for work that will last for at least as long as the duration of the bond repayment period (this would be 40 years in the case of projects funded by Measure T-1 bond proceeds). Road treatments that match this recommendation only include full street reconstruction work, as other standard maintenance may extend the life of these assets beyond the duration of the bond repayment period. Maintenance work, such

as overlays, cape and slurry seals, should be funded from the Paving Program funds or the General Fund.

7. Specific attention should be given to the Adeline Corridor Specific Plan and its proposed changes to the street alignment. The street will be repaved using Measure T1 funds. This means that changes to the street may occur before the debt financing is paid off.
8. The PWC agrees that 15% of the available funding should be reserved for discretionary and/or demonstration projects. The PWC is in the process of developing a recommendation for criteria to help prioritize projects to be funded with the discretionary reserve.

Progress with Council Requested Actions

At their meetings in December 2017 and 2018, City Council directed Staff to coordinate with the PWC on the items outlined in their motions. A progress report on the action items was submitted to Council on July 24, 2018. Progress continues to be made on the action items and we would like to highlight the following.

1. Use of life cycle cost analysis – The City received a grant from the Metropolitan Transportation Commission (MTC) for technical assistance to evaluate life cycle cost analysis for street paving technologies. The MTC has retained Pavement Engineering Inc. (PEI) to conduct the analysis. The PWC paving sub-committee is working closely with PEI and staff on the study. The study will evaluate the life cycle cost of asphalt and alternative technologies, including permeable pavement, and will consider multiple benefits from each. These benefits, called externalities, include considerations for attenuating storm water peak flows, improving water quality, reducing traffic speeds, enhanced public safety, and reducing greenhouse gas emissions. PEI's analysis is projected to be completed in fall 2019.
2. Use of 15% discretionary and demonstration funds – The PWC paving sub-committee is working with staff to identify potential sites for permeable pavement projects or alternative durable pavement technologies. We are developing a matrix of criteria and candidate locations. The criteria include current condition, soil permeability, constructability, location attributes, life cycle cost analysis, and other factors. An allocation of 15% discretionary and demonstration funds has been included in FY2021-2024.
3. Work with consultants who have experience with long-lasting innovative technologies – The City retained several new on-call civil engineering consultants in 2018. The consultants include Bellecci and Associates, Harrison Engineering Inc., Pavement Engineering Inc., and Mark Thomas Company. All of these firms have demonstrated experience with long-lasting innovative and green infrastructure.
4. Report to Council on funding sources for scheduled and completed paving – A report to Council was made on September 10, 2019 on the breakdown of paving costs.

5. Annual report to Council on Measure M – The Public Works Department staff will prepare a report on the performance of Measure M at the completion of the 2019 paving season and the completion of the Woolsey Street stormwater cistern project.
6. Consult with Transportation Commission – Members from the Transportation Commission have participated at the PWC’s paving sub-committee meetings and a presentation of the 5-year paving plan was given to the Transportation Commission on June 20, 2019.

Master Plan to Improve the Condition of Berkeley’s Streets

The current citywide average PCI is 58 on a scale of 100, and is firmly in the “at risk,” category. Streets in this category tend to degrade at a more accelerated rate than those in a “good” or “fair” condition. Under the proposed paving plan, the PCI is estimated to dip to 52 by 2023. This is far from the City’s target of having our streets in “good” condition (PCI of 70 -79), and it is clear that action is needed to reverse this trend before our road fall into “failing” condition. Below is a summary of the current conditions of Berkeley’s streets by road type. This information was prepared by staff and PEI.

Section/Area	PCI in 2019
Overall system	58
Arterial streets	66
Collector streets	64
Residential streets	55
Bus routes	66
Bike lanes	62

The PWC recommends that a master plan be prepared to understand the funding and resources needed to improve Berkeley’s streets to a “good” condition. The master plan should represent street paving priorities that align with the values of the city and should consider the following:

1. Update the Street Policy – The policy was last updated in 2009. The policy should be reviewed and updated to incorporate current thinking about using life cycle cost analysis, Vision Zero, equity, sustainable multi-benefit technologies, the Bicycle Plan recommendations, Climate Action Plan, Resilience Strategy, Local Hazard Mitigation Plan, and other factors. With these considerations in mind, the updated policy should include new performance metrics that capture the diverse objectives the City holds for our road network.
2. A long-term paving capital plan – The Master Plan should include a 40-year paving or road surfacing plan to help the City identify the most efficient path to move the current PCI from “at risk” to “good.” This approach spans two cycles of typical asphalt roads expected useful life, and allows for decisions on street surfacing to be

optimized for the greatest bang for our buck over the full life of our assets, rather than the current short-term approach.

3. Equity -- The City's Street Policy calls for street paving to be equitably allocated among the City's nine districts. This is a worthy goal; however, the policy stops there and does not provide a clear method for how to evaluate equity. Should it be measured by dollars spent, miles paved, miles treated, the average PCI in a district, and should this equity be for each year of the paving plan over the full five years of the paving plan, or measured retrospectively? The Master Plan will propose a more definitive metric that will provide a clear directive to staff moving forward and provide the community with enhanced transparency in the City's paving decisions.
4. Financing Strategy -- Lack of funding for street paving plays a major role in the overall condition of the City's streets. As part of the Master Plan, the work should include a long-term funding gap analysis, a financial plan to address the funding gap, a cost-of-service rate study to develop recommended rates needed to sustainably finance the Paving Program, and an impact fee analysis to allow the City to recoup the cost of accelerated wear on our roads imposed by heavy vehicles. We also recommend the master plan include an evaluation of grant funding opportunities.
5. Public Engagement -- Public feedback is critical to the successful implementation of any City Plan. The Master Plan should provide guidance for public engagement strategies that will allow the collection and synthesis of public feedback regarding the future of the City streets.

The recommendation to approve both the 5-year paving plan and the recommendation for a Paving Master Plan and to forward it to Council was discussed by the Public Works Commission at its July 11, 2019 meeting.

Action: M/S/C (Schueler/Dominguez)

Vote: (8 Ayes: Yep, Schueler, Dominguez, Hitchen, Constantine, Krpata, Erbe, Freiberg; 0 Noes; 1 Absent: McGrath; 0 Abstain)

ENVIRONMENTAL SUSTAINABILITY

Permeable pavers provide a way of reducing the volume of storm water entering the City storm drain system; improving the quality of urban runoff from the roadway that is conveyed to local creeks and the Bay; and reducing greenhouse gas emissions by installing a durable product that requires less maintenance than traditional asphalt concrete.

Full Depth Reclamation (FDR), a cost-effective alternative to traditional street reconstruction methods, is planned for use in several of the streets selected for rehabilitation. It recycles much of the existing pavement on site, and incorporates it into the pavement subgrade, thereby reducing truck trips to and from construction sites.

In addition, the Paving Plan includes repair of the City's deteriorating storm drain infrastructure that minimizes degradation of water quality in local creeks and the Bay. These repairs are consistent with the City of Berkeley's 2011 Watershed Management Plan. Furthermore, the Paving Plan also proposes approximately 5.8 miles of improvements to bicycle routes, and improvements to sidewalk and curb ramps adopted from the Bicycle and Pedestrian Plans. These steps result in lower emissions of greenhouse gases into the environment, which is consistent with the goals of the 2009 Berkeley Climate Action Plan.

RATIONALE FOR RECOMMENDATION

It is the policy of the City of Berkeley that there shall be a Five-year Street Rehabilitation Plan for the entire City to be adopted by the City Council. Further, the proposed plan provides for much needed street infrastructure improvements that are consistent with the City's Street Policy.

ALTERNATIVE ACTIONS CONSIDERED

None

CITY MANAGER REPORT

See companion report.

CONTACT PERSON

Ray Yep, Chair, Public Works Commission (510) 318-4894

Nisha Patel, Manager of Engineering (510) 981-6406

Joe Enke, Supervising Civil Engineer (510) 981-6411

Attachments:

1. Resolution

Exhibit A: Five-Year Street Rehabilitation Plan Update to Council, July 24, 2018

2. 5-Year Paving Plan Process Flow Diagram

Attachment 1

RESOLUTION NO. ##,###-N.S.

APPROVAL OF THE FIVE-YEAR PAVING PLAN FOR FY 2020 TO FY2024 AND
RECOMMENDATION FOR THE CREATION OF A LONG-TERM PAVING MASTER
PLAN

WHEREAS, the Street Rehabilitation Policy, Resolution No. 55,384-N.S. approved on May 22, 1990, requires there be a Five-Year Street Paving Plan for the entire City to be adopted by the City Council, and

WHEREAS, the City Council requests advice from the Public Works Commission on the Five-Year Paving Plan; and

WHEREAS, on July 11, 2019, the Public Works Commission voted to approve submitting the FY 2020 to FY2024 Five-year Paving Plan to City Council, attached as Exhibit A;

WHEREAS, the condition of Berkeley's streets are at an "at risk" condition and a long-term strategy is needed to improve the condition to the "good" level,

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that the FY 2020 to FY2024 Five-Year Paving Plan attached as Exhibit A hereof and the request to create a long-term paving master plan, are hereby adopted.

Exhibit A: Five-Year Paving Plan for FY2020 to FY2024

EXHIBIT A
5-YEAR STREET REHABILITATION PLAN FOR FY 2020 TO FY 2024

Revised: 05/22/2019

Fiscal Year	Street ID	Section ID	Street Name	From	To	Class	Treatment (from StreetSaver)	Updated Total Cost	District	P	Mileage	Current PCI	Last M&R Date	Last M&R	Last Paved
2020	321100	30	CEDAR ST	6TH ST	SAN PABLO AVE	C	Reconstruct	\$ 1,239,036	1	3C*	0.31	27	10/1/1994	O -	MILL AND OVERLAY W/FABRIC
2020	320685	10	MARINA BLVD	SPINNAKER WAY	UNIVERSITY AVE	C	Heavy Mtce		1	N	0.43	58	9/1/1986	A - AC	OVERLAY
2020	735382	60	MILVIA ST	BLAKE ST	RUSSELL ST	R	Heavy Rehab	\$ 764,300	3	3E	0.44	28	9/1/1993	A - AC	RECONSTRUCT SURFACE (AC)
2020	516492	75	ROSE ST	LE ROY AVE	LA LOMA AVE	R	Reconstruct	\$ 205,000	6	N	0.14	0		A - AC	
2020	319525	35	SANTA FE AVE	GILMAN ST	CORNELL AVE & PAGE	R	Heavy Rehab	\$ 409,600	1	3C*	0.27	49	7/1/1995	A - AC	RECONSTRUCT STRUCTURE (AC)
2020	319525	30	SANTA FE AVE	NORTH CITY LIMIT	GILMAN ST	R	Light Mtce	\$ 37,355	1	3C*	0.11	60	8/31/2004	O -	MILL AND THIN OVERLAY
2020	115532	77	SHASTA RD	GRIZZLY PEAK BLVD	PARK GATE	C	Heavy Rehab	\$ 86,667	6	N	0.05	14	11/1/1988	A - AC	RECONSTRUCT SURFACE (AC)
2020	115532	79	SHASTA RD	PARK GATE	EAST CITY LIMIT (GOLF	C	Reconstruct	\$ 234,789	6	N	0.11	10	11/1/1988	A - AC	RECONSTRUCT SURFACE (AC)
2020	320686	10	SPINNAKER WAY	BREAKWATER DR	MARINA BLVD	R	Reconstruct	\$ 1,000,000	1	N	0.28	24	8/1/1991	A - AC	OVERLAY
2020	213386	22	MONTEREY AVE	THE ALAMEDA	HOPKINS ST	C	Heavy Rehab	\$ 960,667	5	2A	0.57	54	11/30/2011	A - AC	MILL AND OVERLAY
2020	933653	40	WARD ST	SAN PABLO AVE	ACTON ST	R	Reconstruct	\$ 1,328,400	2	N	0.31	20	9/1/1991	A - AC	MILL AND OVERLAY W/FABRIC
2020	320620	15	UNIVERSITY AVE	MARINA BLVD	WEST FRONTAGE RD	C	Reconstruct		1, 2	N	0.30	0	12/1/1989	A - AC	OVERLAY
2020	729533	55	SHATTUCK AVE	CENTER ST	ALLSTON WAY	A	Reconstruct		4		0.06	2	7/1/1994	O -	MILL AND OVERLAY W/FABRIC
2020	729533	57	SHATTUCK AVE (SB)	CENTER ST	UNIVERSITY AVE	A	Reconstruct		4		0.13	12	7/1/1994	O -	MILL AND OVERLAY W/FABRIC
2020	729007	64	ADDISON ST	SHATTUCK AVE	SHATTUCK AVE	R	Heavy Rehab		4		0.03				
2020	729051	52	BERKELEY SQUARE	ADDISON ST	CENTER ST	A	Heavy Rehab		4		0.06				
2020	729535	50	SHATTUCK SQUARE	UNIVERSITY AVE	ADDISON	A	Heavy Rehab		4		0.07	28	7/1/1994	O -	MILL AND OVERLAY W/FABRIC
								\$ 6,265,814			3.69				

Note: Column P denotes presence of bike facility type (1 paved path, 2A 2B bike lane, 3A sign-only, 3C Sharrows, 3E bike blvd, 4 cycle track); C for bus route; and N for none.

*Proposed bike facilities from 2017 Bike Plan.

EXHIBIT A
5-YEAR STREET REHABILITATION PLAN FOR FY 2020 TO FY 2024

Revised: 05/22/2019

Fiscal Year	Street ID	Section ID	Street Name	From	To	Class	Treatment (from StreetSaver)	Updated Total Cost	District	P	Mileage	Current PCI	Last M&R Date	Last M&R	Last Paved
2021	940005	70	ACTON ST	ASHBY ST	66TH ST	R	Light Mtce	\$ 83,640	2	N	0.23	60	8/29/2007	A - AC	RECONSTRUCT STRUCTURE (AC)
2021	516020	30	ARCADE AVE	GRIZZLY PEAK BLVD	FAIRLAWN DR	R	Heavy Rehab	\$ 63,378	6	N	0.06	7	6/1/1995	O -	MILL AND OVERLAY W/FABRIC
2021	628042	78	BANCROFT WAY	BOWDITCH ST	COLLEGE AVE	C	Heavy Mtce	\$ 161,036	7	3C*	0.13	62	12/1/1990	O -	MILL AND OVERLAY W/FABRIC
2021	627042	80	BANCROFT WAY	COLLEGE AVE	PIEDMONT AVE	C	Heavy Rehab	\$ 254,076	7	3C*	0.13	57	12/1/1990	O -	MILL AND OVERLAY W/FABRIC
2021	829102	60	CENTER ST	MARTIN LUTHER KING	MILVIA ST	R	Heavy Rehab	\$ 315,645	4		0.13	59	7/1/1991	A - AC	RECONSTRUCT SURFACE (AC)
2021	729102	63	CENTER ST	MILVIA ST	SHATTUCK	R	Heavy Rehab	\$ 564,000	4	2A*	0.13	72	7/1/1991	A - AC	RECONSTRUCT SURFACE (AC)
2021	111127	10	CRESTON RD	GRIZZLY PEAK BLVD	SUNSET LANE	R	Heavy Mtce	\$ 93,378	6	N	0.36	67	6/1/1995	A - AC	RECONSTRUCT STRUCTURE (AC)
2021	115127	20	CRESTON RD	SUNSET LANE	GRIZZLY PEAK BLVD	R	Heavy Mtce	\$ 116,258	6	N	0.36	64	11/1/1988	A - AC	RECONSTRUCT SURFACE (AC)
2021	728140	50	DANA ST	BANCROFT WAY	DWIGHT WAY	R	Heavy Rehab	\$ 467,400	7	2A to 2B*	0.25	51	12/1/1989	O -	MILL AND OVERLAY W/FABRIC
2021	739141	70	DEAKIN ST	ASHBY AVE	PRINCE ST	R	Light Mtce	\$ 45,920	3	N	0.16	76	4/3/2008	A - AC	RECONSTRUCT STRUCTURE (AC)
2021	736141	68	DEAKIN ST	RUSSELL ST	ASHBY AVE	R	Light Rehab	\$ 109,200	3	N	0.10	57	7/1/1988	O -	MILL AND OVERLAY W/FABRIC
2021	940148	70	DOHR ST	ASHBY AVE	PRINCE ST	R	Heavy Rehab	\$ 176,569	2	N	0.14	53	10/1/1992	A - AC	RECONSTRUCT STRUCTURE (AC)
2021	115344	80	LATHAM LANE	MILLER AVE	GRIZZLY PEAK	R	Heavy Mtce	\$ 38,500	6	N	0.10	61	6/1/1994	A - AC	RECONSTRUCT STRUCTURE (AC)
2021	115380	70	MILLER AVE	HILLDALE AVE	SHASTA RD	R	Light Rehab	\$ 425,880	6	N	0.66	58	6/1/1994	A - AC	RECONSTRUCT STRUCTURE (AC)
2021	830491	58	ROOSEVELT AVE	CHANNING WAY	DWIGHT WAY	R	Light Rehab	\$ 172,480	4	N	0.13	65	12/1/1989	A - AC	RECONSTRUCT SURFACE (AC)
2021	728584	50	TELEGRAPH AVE	BANCROFT WAY	DWIGHT WAY	C	Heavy Rehab	\$ 473,060	7	3C*	0.25	52	7/1/1988	O -	MILL AND OVERLAY W/FABRIC
2021	931657	55	WEST ST	BANCROFT WAY	DWIGHT WAY	R	Heavy Mtce	\$ 263,822	2	N	0.25	65	10/1/1994	O -	MILL AND OVERLAY W/FABRIC
2021	320528	47	2ND ST	DELAWARE ST	HEARST AVE	R	Reconstruct	\$ 775,833	1	N	0.09	2	NA		
2021	320528	48	2ND ST	HEARST AVE	UNIVERSITY AVE	R	Heavy Rehab	\$ 762,222	1	N	0.09	46	NA		
2021	920528	50	2ND ST	UNIVERSITY AVE	ADDISON ST	R	Heavy Rehab	\$ 560,000	2	N	0.09	0	8/27/1997		MILL AND OVERLAY W/FABRIC
2021			15% DISCRETIONARY					\$ 1,046,295							
								\$ 6,968,593			3.84				

Note: Column P denotes presence of bike facility type (1 paved path, 2A 2B bike lane, 3A sign-only, 3C Sharrows, 3E bike blvd, 4 cycle track); C for bus route; and N for none.

*Proposed bike facilities from 2017 Bike Plan.

EXHIBIT A
5-YEAR STREET REHABILITATION PLAN FOR FY 2020 TO FY 2024

Revised: 05/22/2019

Fiscal Year	Street ID	Section ID	Street Name	From	To	Class	Treatment (from StreetSaver)	Updated Total Cost	District	P	Mileage	Current PCI	Last M&R Date	Last M&R	Last Paved
2022	931073	50	BROWNING ST	ADDISON ST	DWIGHT WAY	R	Heavy Rehab	\$ 911,600	2	N	0.50	63	10/1/1995	O -	MILL AND OVERLAY W/FABRIC
2022	638115	70	COLLEGE AVE	ASHBY AVE	SOUTH CITY LIMIT	A	Heavy Rehab	\$ 896,480	8	N	0.41	51	8/23/2000	A - AC	RECONSTRUCT STRUCTURE (AC)
2022	729152	60	DURANT AVE	MILVIA ST	SHATTUCK AVE	C	Reconstruct	\$ 693,355	4	N	0.13	0	11/1/1992	O -	MILL AND OVERLAY W/FABRIC
2022	729152	64	DURANT AVE	SHATTUCK AVE	FULTON ST	C	Heavy Rehab	\$ 262,880	4	N	0.10	28	8/12/1997	O -	MILL AND OVERLAY W/FABRIC
2022	728180	50	ELLSWORTH ST	BANCROFT WAY	DWIGHT WAY	R	Reconstruct	\$ 422,400	7	N	0.25	20	11/1/1992	O -	MILL AND OVERLAY W/FABRIC
2022	736180	60	ELLSWORTH ST	DWIGHT WAY	WARD ST	R	Light Mtce	\$ 129,360	7	N	0.38	83	5/11/2011	A - AC	RECONSTRUCT SURFACE (AC)
2022	736180	65	ELLSWORTH ST	WARD ST	ASHBY AVE	R	Light Mtce	\$ 99,307	3	N	0.29	87	5/11/2011	A - AC	RECONSTRUCT SURFACE (AC)
2022	736227	60	FULTON ST	DWIGHT WAY	BLAKE ST	R	Heavy Mtce	\$ 76,128	3	3E*	0.06	61	6/1/1993	O -	MEDIUM AC OVERLAY (2 INCHES)
2022	736227	61	FULTON ST	BLAKE ST	PARKER ST	R	Heavy Mtce	\$ 27,840	3	3E*	0.07				
2022	736227	63	FULTON ST	PARKER ST	STUART ST	R	Heavy Mtce	\$ 321,592	3	3E*	0.25	61	2/1/1992	O -	THIN AC OVERLAY(1.5 INCHES)
2022	835431	65	OTIS ST	RUSSELL ST	ASHBY AVE	R	Heavy Rehab	\$ 224,000	3	N	0.13	61	4/1/2001	A - AC	RECONSTRUCT STRUCTURE (AC)
2022	736561	70	STUART ST	FULTON ST	HILLEGASS AVE	R	Heavy Rehab	\$ 784,000	7	N	0.46	54	11/13/1998	A - AC	RECONSTRUCT STRUCTURE (AC)
2022			15% DISCRETIONARY					\$ 1,046,295							
								\$ 5,895,237			3.03				

Note: Column P denotes presence of bike facility type (1 paved path, 2A 2B bike lane, 3A sign-only, 3C Sharrows, 3E bike blvd, 4 cycle track); C for bus route; and N for none.

*Proposed bike facilities from 2017 Bike Plan.

EXHIBIT A
5-YEAR STREET REHABILITATION PLAN FOR FY 2020 TO FY 2024

Revised: 05/22/2019

Fiscal Year	Street ID	Section ID	Street Name	From	To	Class	Treatment (from StreetSaver)	Updated Total Cost	District	P	Mileage	Current PCI	Last M&R Date	Last M&R	Last Paved
2023	729042	65	BANCROFT WAY	SHATTUCK AVE	FULTON ST	C	Heavy Rehab	\$ 277,778	4	4*	0.09	32	8/7/1997	O -	MILL AND OVERLAY W/FABRIC
2023	729042	60	BANCROFT WAY	MILVIA WAY	SHATTUCK AVE	C	Heavy Rehab	\$ 359,836	4	N	0.13	28	12/1/1989		MILL AND OVERLAY W/FABRIC
2023	736140	65	DANA ST	BLAKE ST	WARD ST	R	Light Rehab	\$ 454,080	7	3E*	0.25	45	7/30/2008	A - AC	RECONSTRUCT STRUCTURE (AC)
2023	739186	60	EMERSON ST	ADELINE ST	SHATTUCK AVE	R	Light Rehab	\$ 180,320	3	N	0.15	65	4/1/2001	A - AC	RECONSTRUCT STRUCTURE (AC)
2023	839191	60	ESSEX ST	ADELINE ST	TREMONT ST	R	Heavy Mtce	\$ 76,160	3	N	0.06	76	4/1/2001	A - AC	RECONSTRUCT STRUCTURE (AC)
2023	739191	62	ESSEX ST	TREMONT ST	SHATTUCK AVE	R	Light Rehab	\$ 129,920	3	N	0.11	62	4/1/2001	A - AC	RECONSTRUCT STRUCTURE (AC)
2023	637217	80	FOREST AVE	COLLEGE AVE	CLAREMONT BLVD	R	Heavy Rehab	\$ 600,000	8	N	0.36	50	8/1/1996	A - AC	RECONSTRUCT STRUCTURE (AC)
2023	516340	36	LA LOMA AVE	ROSE ST	BUENA VISTA WAY	C	Heavy Rehab	\$ 248,827	6	N	0.16	36	6/1/1995	O -	MILL AND OVERLAY W/FABRIC
2023	516340	38	LA LOMA AVE	BUENA VISTA WAY	CEDAR ST	C	Heavy Rehab	\$ 221,340	6	N	0.14	51	6/1/1995	O -	MILL AND OVERLAY W/FABRIC
2023	834371	65	MC GEE AVE	DERBY ST	RUSSELL ST	R	Light Rehab	\$ 461,992	3	N	0.25	60	12/10/1998	A - AC	RECONSTRUCT STRUCTURE (AC)
2023	834371	60	MC GEE AVE	DWIGHT WAY	DERBY ST	R	Light Rehab	\$ 302,400	3	N	0.26	59	7/1/1988	O -	THIN OVERLAY w/FABRIC
2023	319293	47	HOPKINS ST	GILMAN ST	SACRAMENTO ST	R	Heavy Rehab	\$ 203,942	5	3A, C	0.10	0	9/13/2002		MILL AND OVERLAY W/FABRIC
2023	213293	50	HOPKINS ST	HOPKINS CT	MONTEREY AVE	C	Light Rehab	\$ 75,193	5	3A, C	0.05	54	9/13/2002		MILL AND OVERLAY W/FABRIC
2023	213293	52	HOPKINS ST	MONTEREY AVE	MC GEE AVE	C	Heavy Rehab	\$ 107,167	5	2A, C	0.05	71	12/1/1989		RECONSTRUCT STRUCTURE (AC)
2023	319293	45	HOPKINS ST	NORTHSIDE AVE	PERALTA AVE	R	Light Mtce	\$ 233,587	1	N	0.10	78	9/13/2002		MILL AND OVERLAY W/FABRIC
2023	319293	46	HOPKINS ST	PERALTA AVE	GILMAN ST	R	Heavy Mtce	\$ 433,031	1, 5	N	0.27	64	9/13/2002		MILL AND OVERLAY W/FABRIC
2023	319293	49	HOPKINS ST	SACRAMENTO ST	HOPKINS CT	A	Heavy Rehab	\$ 77,755	5	3A, C	0.04	30	9/13/2002		MILL AND OVERLAY W/FABRIC
2023	319293	40	HOPKINS ST	SAN PABLO AVE	STANNAGE AVE	R	Light Mtce	\$ 19,188	1	N	0.09	73	9/13/2002		MILL AND OVERLAY W/FABRIC
2023	319293	42	HOPKINS ST	STANNAGE AVE	NORTHSIDE AVE	R	Heavy Mtce	\$ 157,658	1	N	0.17	80	9/13/2002		MILL AND OVERLAY W/FABRIC
2023			15% DISCRETIONARY					\$ 1,091,295							
								\$ 5,711,469			2.86				

Note: Column P denotes presence of bike facility type (1 paved path, 2A 2B bike lane, 3A sign-only, 3C Sharrows, 3E bike blvd, 4 cycle track); C for bus route; and N for none.

*Proposed bike facilities from 2017 Bike Plan.

EXHIBIT A
5-YEAR STREET REHABILITATION PLAN FOR FY 2020 TO FY 2024

Revised: 05/22/2019

Fiscal Year	Street ID	Section ID	Street Name	From	To	Class	Treatment (from StreetSaver)	Updated Total Cost	District	P	Mileage	Current PCI	Last M&R Date	Last M&R	Last Paved
2024	729014	63	ALLSTON WAY	MILVIA ST	SHATTUCK AVE	R	Heavy Rehab	\$ 228,800	4	N	0.14	19	11/1/1990	O -	MILL AND THIN OVERLAY
2024	729014	65	ALLSTON WAY	SHATTUCK AVE	OXFORD ST	R	Reconstruct	\$ 344,036	4	N	0.11	10	11/1/1992	O -	MILL AND OVERLAY W/FABRIC
2024	729104	63	CHANNING WAY	MILVIA ST	SHATTUCK AVE	R	Heavy Rehab	\$ 267,640	4	2A to 2B*	0.13	27	9/1/1991	O -	MILL AND OVERLAY W/FABRIC
2024	829104	60	CHANNING WAY	MARTIN LUTHER KING	MILVIA ST	R	Reconstruct	\$ 462,920	4	2A to 2B*	0.13	10	5/1/1995	O -	THIN AC OVERLAY(1.5 INCHES)
2024	322142	48	DELAWARE ST	ACTON ST	SACRAMENTO ST	C	Heavy Mtce	\$ 78,175	1	4*	0.13				
2024	636146	78	DERBY ST	HILLEGASS AVE	COLLEGE AVE	R	Reconstruct	\$ 498,560	8	3E*	0.14				
2024	627155	85	DWIGHT WAY	HILLSIDE AVE	DEAD END ABOVE	R	Reconstruct	\$ 406,204	8	N	0.11	0	9/1/1993	A - AC	RECONSTRUCT SURFACE (AC)
2024	627155	83	DWIGHT WAY	PIEDMONT AVE	HILLSIDE AVE	R	Reconstruct	\$ 526,688	7, 8	N	0.14	3	9/1/1993	O -	MILL AND OVERLAY W/FABRIC
2024	111249	17	GRIZZLY PEAK BLVD	KEELER AVE	MARIN AVE	C	Reconstruct	\$ 843,578	6	3C*	0.27				
2024	920275	40	HEINZ AVE	7TH ST	SAN PABLO AVE	R	Reconstruct	\$ 897,408	2	3E	0.26				
2024	739285	70	HILLEGASS AVE	ASHBY AVE	CITY LIMIT (WOOLSEY)	R	Light Mtce	\$ 68,400	8	3E	0.16	83	7/28/2003	A - AC	RECONSTRUCT STRUCTURE (AC)
2024	736285	60	HILLEGASS AVE	DWIGHT WAY	ASHBY AVE	R	Light Mtce	\$ 256,000	8	3E	0.61	83	5/31/2000	A - AC	RECONSTRUCT STRUCTURE (AC)
2024	213293	53	HOPKINS ST	MC GEE AVE	CARLOTTA AVE	C	Heavy Rehab	\$ 149,680	5	2A, C	0.06	47	12/1/1989		RECONSTRUCT STRUCTURE (AC)
2024	213293	55	HOPKINS ST	CARLOTTA AVE	JOSEPHINE ST	C	Heavy Rehab	\$ 874,580	5	2A, C	0.35	60	12/1/1989		MILL AND OVERLAY
2024			15% DISCRETIONARY					\$ 1,091,295							
								\$ 6,993,964			2.74				

Note: Column P denotes presence of bike facility type (1 paved path, 2A 2B bike lane, 3A sign-only, 3C Sharrows, 3E bike blvd, 4 cycle track); C for bus route; and N for none.

*Proposed bike facilities from 2017 Bike Plan.

FISCAL YEAR 2020 TOTALS

Total Estimated Cost and Miles		\$ 6,265,814	3.67 miles	
	MILEAGE	District	Miles	Cost
ARTERIALS	0.32	1	0.69	\$1,685,991
COLLECTORS	1.77	2	0.31	\$1,328,400
RESIDENTIALS	1.58	3	0.44	\$764,300
	3.67	4	0.03	\$0
		5	0.57	\$960,667
		6	0.30	\$526,456
		7	0.00	\$0
		8	0.00	\$0
		Arterial/PRW	1.33	\$1,000,000
			3.67	\$6,265,814

6975303

FISCAL YEAR 2021 TOTALS

Total Estimated Cost and Miles		\$ 6,968,593	3.84 miles	
	MILEAGE	District	Miles	Cost
ARTERIALS	0.00	1	0.18	\$1,538,055
COLLECTORS	0.51	2	0.71	\$1,084,031
RESIDENTIALS	3.33	3	0.26	\$155,120
	3.84	4	0.39	\$1,052,125
		5	0.00	\$0
		6	1.54	\$737,394
		7	0.76	\$1,355,572
		8	0.00	\$0
		15%		\$1,046,295
<hr/>			3.84	\$6,968,592
				6975303

FISCAL YEAR 2022 TOTALS

Total Estimated Cost and Miles		\$ 5,895,237	3.03 miles	
	MILEAGE	District	Miles	Cost
ARTERIALS	0.41	1	0.00	\$0
COLLECTORS	0.23	2	0.50	\$911,600
RESIDENTIALS	2.39	3	0.80	\$748,867
	3.03	4	0.23	\$956,235
		5	0.00	\$0
		6	0.00	\$0
		7	1.09	\$1,335,760
		8	0.00	\$0
<hr/>		Arterial	0.41	\$896,480
		15%		\$1,046,295
			3.03	\$5,895,237
				6975303

FISCAL YEAR 2023 TOTALS

Total Estimated Cost and Miles

	MILEAGE
ARTERIALS	0.04
COLLECTORS	0.62
RESIDENTIALS	2.17
	2.83

	District	Miles	Cost	
	1	0.50	\$626,949	
	2	0.00	\$0	
	3	0.83	\$1,150,792	
	4	0.22	\$637,614	
	5	0.34	\$602,817	
	6	0.30	\$470,167	
	7	0.25	\$454,080	
	8	0.36	\$600,000	
	Arterial	0.04	\$77,755	
	15%		\$1,091,295	
		2.83	\$5,711,469	7275303

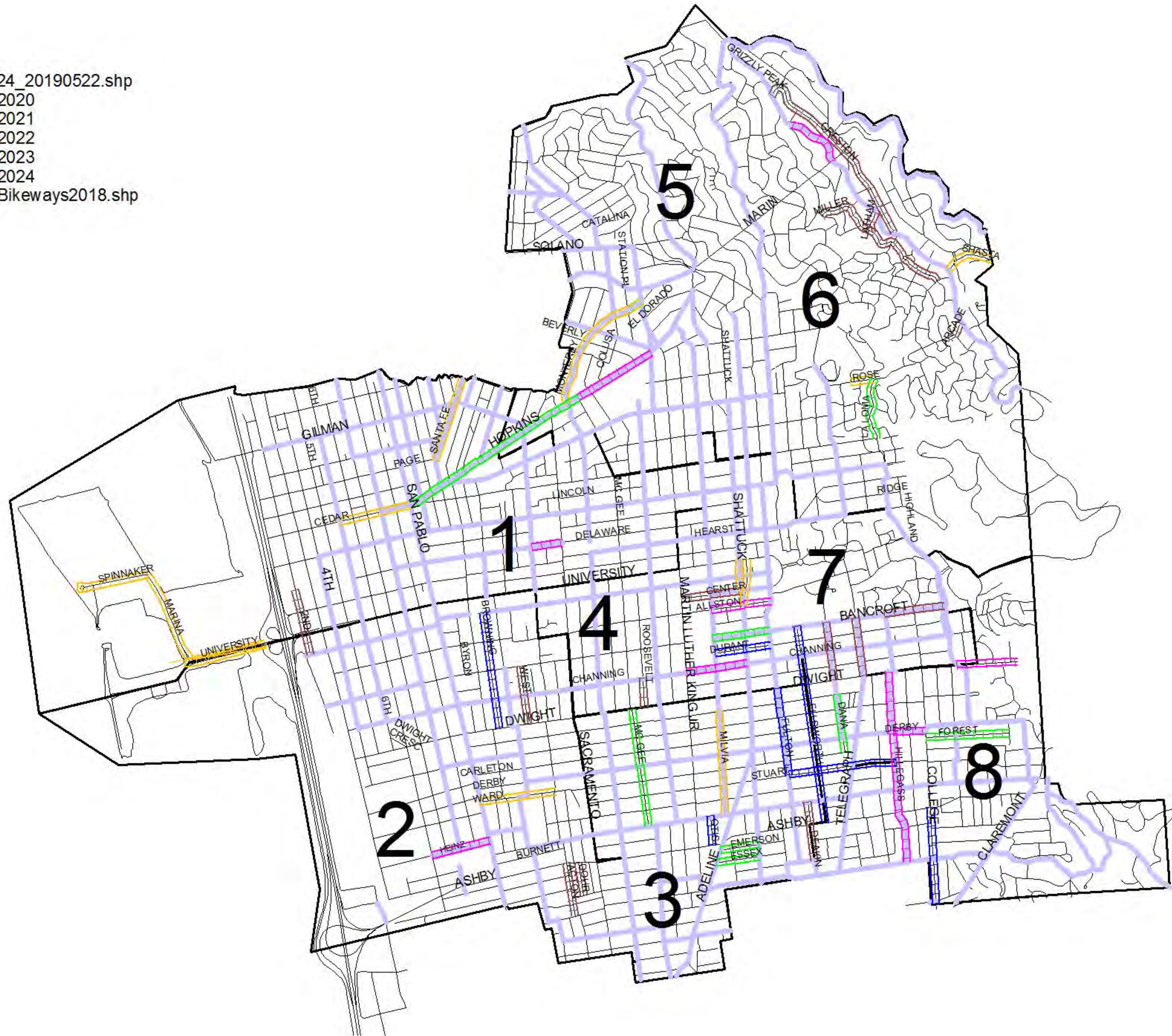
FISCAL YEAR 2024 TOTALS

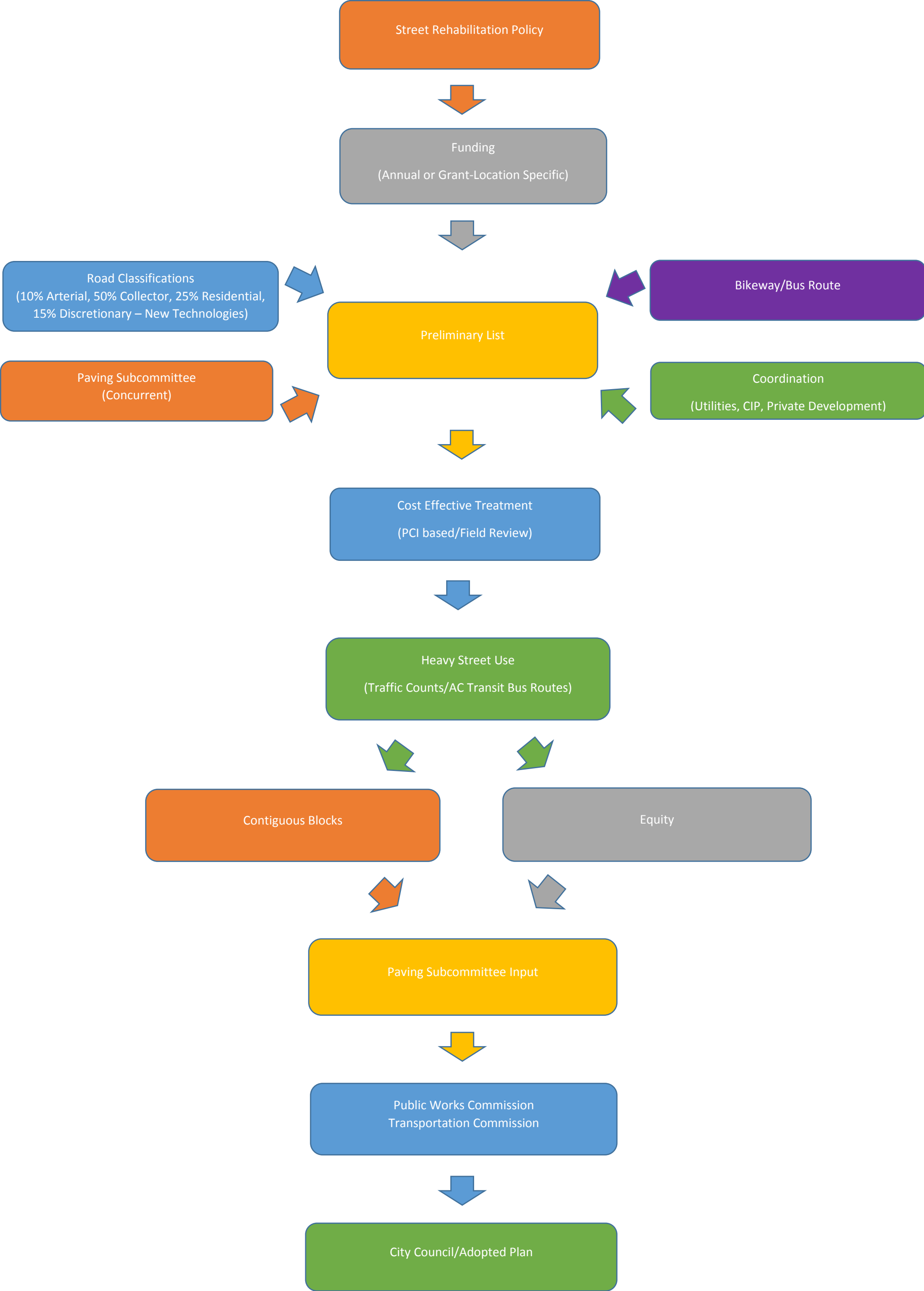
Total Estimated Cost and Miles		\$ 6,993,964	2.74 miles	
	MILEAGE	District	Miles	Cost
ARTERIALS	0.00	1	0.13	\$78,175
COLLECTORS	0.81	2	0.26	\$897,408
RESIDENTIALS	1.93	3	0.00	\$0
	2.74	4	0.51	\$1,303,396
		5	0.41	\$1,024,260
		6	0.27	\$843,578
		7	0.00	\$0
		8	1.16	\$1,755,852
<hr/>		Arterial	0.00	\$0
		15%		\$1,091,295
			2.74	\$6,993,964
				7275303

FISCAL YEAR 2020 to 2024 TOTALS

Total Estimated Cost and Miles					\$ 31,835,077	16.11 miles	
	MILEAGE	%	% COST	% MILE	District	Miles	Cost
ARTERIALS	0.77	5%	12%	9%	1	1.50	\$3,929,170
COLLECTORS	3.94	24%	13%	11%	2	1.78	\$4,221,439
RESIDENTIALS	11.40	71%	9%	14%	3	2.33	\$2,819,079
	16.11	100%	12%	9%	4	1.38	\$3,949,370
			8%	8%	5	1.32	\$2,587,744
			8%	15%	6	2.41	\$2,577,595
			10%	13%	7	2.10	\$3,145,412
			7%	9%	8	1.52	\$2,355,852
			6%	11%	Arterial/PRW	1.78	\$1,974,235
			13%	0%	15%		\$4,275,180
			100%	100%		16.11	\$31,835,076
							\$35,476,515

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Office of the City Manager

30b

ACTION CALENDAR
December 3, 2019

To: Honorable Mayor and Members of the City Council

From: Dee Williams-Ridley, City Manager

Submitted by: Phillip L. Harrington, Director, Department of Public Works

Subject: Companion Report: Public Works Commission Recommendation for the Five-Year Street Rehabilitation Plan

RECOMMENDATION

Adopt a Resolution updating the City's Five-Year Street Rehabilitation Plan for FY 2020 to FY 2024 and refer to the City Manager consideration of a Long-Term Paving Master Plan to be started after the completion of the public process of T1 Phase 2. The City Council may consider the information put forth by the Public Works Commission relevant to adoption of the recommended plan.

SUMMARY

In Part A, Section 1, the City of Berkeley's Street Rehabilitation Policy¹ (Policy) states, "It is the policy of the City of Berkeley that there shall be a Five-Year Street Rehabilitation Plan (Rehabilitation Plan, otherwise referred to as the "Paving Plan") for the entire City to be adopted by the City Council." The Public Works Commission (PWC) is charged by the Policy with reviewing and advising on that Rehabilitation Plan. Staff has carefully considered the PWC's advice, and recommends the City Council: 1.) approve the Five Year Street Rehabilitation Plan, and 2.) postpone the preparation of a Long-Term Paving Master Plan.

The City updates its Pavement Management System every two years providing the most current information for the City's pavement condition which staff bases decisions for development of the Rehabilitation Plan. The PWC is recommending addressing the pavement condition through the creation and implementation of a long-term paving plan. Staff believes that until additional funding, potentially from the second phase of Measure T1, can be identified to address the significant funding shortfall, consideration of the development of a longer term paving plan should be deferred until after the community process for selecting projects for the second phase of T1. The public process and community outreach as part of the second phase of the T1 bond measure will provide information and input on what is most important to the residents of Berkeley. This information is an essential first step before starting the development of a longer term paving plan. The input will help prioritize selection of improvements and define possible revisions to the Policy about the distribution of funds to bicycle routes, residential streets,

¹ https://www.cityofberkeley.info/Public_Works/Sidewalks-Streets-Utility/Street_Rehabilitation_and_Repair_Policy_updated_March_2009.aspx

green infrastructure and Vision Zero improvements. The City's PCI has been declining and was projected to be 57. The current PCI of 59.7 reflects a slight increase, and with increased funding support, the City could see additional improvement.

FISCAL IMPACTS OF RECOMMENDATION

This Rehabilitation Plan is based on the adopted biennial budget for Fiscal Years 2020 and 2021, and the estimated available funding levels from all sources, including State Transportation (Gas) Taxes, Measure B, Measure BB, County Measure F, and the General Fund. Similarly, the street rehabilitation programs for future years are based on projected budgets and estimated available funding levels. The funding allocations for street rehabilitation in the next five fiscal years FY 2020 - 2024 are provided in the Table below.

Table 1: Current Year and Five-Year Paving Program Funding Source Allocations by Year, in \$					
Fund Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
State Transportation Tax	495,303	495,303	495,303	495,303	495,303
Measure B - Local Streets & Roads	700,000	1,000,000	700,000	0	0
Measure BB – Local Streets & Roads	2,200,000	1,700,000	2,000,000	2,700,000	2,700,000
Measure F Vehicle - Registration Fee	155,000	155,000	155,000	155,000	155,000
Capital Improvement Fund	1,925,000	1,925,000	1,925,000	1,925,000	1,925,000
Road Repair and Accountability Act of 2017	1,500,000	1,700,000	1,700,000	2,000,000	2,000,000
TOTAL	6,975,303	6,975,303	6,975,303	7,275,303	7,275,303

City bond measures and grants shown in the table below have also been sources of funding for the street rehabilitation program. However, these funds are not guaranteed annual fund sources. Approximately \$8.5 million of Phase 1 Measure T1 bond funds will be spent on street improvements in Fiscal Years 2020 and 2021. An extensive community process to identify and vet potential projects to be delivered with Phase 2 of T1 bond funds is scheduled to start in in early 2020. Phase 2 of T1 bond funds will not be available until after Council approves the Phase 2 Measure T1 projects, which is anticipated to occur in March 2021. Federal grant funds were secured for the Shattuck Reconfiguration Project in the amount of \$2.78 million dollars, and the funds will be spent in Fiscal Year 2020. Federal grant funds in the amount of \$1.2 million were also secured for street rehabilitation in association with the Southside Complete Streets project to be spent in Fiscal Year 2021.

Table 2: Other Funding Source Allocations by Year, in \$					
Fund Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Measure T1	7,500,000	1,000,000	0	0	0
Grants	2,777,000	1,200,000	0	0	0

CURRENT SITUATION AND ITS EFFECTS

The City has performed a significant amount of street paving this past year. With all of the recent work, the City street network Pavement Condition Index (PCI) has increased slightly from a PCI of 57 in 2017 to a PCI of 59.7. Even though this represents a slight change, it is a positive change in the right direction.

The current PCI is a result of historical funding levels appropriated to the City's street rehabilitation program and decades of deferred maintenance. In addition to pavement maintenance and rehabilitation, street paving projects incorporate many other improvements as part of a "complete streets" approach that repairs or replaces street infrastructure such as curb ramps, curbs, gutters, sidewalks, drainage inlets and pipes, signage and striping. These non-pavement construction costs average about 35% of the available funding levels. Projects soft costs such as design, construction management and inspection, survey, and material testing average about 15% of the available funding levels. Together, these non-pavement related expenses represent approximately 50% of the available funding levels for the Rehabilitation Plan.

City maintenance forces have also significantly increased pavement maintenance efforts in recent years to include a robust crack sealing program and an expanded program to address potholes, localized base failure repairs, thermoplastic striping, and sidewalk repairs.

Per the Policy, funds allocated for street rehabilitation are recommended to be used as follows:

- 10% for Arterial Streets
- 50% for Collector Streets
- 25% for Residential Streets
- 15% for Discretionary and Demonstration Projects

Per the above distribution guidelines, residential streets (generally low speed, low traffic volume streets serving neighborhoods) have historically received lower funding levels, and as a result, have more pavement rehabilitation needs than arterials (serve major activity centers with highest traffic volumes) and collectors (transfer traffic from residential streets to arterials).

For this Rehabilitation Plan, staff and the PWC collectively agreed to propose a greater distribution toward residential streets as follows:

- Approximately 3% to Arterial Streets
- Approximately 24% for Collector Streets
- Approximately 60% for Residential Streets

The PWC is in the process of developing a recommendation for criteria to assist with prioritizing projects to be funded with the approximately 15% of funding discretionary reserve. Previously funding for discretionary and demonstration projects have been spent on projects such as the Allston Way Permeable Paver project. However, consideration could also be given to using these funds on other beneficial improvements related to vision zero or bicycle master plans. Staff concurs with the PWC that the Policy should be reviewed and updated to reflect changes since the last update in 2009.

A review of the Allston Way project showed that project costs were approximately \$1,500,000 or about \$485/square yard (SY). The estimated cost of an asphalt surface reconstruction would have been approximately \$150,000 or about \$49/SY. In April of 2019, approximately 4-1/2 years after the initial paver installation, City maintenance workers had to replenish the gravel joint filler material that helps holds the pavers in place. Replenishment of bedding material was originally projected to be required at year 10 (2024). The cost to replenish the joint filler was approximately \$42,000 or about \$14/SY. The recommended maintenance treatment for the asphalt pavement would be an \$8/SY slurry seal at year 8 (2022) at an estimated cost of \$25,000. It is expected that regular replenishment of the filler material will be required along with a more significant effort to relevel several areas that have experienced excessive settlement. The Allston project also involved a full road closure for nearly 4 months. The asphalt pavement option limits construction impacts to normal working hours for a few weeks.

In addition to the distribution of funding by street classification, the Policy requires consideration of other items in street selection process for the Rehabilitation Plan which are depicted in the 5-Year Paving Plan Process Flow Diagram (Attachment 3).

Bikeways / Bus Route: Staff coordinated with Bike East Bay and also considered comments from Walk Bike Berkeley. Staff also reviewed the City's Bicycle Plan and the Pedestrian Plan to incorporate pedestrian mobility improvements and improvements to bicycle routes into the Rehabilitation Plan. The Rehabilitation Plan includes several streets in the bicycle plan, including Milvia Street, Cedar Street, Santa Fe Avenue, and Hopkins Street, and several streets that are also bus routes including Monterey Avenue, Bancroft Way, Center Street, Dana Street and Telegraph Avenue.

Utility Coordination: The Rehabilitation Plan has also been coordinated with future sewer projects, with East Bay Municipal Utility District (EBMUD) pipeline replacement, and with planned gas and electric line relocations by Pacific Gas and Electric. The City is currently working with EBMUD to have Ellsworth Street from Bancroft Way to Ashby Avenue and Stuart Street from Fulton to Hillegass Avenue pavement rehabilitation in FY 2022 incorporated into their Wildcat Aqueduct Pipeline Improvement Project construction.

Equity: Although not explicitly relayed in the Street Rehabilitation Policy staff tries to balance equity among the districts and to rehabilitate contiguous streets.

From Fiscal Years 2020 to 2024 the City will pave a total of 16.11 miles of streets, as described in Exhibit A, at a cost of \$27.6 million. The total includes 11.40 miles of residential streets, 0.77 miles of arterials, and 3.04 miles of collectors.

Pavement Engineering Inc. (PEI) updated the City's Pavement Management System using the Metropolitan Transportation Commission's (MTC) Streetsaver® program. The purpose of the Pavement Management System, a pavement assessment of the entire City's street network, is to track inventory, store work history, and furnish budget estimates to optimize funding for improving the City's pavement system.

The updated Pavement Management System showed that the City's current overall average PCI is 59.7. The breakdown by functional classification of street is provided in the table below. Residential streets which are the largest category of streets in the City, have the lowest PCI of 56.

FUNCTIONAL CLASS	CENTERLINE MILES (CL)	AREA (SQUARE FEET)	PERCENT OF SYSTEM	AVERAGE PCI
Arterial	22	5,688,148	14%	67.9
Collector	37	6,966,432	18%	65.4
Residential	156	26,385,401	68%	56.4
TOTAL	215	39,039,981	100%	59.7

The breakdown by mileage and PCI by Council District for the entire street network is provided in Table 4. It shows that the percent of pavement area per District ranges from 5.1% to 18.4%, and the PCI ranges from 50 to 62. The centerline miles in each District varies as well, from 9.4 to 36.5 miles.

The Rehabilitation Plan proposes to rehabilitate pavement such that the percentage of funds are distributed among the Districts as shown in the far right two columns of Table 4. The percentage of funds spent on rehabilitation per District ranges from 8% to 14%. The centerline miles of pavement rehabilitated per District ranges from 1.50 to 2.41 miles. The percentage of funds to be spent in each district is based on the total estimated street rehabilitation costs.

Table 4: Council District Mileage, PCI, Rehabilitation Plan						
Mileage & PCI By District					Rehabilitation Plan	
	Area (SF)	Mileage	% of area	PCI	% Funds*	Mileage*
District 1	7,189,018	36.5	18.4%	57	9%	1.50
District 2	5,923,823	31.5	15.2%	50	11%	1.78
District 3	4,987,344	23.7	12.8%	58	14%	2.33
District 4	3,510,446	16.1	9.0%	55	9%	1.38
District 5	6,313,826	37.3	16.2%	62	8%	1.32
District 6	4,946,098	36.6	12.7%	60	15%	2.41
District 7	1,997,809	9.4	5.1%	62	13%	1.52
District 8	4,179,713	23.6	10.7%	60	9%	1.78

* does not include arterial or waterfront streets or discretionary funding.

The breakdown by mileage and PCI for bikeways and bus routes is provided in Table 5 below. It shows that bikeways and bus routes are a significant portion the City's roadways. The PCI is 66 for bus routes, which is higher than the system wide average PCI of 59.7. This is a reflection of focus and funding spent on arterials and collectors.

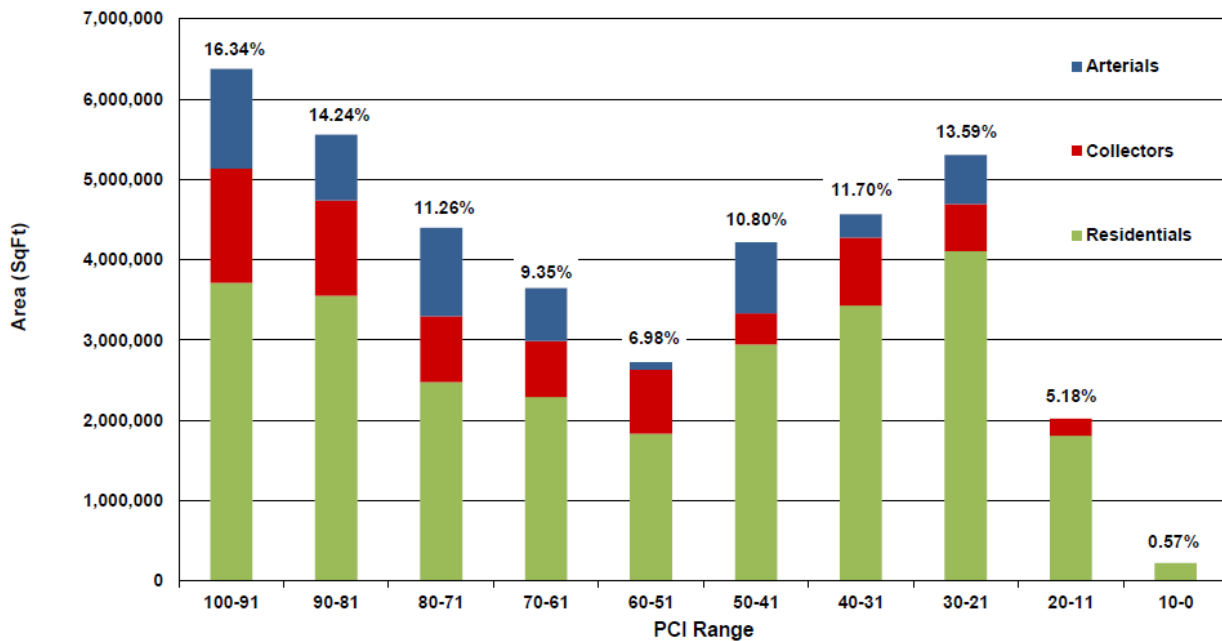
Table 5: Bikeway / Bus Route Mileage and PCI				
	Area (SF)	Mileage	%	PCI
Bikeway	13,415,581	65	34%	61
Bus Route	9,167,372	40	23%	66

The table below shows the breakdown of the system into PCI Condition Categories.

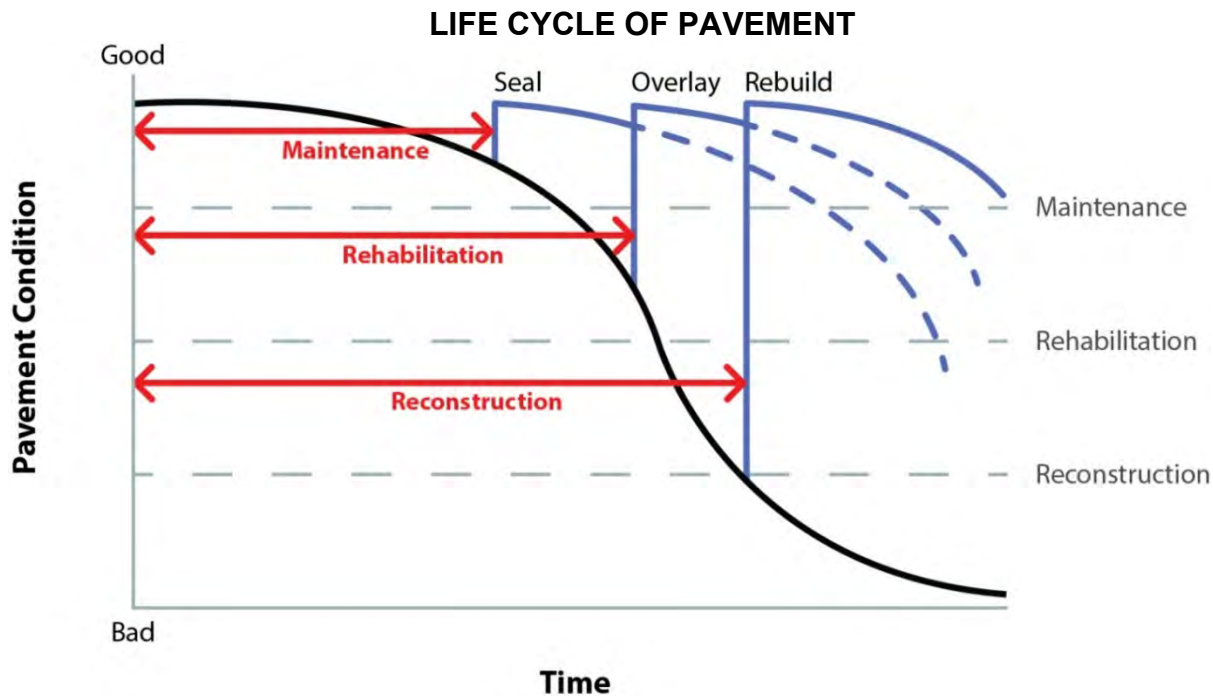
Table 6: PCI Condition Categories				
CONDITION	PCI RANGE	% OF TOTAL	SQUARE FEET	CL MILES
EXCELLENT	100-91	16%	6,378,721	34
GOOD	90-71	26%	9,957,142	53
FAIR	70-51	16%	6,373,028	37
POOR	50-31	23%	8,784,629	48
FAILED	30-0	19%	7,546,461	43
		100%	39,039,981	215

The analysis shows that **42%** of the City's pavement is in **Excellent to Good** condition and that **39%** of the City's pavement is in **Fair to Poor** condition. This is further illustrated in the bar graph below shows a breakdown of the system into 10pt PCI ranges, by Functional Classification. This shows that while the overall PCI is 59.7, the pavement system needs require a mix of both maintenance treatments and rehabilitation treatments. Maintenance treatments include slurry and cape seals, and thin overlays. Costs for these treatments range from \$8 to \$27 per square yard. Rehabilitation treatments include thick overlays, pavement milling/filling, and full depth reclamation. Costs for these treatments range from \$52 to \$104 per square yard.

Berkeley Total System by Functional Class by PCI

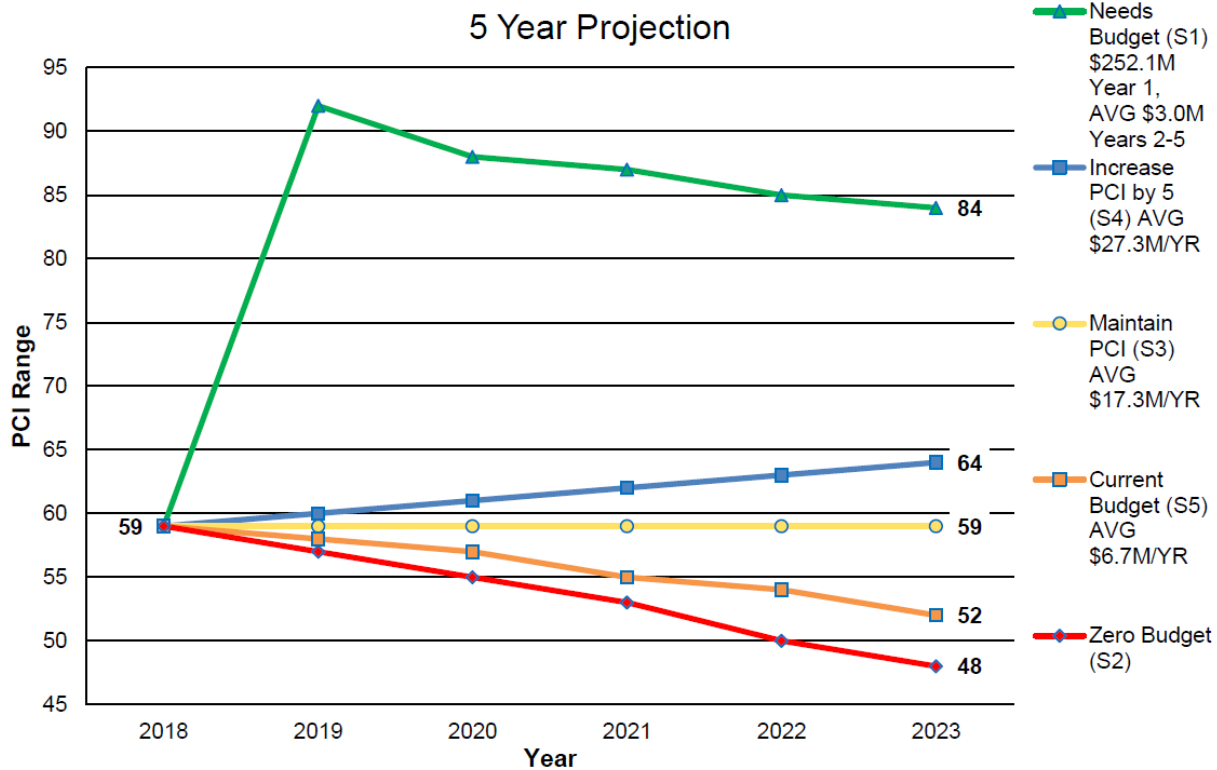


The graph below shows the life cycle or deterioration curve of pavement over time. The City's overall PCI of 59.7 is in the steepest part of the curve. This shows that the pavement can progress from good (able to be rehabilitated) to bad (in need of a total reconstruction) in a short period of time. The treatment (blue) lines on the graph show this, the importance of applying the right treatment at the right time to maximize the service life of the road.



- PEI analyzed the following pavement rehabilitation scenarios: Unconstrained budget needs for next 5 years
- Amount of funds needed to maintain current PCI
- Impact of the current funding amount (5 Year Plan)
- Budget needed to increase the overall PCI level by 5 points
- Result if zero dollars are spent on the City's street system

For each of these scenarios, PEI performed 5-year projections, represented by the graph below.



An explanation of the 5-year scenarios and their result are as follows:

- Scenario 1 (S1): Represents the budget required based on the “Needs” of the system. Assumes all pavements are treated at their optimum timing. With an initial investment of \$252.1M in year one and an average of \$3.0M in years 2-5, the PCI increases from 59 to 84.
- Scenario 2 (S2): Represents the impact to the PCI if Zero dollars are spent.
- Scenario 3 (S3): Amount of funding to maintain the current PCI of 59 - \$17.3M/Yr. (Avg.)
- Scenario 4 (S4): Budget to increase overall PCI by 5 points – \$27.3M/Yr. Avg. (Raises the PCI from 59 to 64).
- Scenario 5 (S5): Impact of the current 5 Year Plan (averaging \$6.7M/Yr.) The overall system PCI would be 52.

The City is currently budgeting an average of \$7 million of baseline funding annually. At this funding level, the PCI is expected to drop to 52 by the year 2023. If the City would like to maintain the current PCI of 59, it needs to invest an additional \$10 million annually into the street Capital Improvement Program. If the City would like increase the PCI 5 points to a PCI of 64, it will need to invest \$27 million each year, an increase of \$20 million over

current funding levels. In order to improve the PCI from the “at risk” category to the “good” category (PCI 70 to 79) the City will need to invest over \$30 million annually.

This resolution updating the Five Year Street Rehabilitation Plan for FY 2020 – FY2024 advances the City’s strategic goal of providing state-of-the-art, well-maintained infrastructure, amenities, and facilities.

BACKGROUND

It is the policy of the City of Berkeley that there shall be a Five-Year Street Rehabilitation Plan for the entire City to be adopted by the City Council. To the extent practicable, this Rehabilitation Plan shall be consistent with the priorities of the City’s Street Rehabilitation Policy. The primary purpose of the Policy is to maintain a safe surface conveyance system in the public right-of-way for vehicles, bicycles, transit, and pedestrians alike. Per the Policy, the Rehabilitation Plan shall strive to identify and implement integrated solutions that address the multiple demands on the street infrastructure, that are designed for safety, environmental sustainability and economic efficiency over the long run.

Each year, the PWC reviews the Rehabilitation Plan for consistency with the City’s current Policy, and the Plan is subsequently presented to the City Council for adoption.

ENVIRONMENTAL SUSTAINABILITY

The City includes environmental sustainability in the development of its Rehabilitation Plan. In accordance with the street rehabilitation policy, the City set asides 15% of its funds towards demonstration or discretionary projects such as street rehabilitation which provides environmental benefits. In Fiscal Year 2020, a demonstration project the City plans to construct includes the use of permeable concrete in the parking lanes. The Public Works Commission is currently identifying additional green infrastructure projects in FY 2021 to 2024 to be funded by the discretionary and demonstration funds.

In addition, environmentally conscious pavement treatments are incorporated in the paving projects such as Full Depth Reclamation (FDR). FDR is being used as a cost-effective alternative to traditional street reconstruction methods. It recycles much of the existing pavement on site, and incorporates it into the pavement subgrade, thereby reducing truck trips to and from construction sites.

The Rehabilitation Plan also includes repair of the City’s deteriorating storm drain infrastructure that minimizes degradation of water quality in local creeks and the Bay. These repairs are consistent with the City of Berkeley’s 2011 Watershed Management Plan. Furthermore, the Plan also proposes approximately 5.8 miles of improvements to bicycle routes, and improvements to sidewalk and curb ramps adopted from the Bicycle and Pedestrian Plans. These steps result in lower emissions of greenhouse gases into the environment, which is consistent with the goals of the 2009 Berkeley Climate Action Plan.

RATIONALE FOR RECOMMENDATION

It is the policy of the City of Berkeley that there shall be a Five-year Street Rehabilitation Plan for the entire City to be adopted by the City Council. Further, the proposed plan

provides for much needed street infrastructure improvements that are consistent with the City's Street Rehabilitation Policy.

ALTERNATIVE ACTIONS CONSIDERED

No alternative actions were considered.

CONTACT PERSON

Phillip L. Harrington, Director, Public Works, (510) 981-6303
Andrew Brozyna, Deputy Director, Public Works, (510) 981-6496
Nisha Patel, Manager of Engineering, Public Works (510) 981-6406
Joe Enke, Supervising Civil Engineer, Public Works (510) 981-6411

Attachments:

1. Resolution
Exhibit A: 5-Year Street Rehabilitation Plan for FY 2020 to FY 2024
2. Map of the 5-Year Street Rehabilitation Plan, FY 2020 to FY 2024
3. 5-Year Paving Plan Process Flow Diagram

RESOLUTION NO. ##,###-N.S.

APPROVAL OF THE FIVE-YEAR STREET REHABILITATION PLAN FOR FY 2020
TO FY 2024

WHEREAS, the Street Rehabilitation Policy, Resolution No. 55,384-N.S. approved on May 22, 1990, requires a Five-Year Street Rehabilitation Plan for the entire City be adopted by the City Council; and

WHEREAS, the Five-Year Street Rehabilitation Plan shall be reviewed and updated annually by the City Council, with advice from the Public Works Commission; and

WHEREAS, the Street Rehabilitation Policy, proposes distribution of funds to be used for street rehabilitation as follows: 10% for arterial streets; 50% for collector streets; 25% for residential streets; 15% for discretionary and demonstration projects; and

WHEREAS, residential streets have historically received lower funding levels and as a result have more pavement rehabilitation needs than the other street classifications; and

WHEREAS, Department of Public Works staff recommends more funding to be distributed to residential streets and less to the other street classifications as proposed in the FY 2020 to FY 2024 Five-Year Street Rehabilitation Plan, attached as Exhibit A; and

WHEREAS, Department of Public Works staff recommends Council adopt the FY 2020 to FY 2024 Five-Year Street Rehabilitation Plan.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that the FY 2020 to FY 2024 Five-Year Street Rehabilitation Plan, attached as Exhibit A hereof, is hereby adopted.

Exhibit A: Five-Year Street Rehabilitation Plan for FY 2020 to FY 2024

EXHIBIT A
5-YEAR STREET REHABILITATION PLAN FOR FY 2020 TO FY 2024

Revised: 05/22/2019

Fiscal Year	Street ID	Section ID	Street Name	From	To	Class	Treatment (from StreetSaver)	Updated Total Cost	District	P	Mileage	Current PCI	Last M&R Date	Last M&R	Last Paved
2020	321100	30	CEDAR ST	6TH ST	SAN PABLO AVE	C	Reconstruct	\$ 1,239,036	1	3C*	0.31	23	10/1/1994	O -	MILL AND OVERLAY W/FABRIC
2020	320685	10	MARINA BLVD	SPINNAKER WAY	UNIVERSITY AVE	C	Heavy Mtce		1	N	0.43	56	9/1/1986	A - AC	OVERLAY
2020	735382	60	MILVIA ST	BLAKE ST	RUSSELL ST	R	Heavy Rehab	\$ 764,300	3	3E	0.44	26	9/1/1993	A - AC	RECONSTRUCT SURFACE (AC)
2020	516492	75	ROSE ST	LE ROY AVE	EAST END	R	Reconstruct	\$ 205,000	6	N	0.14	8		A - AC	
2020	319525	35	SANTA FE AVE	GILMAN ST	CORNELL AVE & PAGE	R	Heavy Rehab	\$ 409,600	1	3C*	0.27	41	7/1/1995	A - AC	RECONSTRUCT STRUCTURE (AC)
2020	319525	30	SANTA FE AVE	NORTH CITY LIMIT	GILMAN ST	R	Light Mtce	\$ 37,355	1	3C*	0.11	93	8/31/2004	O -	MILL AND THIN OVERLAY
2020	115532	77	SHASTA RD	GRIZZLY PEAK BLVD	PARK GATE	C	Heavy Rehab	\$ 86,667	6	N	0.05	28	11/1/1988	A - AC	RECONSTRUCT SURFACE (AC)
2020	115532	79	SHASTA RD	PARK GATE	EAST CITY LIMIT	C	Reconstruct	\$ 234,789	6	N	0.11	26	11/1/1988	A - AC	RECONSTRUCT SURFACE (AC)
2020	320686	10	SPINNAKER WAY	BREAKWATER DR	MARINA BLVD	R	Reconstruct	\$ 1,000,000	1	N	0.28	22	8/1/1991	A - AC	OVERLAY
2020	213386	22	MONTEREY AVE	THE ALAMEDA	HOPKINS ST	C	Heavy Rehab	\$ 960,667	5	2A	0.57	47	11/30/2011	A - AC	MILL AND OVERLAY
2020	933653	40	WARD ST	SAN PABLO AVE	ACTON ST	R	Reconstruct	\$ 1,328,400	2	N	0.31	21	9/1/1991	A - AC	MILL AND OVERLAY W/FABRIC
2020	320620	15	UNIVERSITY AVE	MARINA BLVD	WEST FRONTAGE RD	C	Reconstruct		1, 2	N	0.30	9	12/1/1989	A - AC	OVERLAY
2020	729533	55	SHATTUCK AVE	CENTER ST	ALLSTON WAY	A	Reconstruct		4		0.06	18	7/1/1994	O -	MILL AND OVERLAY W/FABRIC
2020	729533	57	SHATTUCK AVE (SB)	CENTER ST	UNIVERSITY AVE	A	Reconstruct		4		0.13	25	7/1/1994	O -	MILL AND OVERLAY W/FABRIC
2020	729007	64	ADDISON ST	SHATTUCK AVE	SHATTUCK AVE	R	Heavy Rehab		4		0.03	48	7/1/1994	O -	MILL AND OVERLAY W/FABRIC
2020	729051	52	BERKELEY SQUARE	ADDISON ST	CENTER ST	A	Heavy Rehab		4		0.06	34	7/1/1994	O -	MILL AND OVERLAY W/FABRIC
2020	729535	50	SHATTUCK SQUARE	UNIVERSITY AVE	ADDISON	A	Heavy Rehab		4		0.07	30	7/1/1994	O -	MILL AND OVERLAY W/FABRIC
								\$ 6,265,814			3.69				

Note: Column P denotes presence of bike facility type (1 paved path, 2A 2B bike lane, 3A sign-only, 3C Sharrows, 3E bike blvd, 4 cycle track); C for bus route; and N for none.

*Proposed bike facilities from 2017 Bike Plan.

EXHIBIT A
5-YEAR STREET REHABILITATION PLAN FOR FY 2020 TO FY 2024

Revised: 05/22/2019

Fiscal Year	Street ID	Section ID	Street Name	From	To	Class	Treatment (from StreetSaver)	Updated Total Cost	District	P	Mileage	Current PCI	Last M&R Date	Last M&R	Last Paved
2021	940005	70	ACTON ST	ASHBY ST	66TH ST	R	Light Mtce	\$ 83,640	2	N	0.23	79	8/29/2007	A - AC	RECONSTRUCT STRUCTURE (AC)
2021	516020	30	ARCADE AVE	GRIZZLY PEAK BLVD	FAIRLAWN DR	R	Heavy Rehab	\$ 63,378	6	N	0.06	27	6/1/1995	O -	MILL AND OVERLAY W/FABRIC
2021	628042	78	BANCROFT WAY	BOWDITCH ST	COLLEGE AVE	C	Heavy Mtce	\$ 161,036	7	3C*	0.13	56	12/1/1990	O -	MILL AND OVERLAY W/FABRIC
2021	627042	80	BANCROFT WAY	COLLEGE AVE	PIEDMONT AVE	C	Heavy Rehab	\$ 254,076	7	3C*	0.13	28	12/1/1990	O -	MILL AND OVERLAY W/FABRIC
2021	829102	60	CENTER ST	MARTIN LUTHER KING	MILVIA ST	R	Heavy Rehab	\$ 315,645	4		0.13	49	7/1/1991	A - AC	RECONSTRUCT SURFACE (AC)
2021	729102	63	CENTER ST	MILVIA ST	SHATTUCK	R	Heavy Rehab	\$ 564,000	4	2A*	0.13	49	7/1/1991	A - AC	RECONSTRUCT SURFACE (AC)
2021	111127	10	CRESTON RD	GRIZZLY PEAK BLVD	SUNSET LANE	R	Heavy Mtce	\$ 93,378	6	N	0.36	63	6/1/1995	A - AC	RECONSTRUCT STRUCTURE (AC)
2021	115127	20	CRESTON RD	SUNSET LANE	GRIZZLY PEAK BLVD	R	Heavy Mtce	\$ 116,258	6	N	0.36	64	11/1/1988	A - AC	RECONSTRUCT SURFACE (AC)
2021	728140	50	DANA ST	BANCROFT WAY	DWIGHT WAY	R	Heavy Rehab	\$ 467,400	7	2A to 2B*	0.25	45	12/1/1989	O -	MILL AND OVERLAY W/FABRIC
2021	739141	70	DEAKIN ST	ASHBY AVE	PRINCE ST	R	Light Mtce	\$ 45,920	3	N	0.16	79	4/3/2008	A - AC	RECONSTRUCT STRUCTURE (AC)
2021	736141	68	DEAKIN ST	RUSSELL ST	ASHBY AVE	R	Light Rehab	\$ 109,200	3	N	0.10	55	7/1/1988	O -	MILL AND OVERLAY W/FABRIC
2021	940148	70	DOHR ST	ASHBY AVE	PRINCE ST	R	Heavy Rehab	\$ 176,569	2	N	0.14	41	10/1/1992	A - AC	RECONSTRUCT STRUCTURE (AC)
2021	115344	80	LATHAM LANE	MILLER AVE	GRIZZLY PEAK	R	Heavy Mtce	\$ 38,500	6	N	0.10	59	6/1/1994	A - AC	RECONSTRUCT STRUCTURE (AC)
2021	115380	70	MILLER AVE	HILLDALE AVE	SHASTA RD	R	Light Rehab	\$ 425,880	6	N	0.66	53	6/1/1994	A - AC	RECONSTRUCT STRUCTURE (AC)
2021	830491	58	ROOSEVELT AVE	CHANNING WAY	DWIGHT WAY	R	Light Rehab	\$ 172,480	4	N	0.13	52	12/1/1989	A - AC	RECONSTRUCT SURFACE (AC)
2021	728584	50	TELEGRAPH AVE	BANCROFT WAY	DWIGHT WAY	C	Heavy Rehab	\$ 473,060	7	3C*	0.25	39	7/1/1988	O -	MILL AND OVERLAY W/FABRIC
2021	931657	55	WEST ST	BANCROFT WAY	DWIGHT WAY	R	Heavy Mtce	\$ 263,822	2	N	0.25	55	10/1/1994	O -	MILL AND OVERLAY W/FABRIC
2021	320528	47	2ND ST	DELAWARE ST	HEARST AVE	R	Reconstruct	\$ 775,833	1	N	0.09	9	NA		
2021	320528	48	2ND ST	HEARST AVE	UNIVERSITY AVE	R	Heavy Rehab	\$ 762,222	1	N	0.09	33	NA		
2021	920528	50	2ND ST	UNIVERSITY AVE	ADDISON ST	R	Heavy Rehab	\$ 560,000	2	N	0.09	32	8/27/1997		MILL AND OVERLAY W/FABRIC
2021			15% DISCRETIONARY					\$ 1,046,295							
								\$ 6,968,593			3.84				

Note: Column P denotes presence of bike facility type (1 paved path, 2A 2B bike lane, 3A sign-only, 3C Sharrows, 3E bike blvd, 4 cycle track); C for bus route; and N for none.

*Proposed bike facilities from 2017 Bike Plan.

EXHIBIT A
5-YEAR STREET REHABILITATION PLAN FOR FY 2020 TO FY 2024

Revised: 05/22/2019

Fiscal Year	Street ID	Section ID	Street Name	From	To	Class	Treatment (from StreetSaver)	Updated Total Cost	District	P	Mileage	Current PCI	Last M&R Date	Last M&R	Last Paved
2022	931073	50	BROWNING ST	ADDISON ST	DWIGHT WAY	R	Heavy Rehab	\$ 911,600	2	N	0.50	35	10/1/1995	O -	MILL AND OVERLAY W/FABRIC
2022	638115	70	COLLEGE AVE	ASHBY AVE	SOUTH CITY LIMIT	A	Heavy Rehab	\$ 896,480	8	N	0.41	42	8/23/2000	A - AC	RECONSTRUCT STRUCTURE (AC)
2022	729152	60	DURANT AVE	MILVIA ST	SHATTUCK AVE	C	Reconstruct	\$ 693,355	4	N	0.13	11	11/1/1992	O -	MILL AND OVERLAY W/FABRIC
2022	729152	64	DURANT AVE	SHATTUCK AVE	FULTON ST	C	Heavy Rehab	\$ 262,880	4	N	0.10	32	8/12/1997	O -	MILL AND OVERLAY W/FABRIC
2022	728180	50	ELLSWORTH ST	BANCROFT WAY	DWIGHT WAY	R	Reconstruct	\$ 422,400	7	N	0.25	22	11/1/1992	O -	MILL AND OVERLAY W/FABRIC
2022	736180	60	ELLSWORTH ST	DWIGHT WAY	WARD ST	R	Light Mtce	\$ 129,360	7	N	0.38	92	5/11/2011	A - AC	RECONSTRUCT SURFACE (AC)
2022	736180	65	ELLSWORTH ST	WARD ST	ASHBY AVE	R	Light Mtce	\$ 99,307	3	N	0.29	92	5/11/2011	A - AC	RECONSTRUCT SURFACE (AC)
2022	736227	60	FULTON ST	DWIGHT WAY	BLAKE ST	R	Heavy Mtce	\$ 76,128	3	3E*	0.06	60	6/1/1993	O -	MEDIUM AC OVERLAY (2 INCHES)
2022	736227	61	FULTON ST	BLAKE ST	PARKER ST	R	Heavy Mtce	\$ 27,840	3	3E*	0.07	69	6/1/1993	O -	MEDIUM AC OVERLAY (2 INCHES)
2022	736227	63	FULTON ST	PARKER ST	STUART ST	R	Heavy Mtce	\$ 321,592	3	3E*	0.25	58	2/1/1992	O -	THIN AC OVERLAY(1.5 INCHES)
2022	835431	65	OTIS ST	RUSSELL ST	ASHBY AVE	R	Heavy Rehab	\$ 224,000	3	N	0.13	49	4/1/2001	A - AC	RECONSTRUCT STRUCTURE (AC)
2022	736561	70	STUART ST	FULTON ST	HILLEGASS AVE	R	Heavy Rehab	\$ 784,000	7	N	0.46	39	11/13/1998	A - AC	RECONSTRUCT STRUCTURE (AC)
2022			15% DISCRETIONARY					\$ 1,046,295							
								\$ 5,895,237			3.03				

Note: Column P denotes presence of bike facility type (1 paved path, 2A 2B bike lane, 3A sign-only, 3C Sharrows, 3E bike blvd, 4 cycle track); C for bus route; and N for none.

*Proposed bike facilities from 2017 Bike Plan.

EXHIBIT A
5-YEAR STREET REHABILITATION PLAN FOR FY 2020 TO FY 2024

Revised: 05/22/2019

Fiscal Year	Street ID	Section ID	Street Name	From	To	Class	Treatment (from StreetSaver)	Updated Total Cost	District	P	Mileage	Current PCI	Last M&R Date	Last M&R	Last Paved
2023	729042	65	BANCROFT WAY	SHATTUCK AVE	FULTON ST	C	Heavy Rehab	\$ 277,778	4	4*	0.09	41	8/7/1997	O -	MILL AND OVERLAY W/FABRIC
2023	729042	60	BANCROFT WAY	MILVIA WAY	SHATTUCK AVE	C	Heavy Rehab	\$ 359,836	4	N	0.13	34	12/1/1989		MILL AND OVERLAY W/FABRIC
2023	736140	65	DANA ST	BLAKE ST	WARD ST	R	Light Rehab	\$ 454,080	7	3E*	0.25	65	7/30/2008	A - AC	RECONSTRUCT STRUCTURE (AC)
2023	739186	60	EMERSON ST	ADELIN ST	SHATTUCK AVE	R	Light Rehab	\$ 180,320	3	N	0.15	59	4/1/2001	A - AC	RECONSTRUCT STRUCTURE (AC)
2023	839191	60	ESSEX ST	ADELIN ST	TREMONT ST	R	Heavy Mtce	\$ 76,160	3	N	0.06	68	4/1/2001	A - AC	RECONSTRUCT STRUCTURE (AC)
2023	739191	62	ESSEX ST	TREMONT ST	SHATTUCK AVE	R	Light Rehab	\$ 129,920	3	N	0.11	64	4/1/2001	A - AC	RECONSTRUCT STRUCTURE (AC)
2023	637217	80	FOREST AVE	COLLEGE AVE	CLAREMONT BLVD	R	Heavy Rehab	\$ 600,000	8	N	0.36	45	8/1/1996	A - AC	RECONSTRUCT STRUCTURE (AC)
2023	516340	36	LA LOMA AVE	ROSE ST	BUENA VISTA WAY	C	Heavy Rehab	\$ 248,827	6	N	0.16	37	6/1/1995	O -	MILL AND OVERLAY W/FABRIC
2023	516340	38	LA LOMA AVE	BUENA VISTA WAY	CEDAR ST	C	Heavy Rehab	\$ 221,340	6	N	0.14	49	6/1/1995	O -	MILL AND OVERLAY W/FABRIC
2023	834371	65	MC GEE AVE	DERBY ST	RUSSELL ST	R	Light Rehab	\$ 461,992	3	N	0.25	59	12/10/1998	A - AC	RECONSTRUCT STRUCTURE (AC)
2023	834371	60	MC GEE AVE	DWIGHT WAY	DERBY ST	R	Light Rehab	\$ 302,400	3	N	0.26	51	7/1/1988	O -	THIN OVERLAY w/FABRIC
2023	319293	47	HOPKINS ST	GILMAN ST	SACRAMENTO ST	R	Heavy Rehab	\$ 203,942	5	3A, C	0.10	32	9/13/2002		MILL AND OVERLAY W/FABRIC
2023	213293	50	HOPKINS ST	HOPKINS CT	MONTEREY AVE	C	Light Rehab	\$ 75,193	5	3A, C	0.05	59	9/13/2002		MILL AND OVERLAY W/FABRIC
2023	213293	52	HOPKINS ST	MONTEREY AVE	MC GEE AVE	C	Heavy Rehab	\$ 107,167	5	2A, C	0.05	47	12/1/1989		RECONSTRUCT STRUCTURE (AC)
2023	319293	45	HOPKINS ST	NORTHSIDE AVE	PERALTA AVE	R	Light Mtce	\$ 233,587	1	N	0.10	78	9/13/2002		MILL AND OVERLAY W/FABRIC
2023	319293	46	HOPKINS ST	PERALTA AVE	GILMAN ST	R	Heavy Mtce	\$ 433,031	1, 5	N	0.27	58	9/13/2002		MILL AND OVERLAY W/FABRIC
2023	319293	49	HOPKINS ST	SACRAMENTO ST	HOPKINS CT	A	Heavy Rehab	\$ 77,755	5	3A, C	0.04	38	9/13/2002		MILL AND OVERLAY W/FABRIC
2023	319293	40	HOPKINS ST	SAN PABLO AVE	STANNAGE AVE	R	Light Mtce	\$ 19,188	1	N	0.09	74	9/13/2002		MILL AND OVERLAY W/FABRIC
2023	319293	42	HOPKINS ST	STANNAGE AVE	NORTHSIDE AVE	R	Heavy Mtce	\$ 157,658	1	N	0.17	69	9/13/2002		MILL AND OVERLAY W/FABRIC
2023			15% DISCRETIONARY					\$ 1,091,295							
								\$ 5,711,469			2.86				

Note: Column P denotes presence of bike facility type (1 paved path, 2A 2B bike lane, 3A sign-only, 3C Sharrows, 3E bike blvd, 4 cycle track); C for bus route; and N for none.

*Proposed bike facilities from 2017 Bike Plan.

EXHIBIT A
5-YEAR STREET REHABILITATION PLAN FOR FY 2020 TO FY 2024

Revised: 05/22/2019

Fiscal Year	Street ID	Section ID	Street Name	From	To	Class	Treatment (from StreetSaver)	Updated Total Cost	District	P	Mileage	Current PCI	Last M&R Date	Last M&R	Last Paved
2024	729014	63	ALLSTON WAY	MILVIA ST	SHATTUCK AVE	R	Heavy Rehab	\$ 228,800	4	N	0.14	37	11/1/1990	O -	MILL AND THIN OVERLAY
2024	729014	65	ALLSTON WAY	SHATTUCK AVE	OXFORD ST	R	Reconstruct	\$ 344,036	4	N	0.11	12	11/1/1992	O -	MILL AND OVERLAY W/FABRIC
2024	729104	63	CHANNING WAY	MILVIA ST	SHATTUCK AVE	R	Heavy Rehab	\$ 267,640	4	2A to 2B*	0.13	34	9/1/1991	O -	MILL AND OVERLAY W/FABRIC
2024	829104	60	CHANNING WAY	MARTIN LUTHER KING	MILVIA ST	R	Reconstruct	\$ 462,920	4	2A to 2B*	0.13	15	5/1/1995	O -	THIN AC OVERLAY(1.5 INCHES)
2024	322142	48	DELAWARE ST	ACTON ST	SACRAMENTO ST	C	Heavy Mtce	\$ 78,175	1	4*	0.13	61	10/1/1992	O -	MILL AND OVERLAY W/FABRIC
2024	636146	78	DERBY ST	HILLEGASS AVE	COLLEGE AVE	R	Reconstruct	\$ 498,560	8	3E*	0.14	25	8/8/1997	O -	MILL AND OVERLAY W/FABRIC
2024	627155	85	DWIGHT WAY	HILLSIDE AVE	DEAD END ABOVE	R	Reconstruct	\$ 406,204	8	N	0.11	22	9/1/1993	A - AC	RECONSTRUCT SURFACE (AC)
2024	627155	83	DWIGHT WAY	PIEDMONT AVE	HILLSIDE AVE	R	Reconstruct	\$ 526,688	7, 8	N	0.14	12	9/1/1993	O -	MILL AND OVERLAY W/FABRIC
2024	111249	17	GRIZZLY PEAK BLVD	KEELER AVE	MARIN AVE	C	Reconstruct	\$ 843,578	6	3C*	0.27	19	10/1/1992	O -	MILL AND OVERLAY W/FABRIC
2024	920275	40	HEINZ AVE	7TH ST	SAN PABLO AVE	R	Reconstruct	\$ 897,408	2	3E	0.26	22	11/1/1992	O -	MILL AND OVERLAY W/FABRIC
2024	739285	70	HILLEGASS AVE	ASHBY AVE	CITY LIMIT (WOOLSEY	R	Light Mtce	\$ 68,400	8	3E	0.16	76	7/28/2003	A - AC	RECONSTRUCT STRUCTURE (AC)
2024	736285	60	HILLEGASS AVE	DWIGHT WAY	ASHBY AVE	R	Light Mtce	\$ 256,000	8	3E	0.61	78	5/31/2000	A - AC	RECONSTRUCT STRUCTURE (AC)
2024	213293	53	HOPKINS ST	MC GEE AVE	CARLOTTA AVE	C	Heavy Rehab	\$ 149,680	5	2A, C	0.06	45	12/1/1989		RECONSTRUCT STRUCTURE (AC)
2024	213293	55	HOPKINS ST	CARLOTTA AVE	JOSEPHINE ST	C	Heavy Rehab	\$ 874,580	5	2A, C	0.35	50	12/1/1989		MILL AND OVERLAY
2024			15% DISCRETIONARY					\$ 1,091,295							
								\$ 6,993,964			2.74				

Note: Column P denotes presence of bike facility type (1 paved path, 2A 2B bike lane, 3A sign-only, 3C Sharrows, 3E bike blvd, 4 cycle track); C for bus route; and N for none.

*Proposed bike facilities from 2017 Bike Plan.

FISCAL YEAR 2020 TOTALS

Total Estimated Cost and Miles		\$ 6,265,814	3.67 miles	
	MILEAGE	District	Miles	Cost
ARTERIALS	0.32	1	0.69	\$1,685,991
COLLECTORS	1.77	2	0.31	\$1,328,400
RESIDENTIALS	1.58	3	0.44	\$764,300
	3.67	4	0.03	\$0
		5	0.57	\$960,667
		6	0.30	\$526,456
		7	0.00	\$0
		8	0.00	\$0
<hr/>		Arterial/PRW	1.33	\$1,000,000
			3.67	\$6,265,814
				6975303

FISCAL YEAR 2021 TOTALS

Total Estimated Cost and Miles		\$ 6,968,593	3.84 miles	
	MILEAGE	District	Miles	Cost
ARTERIALS	0.00	1	0.18	\$1,538,055
COLLECTORS	0.51	2	0.71	\$1,084,031
RESIDENTIALS	3.33	3	0.26	\$155,120
	3.84	4	0.39	\$1,052,125
		5	0.00	\$0
		6	1.54	\$737,394
		7	0.76	\$1,355,572
		8	0.00	\$0
		15%		\$1,046,295
<hr/>			3.84	\$6,968,592
				6975303

FISCAL YEAR 2022 TOTALS

Total Estimated Cost and Miles		\$ 5,895,237	3.03 miles	
	MILEAGE	District	Miles	Cost
ARTERIALS	0.41	1	0.00	\$0
COLLECTORS	0.23	2	0.50	\$911,600
RESIDENTIALS	2.39	3	0.80	\$748,867
	3.03	4	0.23	\$956,235
		5	0.00	\$0
		6	0.00	\$0
		7	1.09	\$1,335,760
		8	0.00	\$0
<hr/>		Arterial	0.41	\$896,480
		15%		\$1,046,295
			3.03	\$5,895,237
				6975303

FISCAL YEAR 2023 TOTALS

Total Estimated Cost and Miles		\$ 5,711,469	2.83 miles	
	MILEAGE	District	Miles	Cost
ARTERIALS	0.04	1	0.50	\$626,949
COLLECTORS	0.62	2	0.00	\$0
RESIDENTIALS	2.17	3	0.83	\$1,150,792
	2.83	4	0.22	\$637,614
		5	0.34	\$602,817
		6	0.30	\$470,167
		7	0.25	\$454,080
		8	0.36	\$600,000
		Arterial	0.04	\$77,755
		15%		\$1,091,295
<hr/>			2.83	\$5,711,469
				7275303

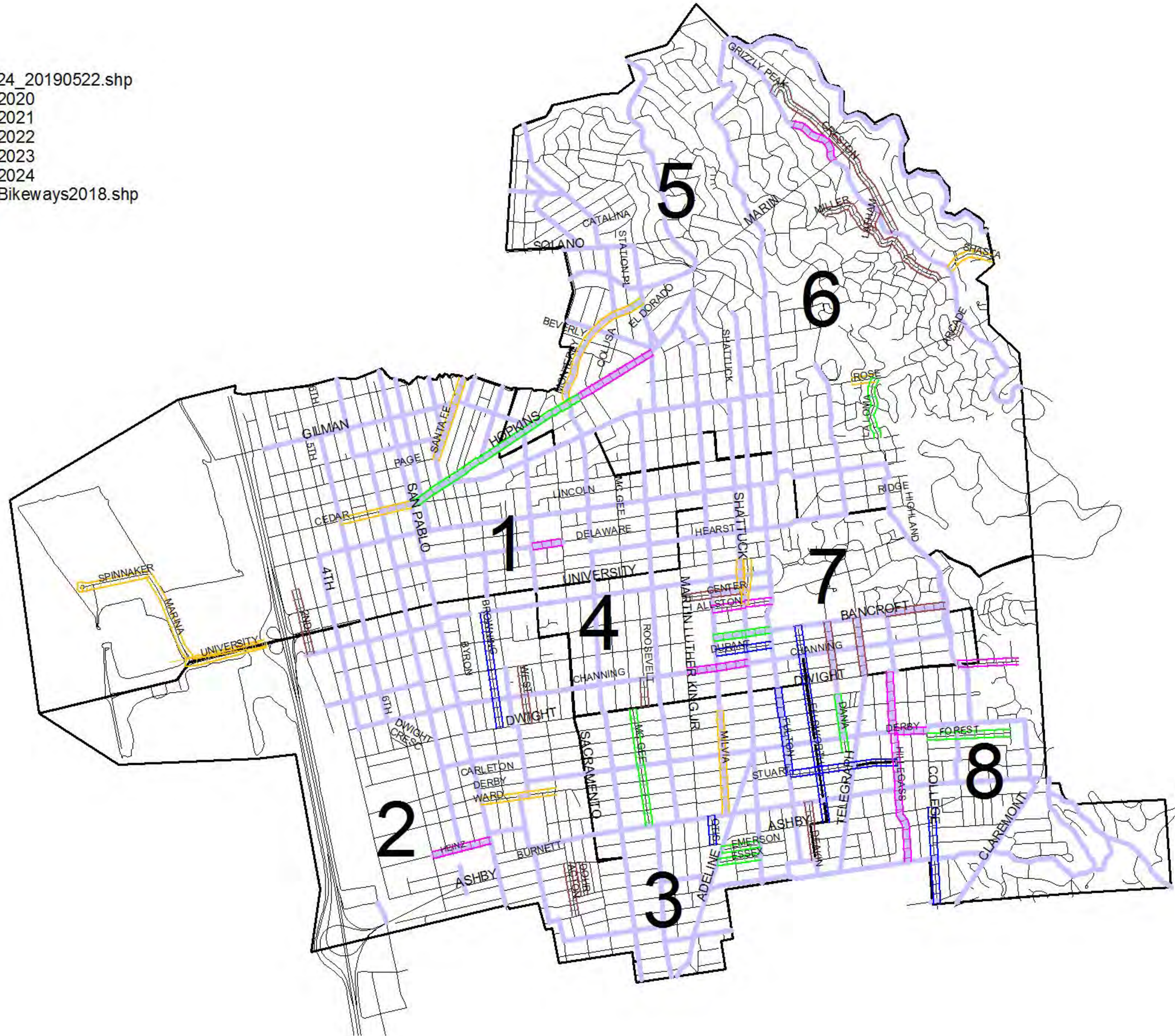
FISCAL YEAR 2024 TOTALS

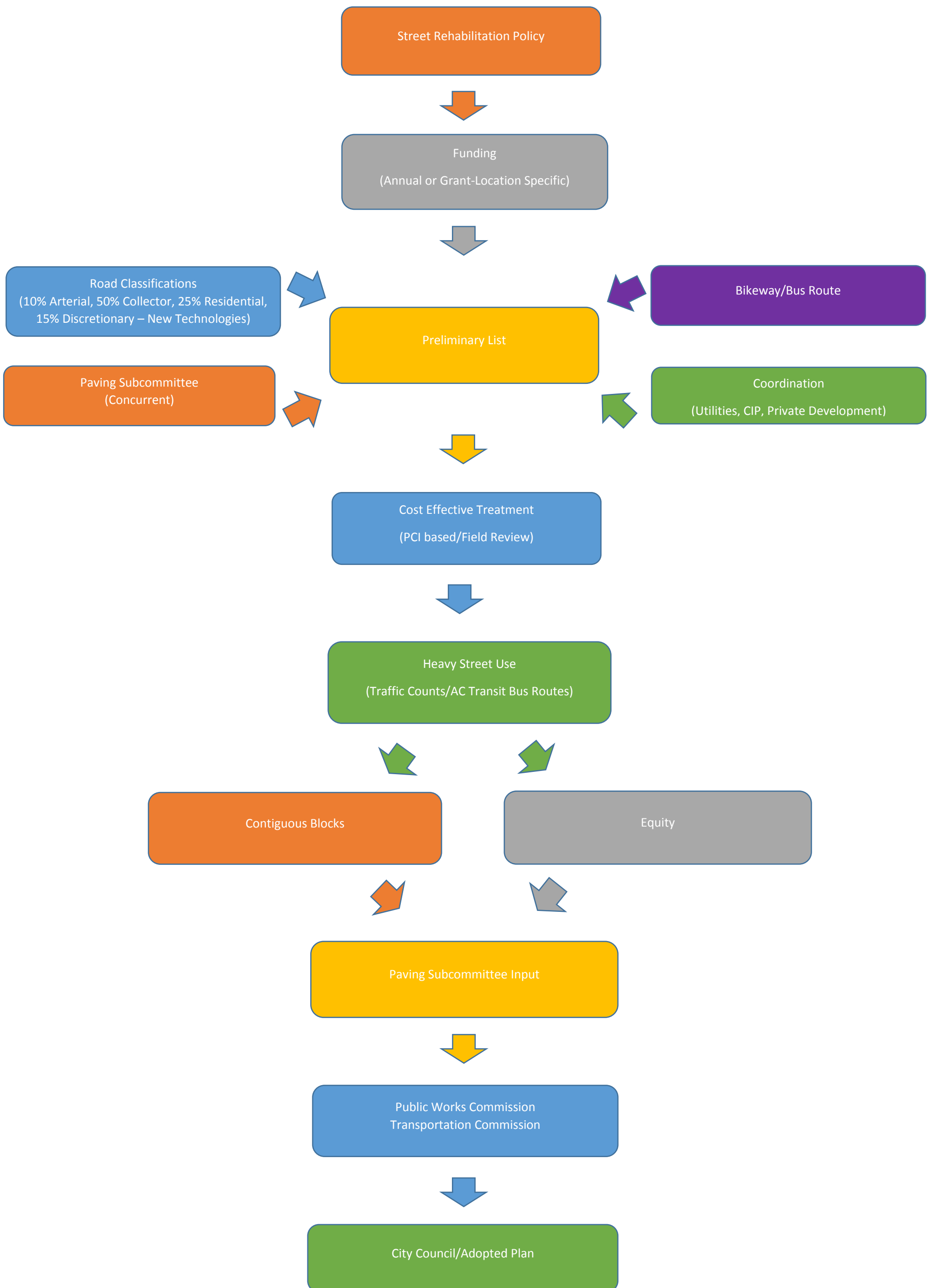
Total Estimated Cost and Miles		\$ 6,993,964	2.74 miles	
	MILEAGE	District	Miles	Cost
ARTERIALS	0.00	1	0.13	\$78,175
COLLECTORS	0.81	2	0.26	\$897,408
RESIDENTIALS	1.93	3	0.00	\$0
	2.74	4	0.51	\$1,303,396
		5	0.41	\$1,024,260
		6	0.27	\$843,578
		7	0.00	\$0
		8	1.16	\$1,755,852
<hr/>		Arterial	0.00	\$0
		15%		\$1,091,295
			2.74	\$6,993,964
				7275303

FISCAL YEAR 2020 to 2024 TOTALS

Total Estimated Cost and Miles					\$ 31,835,077	16.11 miles	
	MILEAGE	%	% COST	% MILE	District	Miles	Cost
ARTERIALS	0.77	5%	12%	9%	1	1.50	\$3,929,170
COLLECTORS	3.94	24%	13%	11%	2	1.78	\$4,221,439
RESIDENTIALS	11.40	71%	9%	14%	3	2.33	\$2,819,079
	16.11	100%	12%	9%	4	1.38	\$3,949,370
			8%	8%	5	1.32	\$2,587,744
			8%	15%	6	2.41	\$2,577,595
			10%	13%	7	2.10	\$3,145,412
			7%	9%	8	1.52	\$2,355,852
			6%	11%	Arterial/PRW	1.78	\$1,974,235
			13%	0%	15%		\$4,275,180
			100%	100%		16.11	\$31,835,076
							\$35,476,515

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ACTION CALENDAR
December 3, 2019

To: Honorable Members of the City Council

From: Mayor Jesse Arreguín, and Councilmembers Sophie Hahn, Kate Harrison, and Cheryl Davila

Subject: Considering Multi-year Bidding Processes for Street Paving

RECOMMENDATION

1. Restate the recommendation approved at the December 11, 2018 Council meeting to create a two-year bidding process for street paving to realize savings by (a) reducing by 50% City staff time devoted to bidding and contracting processes over each two year period and (b) benefitting from reduced pricing which may be available for larger contracts that offer greater economies of scale and reduce contractors' bidding and contracting costs.
2. Short-term referral to the City Manager to explore the possibility, feasibility, costs, and benefits of bidding in increments of up to 5 years to encompass entire 5-year paving plans, or other ideas to more rationally and cost-effectively align the paving plan with budget cycles and reduce costs associated with frequent bid cycles for relatively small contracts.

POLICY COMMITTEE RECOMMENDATION

No final action was taken by the Facilities, Infrastructure, Transportation, Environment & Sustainability Committee. Item is automatically returning to the Council agenda pursuant to the 120-day time limit for items referred to policy committees.

BACKGROUND

In November 2011, the City Auditor provided an analysis of the conditions of Berkeley's 216 miles of streets that showed widespread disrepair resulting from years of underfunding. The impact of the many years of underfunding is compounded by the exponential increase in cost to refurbish streets that have reached "at risk" or "failed" status.

The City of Berkeley's existing Street Rehabilitation and Repair Policy requires that a 5-year Street Rehabilitation Plan be reviewed each year and adopted formally by the City Council. After approval, the City releases bids for one year of paving projects, requiring City Staff and contractors to undertake the bidding process on a yearly basis.

At the December 11, 2018 City Council meeting, Council approved combining the 2018 and 2019 paving projects into the 2019 program after the City was unable to secure a cost effective paving contractor for 2018 in an extremely competitive market.

Permanently moving to a bi-annual or other multi-year bid process will reduce staff time spent on preparing, circulating, evaluating and awarding bids, as well as render Berkeley's projects more attractive to contractors in a very competitive market. It is expected that larger contracts result in reduced per-mile costs due to better economies of scale and reduced contractor costs associated with yearly bidding processes.

During the December 2018 discussion, Public Works staff suggested that a two year bid process is not only feasible, but also logical as the City's budget and funding processes span two years. While this proposal is already being considered (having been referred by Council at the December 11, 2018 meeting), it is important for Council to reiterate that accelerating paving overall while reducing costs in all ways possible is a key citywide priority, and to include the consideration of longer multi-year bidding cycles to assess whether additional cost savings and integration into existing budget cycles can be achieved.

FINANCIAL IMPLICATIONS

The City is likely to realize long term savings by utilizing two-year or other multi-year bidding processes.

ENVIRONMENTAL SUSTAINABILITY

Improved PCI leads to better fuel efficiency and therefore less greenhouse gas emissions from vehicles.

CONTACT PERSON

Mayor Jesse Arreguín	510-981-7100
Councilmember Sophie Hahn	510-981-7150

Attachments:

1: Annotated Agenda, December 11 2018 Berkeley City Council Meeting, Item 15

Consent Calendar

- 13. Contract: Gallagher & Burk, Inc. for FY 2018 Measure M Street Rehabilitation Project**
From: City Manager
Recommendation: Adopt a Resolution approving plans and specifications for the FY 2018 Measure M Street Rehabilitation Project, Specification No. 18-11179-C (Re-Issued); accepting the bid of Gallagher & Burk, Inc. as the lowest responsive and responsible bidder; and authorizing the City Manager to execute a contract and any amendments, extensions or other change orders until completion of the project in accordance with the approved plans and specifications in an amount not to exceed \$3,863,909.
Financial Implications: Street Capital Improvement Program Fund - \$3,863,909
 Contact: Phillip Harrington, Public Works, 981-6300
Action: Adopted Resolution No. 68,716–N.S.
- 14. Letter of Support on Behalf of SB 3342 - Housing, Opportunity, Mobility, and Equity Act of 2018**
From: Housing Advisory Commission
Recommendation: Direct the City Manager to send a letter of support on behalf of proposed SB 3342, referred to as the HOME Act.
Financial Implications: None
 Contact: Amy Davidson, Commission Secretary, 981-5400
Action: Approved recommendation.
- 15. Public Works Commission Recommendation for the Five-Year Street Rehabilitation Plan**
From: Public Works Commission
Recommendation: Adopt a Resolution that recommends approval of the Five-Year Street Rehabilitation Plan for FY2019 to FY2023 as proposed by Staff.
Financial Implications: See report
 Contact: Nisha Patel, Commission Secretary, 981-6300
Action: Moved to Action Calendar. 8 speakers. M/S/C (Harrison/Droste) to adopt Resolution No. 68,717–N.S. that recommends approval of the Five-Year Street Rehabilitation Plan for FY2019 to FY2023 as proposed by Staff amended to include Milvia Street from Blake Street to Russell Street in FY2019. Provide direction to staff and request additional information from staff as follows:
- Review the Plan after two years
 - Consult the Transportation Commission on the Plan
 - Provide the Lifecycle analysis and the Bike Plan overlay analysis
 - Consider a two-year bid process
 - Annual report to Council on Measure M projects
 - Report to Council on the funding sources for scheduled and completed paving projects
- Vote:** All Ayes.



Office of the City Manager

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INFORMATION CALENDAR

December 3, 2019

To: Honorable Mayor and Members of the City Council

From: Dee Williams-Ridley, City Manager

Submitted by: Kelly Wallace, Interim Director, Health, Housing & Community Services

Subject: Condominium Conversion Program – Annual Report

INTRODUCTION

This report provides the regular annual assessment of condominium conversion program activities as required by Berkeley Municipal Code (BMC) 21.28.020.D. This report focuses on the period starting with calendar year 2008, when the current program went into effect, through September 24, 2019 (the date that data was compiled for this report).

CURRENT SITUATION AND ITS EFFECTS

The Condominium Conversion Ordinance (CCO) requires an annual report to the City Council which includes an assessment of the program and any recommendations for changes to the ordinance. The ordinance allows property owners to convert rental units to ownership units subject to certain requirements and payment of an Affordable Housing Mitigation Fee (AHMF). (This fee shares a name with—but is different from—the Affordable Housing Mitigation Fee for new construction market-rate housing in BMC 22.20.065.)

Attachment 1 has a summary of submitted and approved applications since 2008 and a breakdown of revenue the City has received to date. The ordinance gives owners a 25 percent reduction if they have paid the AHMF when the City approves their applications, an option that was added in 2009 with other revisions. To date, 44 units have selected this option. The other 56 units have selected to pay the fee based on the appraised value or sales price of the unit. The fee is 4% for properties with two units and 8% for properties with three or more units. The City has received a total of \$2,823,763 in mitigation fee payments from 100 converted units (see Table 3 of Attachment 1).

BACKGROUND

Condominium conversion is the process of subdividing a multi-unit property into separately owned housing units with individual mortgages. Subdivisions are regulated under the California Subdivision Map Act and Subdivided Lands Act. State law also allows local governments to impose additional requirements. In Berkeley, these additional requirements are in the CCO (BMC Chapter 21.28 *et seq.*) and include an annual limit on the number of approved units, compliance with local laws, payment of an

AHMF, and various tenant protections. The City’s current ordinance has been in place since 2009.

In 1992, the City imposed a housing mitigation fee for condominium conversions and banned the creation of Tenancy-in-Common (TIC) properties. Council found TIC ownership problematic and the conversion of rental units to condominiums and TICs reduced the stock of affordable rental units in Berkeley. In a TIC, people share ownership and financing of multi-unit properties and agree among themselves on each part-owners’ rights to occupy one unit, often expressed as pro rata shares of property ownership. Some owners of these TIC properties developed legal and financial difficulties among their partners. They sought help from the City Council and Council banned the creation of TICs as a result of those issues.

In 2004, California’s Court of Appeals held that cities could not prohibit the conversion of rental units to TICs.¹ The City Council found that while condominium conversions were not ideal, a condominium conversion ordinance was preferred over unregulated TIC conversions. Council changed the ordinance to encourage condominiums over TICs, and completely overhauled the ordinance in 2008 and 2009.

The number of applications submitted has declined over the years. Staff believe that much of the pent up demand among TIC owners for conversion has been addressed and that conversions will probably continue at a low rate.

ENVIRONMENTAL SUSTAINABILITY

There are no identifiable environmental effects or opportunities associated with the subject of this report.

POSSIBLE FUTURE ACTION

None.

FISCAL IMPACTS OF POSSIBLE FUTURE ACTION

None.

CONTACT PERSON

Be Tran, Associate Planner, HHCS, (510) 981-5422

Attachments:

- 1: Summary Tables for the Condominium Conversion Program

¹ *Tom v. City and County of San Francisco*, 2004, 120 Cal. App. 4th 674.

Attachment 1
Summary Tables for the Condominium Conversion Program

The tables below provide data on calendar years 2008-2019 (up to September 24, 2019). Data prior to 2008 are difficult to compile and analyze due to changes in the process and definitions. Therefore the total number of approved applications may not match up with the total number of submitted applications due to discrepancy from prior years. Also, applications may take more than one year to obtain approval or may not complete the Condominium Conversion Program.

Table 1: General Summary

Year	Number of Submitted Applications	Number of Units in Submitted Applications	Number of Approved Applications	Number of Units in Approved Applications
2008	10	35	8	26
2009	5	24	13	66
2010	7	20	4	19
2011	5	22	3	11
2012	5	15	6	20
2013	6	15	7	15
2014	2	7	3	11
2015	1	2	2	7
2016	7	17	1	2
2017	1	3	4	9
2018	3	10	2	6
2019	1	3	2	4
Total	53	173	55	196

Table 2: Applications Currently in the Process

	Applications	Units
Pending Applications	6	19

Table 3: Revenue Received from Affordable Housing Mitigation Fee

Of the approved units required to pay the fee, the owners of 100 units have paid the fee up front at the time of application approval, at refinance, or at time of sale. The owners of the remaining units will pay the fee when they sell or refinance their units. Linking the fee payment with sales means that fee revenue trends follow the real estate market, which is why revenue varies from year to year.

Year	Amount Received	Total Number of Units	Number of Units Paid at Time of Application Approval	Number of Units Paid at Refinance	Number of Units Paid at Time of Sale
2008	\$47,072	3	0	0	3
2009	\$0	0	0	0	0
2010	\$116,200	2	0	1	1
2011	\$76,280	4	3	0	1
2012	\$269,145	13	9	1	3
2013	\$237,795	14	9	0	5
2014	\$820,529	28	5	13	10
2015	\$249,708	8	3	0	5
2016	\$64,600	2	0	0	2
2017	\$495,888	14	9	2	3
2018	\$386,346	11	6	0	5
2019	\$60,200	1	0	0	1
Total	\$2,823,763	100	44	17	39



Office of the City Manager

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INFORMATION CALENDAR

December 3, 2019

To: Honorable Mayor and Members of the City Council

From: Dee Williams-Ridley, City Manager

Submitted by: Kelly Wallace, Interim Director, Health, Housing & Community Services

Subject: Small Sites Program Update

INTRODUCTION

The City of Berkeley recently executed its first Small Sites Program loan, providing \$950,000 to Bay Area Community Land Trust for the renovation of 1638 Stuart Street. When City Council approved the Small Sites Program in 2018, they directed staff to provide the Housing Advisory Commission and Council with funding applications and staff's analysis. Staff's project review is attached. Due to its length, the Stuart Street Apartments application is available online at <https://www.cityofberkeley.info/ContentDisplay.aspx?id=6532>

CURRENT SITUATION AND ITS EFFECTS

Bay Area Community Land Trust (BACLТ) will use the City funds to renovate eight residential units located at 1638 Stuart Street. The property is owned by the neighboring McGee Avenue Baptist Church, which is leasing the site to BACLТ for the 55 year term of the City's affordability restrictions. BACLТ plans to create a non-equity cooperative, serving households earning up to 80% of the area median income.

The Small Sites Program is a Strategic Plan Priority Project, advancing our goal to create affordable housing and housing support service for our most vulnerable community members.

BACKGROUND

The Small Sites Program was created in 2018 as an over-the-counter application process with projects approved by the City Manager. Small Sites Program proposals do not go to the Housing Advisory Commission or City Council for approval. Instead, projects that meet the program criteria receive funding if funding is available. Council allocated \$1 million to the program, and of that, \$50,000 was granted through a competitive process to Bay Area Community Land Trust to be used for capacity building. The remainder was made available through a Notice of Funding Availability released in January 2019. The City received one application in response to the NOFA. Information about the status of funds and applications is posted online.

ENVIRONMENTAL SUSTAINABILITY

The renovation will include the remediation of lead and asbestos, and will bring eight residential units back into active use after more than 20 years. The property is in a walkable area, within $\frac{3}{4}$ mile of Berkeley Bowl, multiple parks, bus lines, and Ashby BART.

POSSIBLE FUTURE ACTION

HHCS is not accepting applications for the Small Sites Program at this time since no funds are available. Council could refer consideration of Small Sites program funding to the Measure O Bond Oversight Committee.

FISCAL IMPACTS OF POSSIBLE FUTURE ACTION

The number and size of feasible projects scale with the amount of funds available for this program, so the fiscal impacts will depend on Council's future actions. A significant expansion of funds available for small sites projects may require additional staffing, since the program anticipates an expedited timeline and close staff involvement.

CONTACT PERSON

Jenny Wyant, Community Development Project Coordinator, HHCS, 510-981-5228

Attachments:

1: Project Review Form

Small Sites Program - Project Review

Applicant:	Bay Area Community Land Trust
Project Name:	Stuart Street Apartments
Project Address:	1638 Stuart Street
Funds Requested:	\$950,000

Project Summary:

BACLT proposes to renovate 8 residential units located at 1638 Stuart Street. The property is currently owned by McGee Avenue Baptist Church, and has been vacant for more than 20 years. The buildings are in poor condition, and if they continue to deteriorate beyond the point of repair, current zoning could limit replacement development to two units. BACLT proposes to enter into a 57 year lease with MABC, renovate the property, then rent them to households earning up to 80% of the area median income. If there is sufficient interest amongst the future residents, BACLT intends to operate the property as a non-equity cooperative and encourage as much resident management as possible.

Program Objectives:

Are residents at imminent risk of Ellis Act evictions?	No
Is the property occupied?	No
Do the existing residents include vulnerable populations (i.e. families with minor children, elderly, disabled, and catastrophically-ill persons)? <i>If yes, describe vulnerable population, below.</i>	No
Property is vacant.	
Average AMI of current residents:	n/a
Subsidy per unit:	\$ 118,750
Number of affordable units proposed:	8
Proposed conversion to cooperative?:	Yes

Developer Experience and Capacity

Developer must have completed one comparable project, and have the demonstrated capacity to undertake the proposed project.

BACLT has been involved with several renovations over the past few years, as the developer and co-developer. BACLT had a project management role in two renovations, which had a combined total development cost of \$350,000. BACLT most comparable project was an acquisition and renovation project with a budget of \$1.8 million, which BACLT co-developed with the San Francisco Land Trust.

Stuart Street Apartments

Property Eligibility

Total number of units:	8
Do all residential units meet the City's definition of 'dwelling unit'?	Yes
Is the majority of the property residential?	Yes

Project Scope

Does the proposed renovation meet the health and safety needs of the project?	Yes
Is the renovation scope and budget supported by a physical needs assessment (PNA) of the property?	Yes

Project Budget

Is the proposed City loan leveraged with private financing?	Yes
Is the proposed per unit subsidy under the program limits?	Yes
Is the acquisition price substantiated by an appraisal showing both the fair market value and the anticipated restricted value?	n/a
Are fees charged to the project reasonable?	Yes
Is the developer fee less than the program limit of \$80,000 plus \$10,000 per unit, not to exceed 5% of project costs (excluding the developer fee)?	No. See Exception.
Are construction management fees less than \$25,500?	n/a
Does the renovation budget include state prevailing wage rates?	Yes
Construction contingency (must be 15% or higher)	16%
Soft cost contingency (must be 15% or higher)	15%
Do the reserves comply with the following?	
Operating: 25% of budgeted 1st year operating expenses	25%
Replacement: Greater of \$2,000 per unit or the amount necessary to pay replacement costs for the next 10 years, as specified in the PNA.	Yes - \$16k.
Vacancy: The monthly rent for units (residential and commercial) vacant at acquisition, multiplied by the number of months expected to remain vacant during renovation and lease-up.	No - \$24k reserve, equal to 1.9 months rent

Operating Proforma

Is there a positive cash flow for 15+ years after project completion?	Yes
Do the vacancy rates meet or exceed program requirements (5% residential, 20% commercial)	Yes
Do the reserve deposits comply with the following:	
Operating: None unless balance drops below 25% of prior year's operating expenses	Yes
Replacement: The higher of a) the amount needed according to the approved 20-year PNA, or b) \$400 per unit per year (\$350 per unit for projects with 11+ units)	\$400 pupa

Stuart Street Apartments

Existing Tenants and Affordability

Have 75% of existing households acknowledged their agreement to participate (in the conversion to restricted affordability and cooperative conversion, if applicable)?

n/a

Does the project have an average affordability of 80% of the area median income (AMI)?

Yes - all units at 80%

Do 66% or more of the existing households income-certify, with incomes averaging up to 80% AMI? Up to 34% of households may be over-income (above 120% AMI) or refuse to certify.

n/a

Limited Equity Housing Cooperative

Is applicant proposing to convert the property to a limited equity housing cooperative (LEHC) or similar model?

Yes

Applicant experience with cooperative conversion:

BACLT has four cooperatives that are part of the land trust.

Exceptions to the Program Guidelines

Did the Applicant request or does the project require any exceptions to the program guidelines?

Yes

Describe exceptions, below.

BACLT requested to cap all units at 80% AMI (rather than achieving an average AMI of 80%).
 - 1638 Stuart has no existing tenants, and BACLT has demonstrated that the project will have a positive cash flow if rents are capped at 80% AMI.
BACLT requested a \$120,000 developer fee, in excess of the program standards.
 - SSP allows the lesser of 5% of development costs, or \$80,000 plus \$10,000 per unit.
 - BACLT's developer fee would therefore be the lesser of 5% (~\$110,900) or \$160,000.
 - BACLT's total development costs do not include site acquisition, so its development costs are lower than a project involving acquisition.
Low vacancy reserve (\$24,000)
 - Requirement assumes the project is operating during construction. Stuart is vacant and will not be operated until construction is complete, so a higher vacancy reserve is not necessary.

Funding Recommendation/Funding Contingent Upon

Fund BACLT at \$950,000, contingent upon:
 - BACLT securing a first mortgage in an amount sufficient to make the project feasible
 - Lease and loan terms satisfactory to the City
 - Confirmation of which planning or zoning approvals may be necessary
 - Submission of an approved marketing plan
 - City completion of CEQA analysis



Office of the City Manager

INFORMATION ITEM
December 3, 2019

To: Honorable Mayor and Members of the City Council

From: Dee Williams-Ridley, City Manager

Submitted by: David White, Deputy City Manager
LaTanya Bellow, Director of Human Resources

Subject: Equal Pay: Classification and Compensation Process City Employees

RECOMMENDATION

Receive a report on the comprehensive process the City uses around the concept of comparable worth.

FISCAL IMPACTS OF RECOMMENDATION

No Fiscal Impact.

CURRENT SITUATION AND ITS EFFECTS

At the July 9, 2019 City Council meeting, the Human Resources Department presented the results of an analysis that looked at the average hourly pay for all individuals in a classification in which there are females and males. A total of 116 job classifications were analyzed. At the time the analysis was performed, there were 1,928 (full-time and part-time) employees on payroll in 348 job classifications. Of the total number of job classifications in which an employee occupied, 116 (33%) job classifications consisted of both males and females, 153 (44%) classifications consisted of only one employee (male or female), and 79 (23%) classifications consisted of multiple employees that are either male or female.

This work was prompted by the Commission on the Status of Women and Commission on Labor who recommended that the City allocate \$12,500 to conduct an independent audit of the female and male employees that work for the City. The Commission on the Status of Women refined their request to an audit that will analyze potential pay gaps and promotion opportunity issues within departments, classifications and career series between males and females.

At the July 9, 2019 City Council meeting, City Council discussed an analysis of comparable worth, which is the concept that men and women should receive equal pay when they perform work that involves comparable knowledge, skills and responsibility or that is of comparable worth to the employer. This concept is borne out of a concern that the pay for occupations dominated by women lag behind those occupied by men.

The City conducts a comparable worth analysis on every classification (or position) before it is presented to City Council for adoption. The analysis evaluates the work assigned to the position, minimum qualifications (i.e., years of experience, education, certification), supervision received and exercised, reporting structure and any other requirements used to establish compensation. Compensation studies and salary setting processes are concurrently conducted to ensure that the salary and benefits assigned to a position are market-based and in alignment within the organization.

Classification and Compensation Process

Establishing compensation and job duties for a classification is a rigorous process that includes the following steps:

- 1) Department (i.e., Finance, Information Technology, Parks, Recreation & Waterfront, Public Works) identifies new classification based on need. Human Resources works with the department to develop the knowledge, skills and abilities required by using techniques such as questionnaires, employee interviews, and supervisor interviews.
- 2) Human Resources provides the general description, characteristics, skills, knowledge and abilities to a professional consultant to complete a compensation/classification study using other jurisdictions, as outlined in Memorandums of Understanding between the City and its bargaining groups, using clearly defined terms applied consistently throughout the classification structure.
- 3) The consultant sends Human Resources a comprehensive report with a recommended job description and salary.
- 4) Human Resources and the Department review the recommendations to verify that it reflects the necessary attributes for the classification.
- 5) Human Resources and the Department meet with the affected Union for their review and affirmation.
- 6) Department and Human Resources write a staff report to present the new classification to the Personnel Board for approval.
- 7) A staff report is created for the City Council to review and approval.
- 8) Once approved, the new classification is included in the City's Classifications and systems.

Comparable Worth

In response to questions raised at the City Council meeting about classifications occupied solely by men and women and concerns about comparable worth, City staff analyzed the top step pay for classifications in which only females reside and the classifications in which only males reside.

An analysis of classifications with one employee indicated 49% of the classifications were female and 51% are male. These classifications were further analyzed according to occupational groups the Census Bureau utilizes for workforce statistical benchmarking according to knowledge, skills and abilities. The following table includes the results at the time the analysis was performed.

Classifications with One Employee		
ADMINISTRATIVE SUPPORT	32	
Female	17	53%
Male	15	47%
OFFICIALS/MANAGERS	6	
Female	3	50%
Male	3	50%
PROFESSIONALS	29	
Female	12	41%
Male	17	59%
PROTECTIVE SERVICE WORKER	41	
Female	19	46%
Male	22	54%
PROTECTIVE SERVICES: NON-SWORN	7	
Female	5	71%
Male	2	29%
SERVICE MAINTENANCE	25	
Female	9	36%
Male	16	64%
SKILLED CRAFT	9	
Female	7	78%
Male	2	22%
TECHNICIANS	4	
Female	3	75%
Male	1	25%

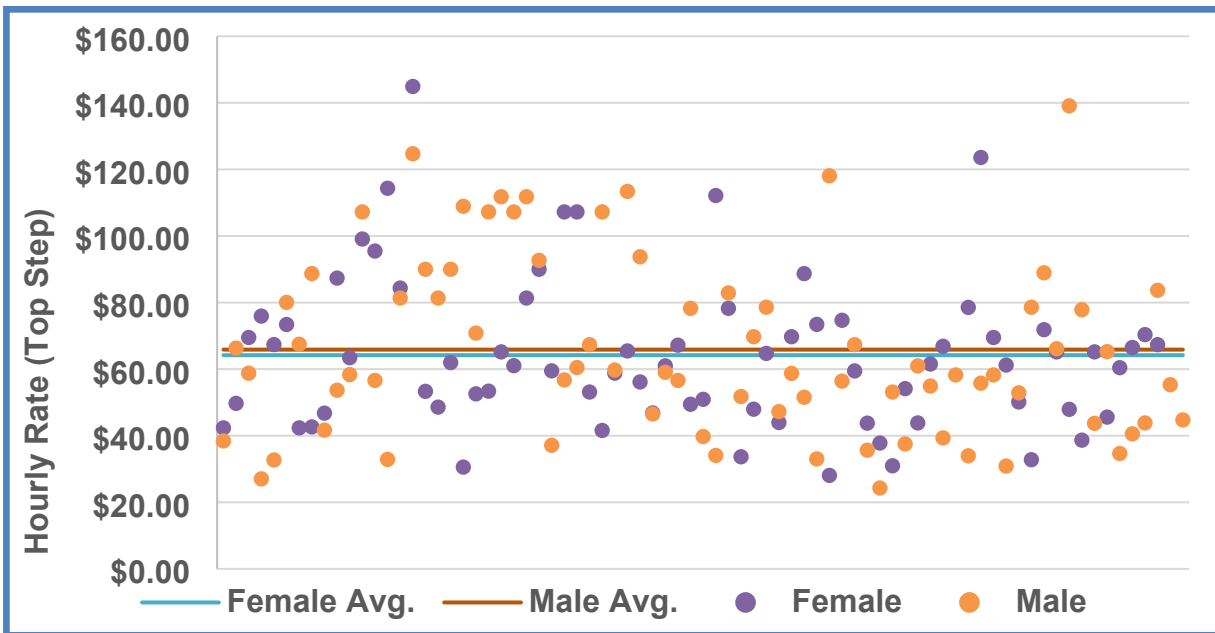
In response to questions raised at the City Council meeting about classifications occupied solely by men and women and concerns about comparable worth, City staff analyzed the top step pay for classifications in which only females reside and the classifications in which only males reside. The data used for this analysis is based on April 2019 employment data. Due to turnover and promotions, the composition of the workforce will change over time.

Summary of Results

Analysis of Classifications that Consist of Only One Female in Comparison to Classifications that Consist of Only One Male

There are 153 classifications that consist of only one female and only one male. Of the total, 49% are occupied by females and 51% are occupied by males. The chart below is a scatter diagram that depicts top step hourly salary for classifications occupied solely by females (purple dot) and top step hourly compensation for classifications occupied solely by males (orange dot). The average compensation for classifications occupied only by females and only by males is also depicted on the chart.

Figure A
Comparison of Top Step Hourly Salary for Classifications Consisting of Only One Female and Only One Male



1. For males, excludes to step salary for the Mayor.

The following table provides additional detail.

Table 1
Comparison of Top Step Hourly Salary for Classifications Consisting of Only One Female and Only One Male

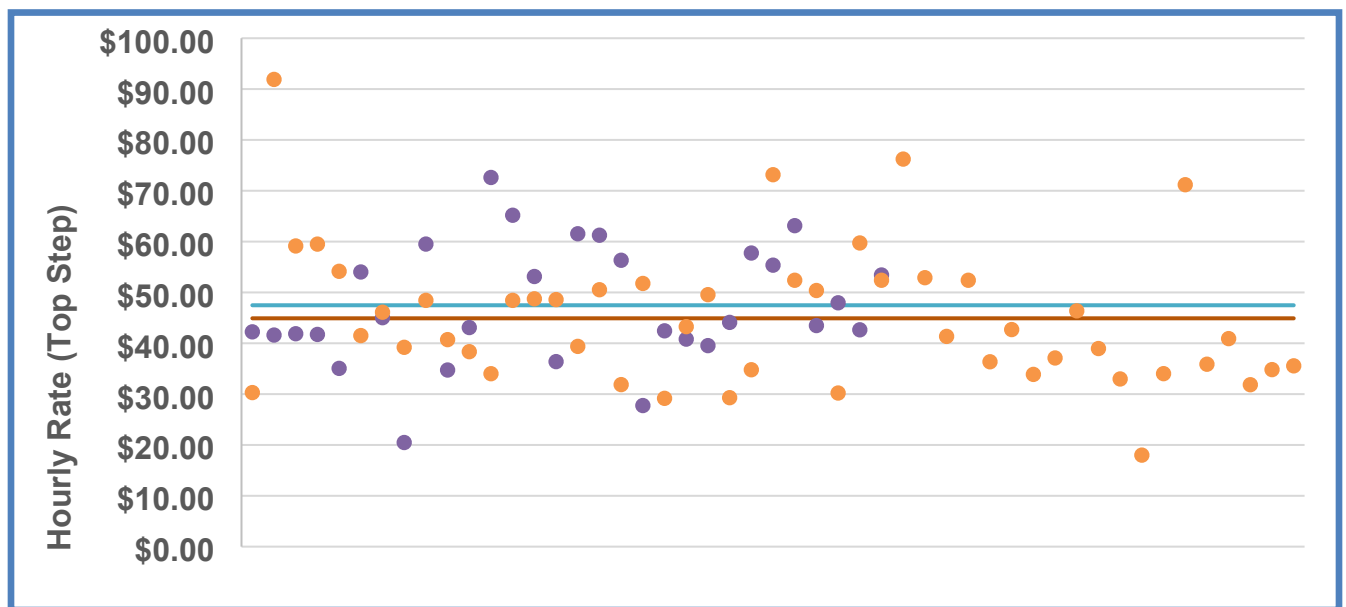
	Females	Males
Top Step Hourly Salary	\$64.19	\$65.87
Median Top Step Hourly Salary	\$61.39	\$58.78
Maximum Top Step Hourly Salary	\$144.92	\$139.10
Minimum Top Step Hourly Salary	\$28.08	\$24.30

As depicted in the table above, females are paid more than males across all statistical categories.

Analysis of Classifications that Consist of More than one Female in Comparison to Classifications that Consist of More than One Male

There are 79 classifications that consist of multiple employees that are either male or female. Of the total, 38% are occupied by females and 62% are occupied by males. The chart below is a scatter diagram that depicts top step hourly salary for classifications occupied solely by females (purple dot) and top step hourly compensation for classifications occupied solely by males (orange dot). The average compensation for classifications occupied by more than one female and more than one male is also depicted on the chart.

Figure B
Comparison of Top Step Hourly Salary for Classifications Consisting of More Than One Female and More Than One Male



2. For males, excludes to step salary for the Mayor.

The following table provides additional detail.

Table 2
Comparison of Top Step Hourly Salary for Classifications Consisting of More Than One Female and More Than One Male

	Females	Males
Average Top Step Hourly Salary	\$47.48	\$44.91
Median Top Step Hourly Salary	\$43.80	\$41.52
Maximum Top Step Hourly Salary	\$72.61	\$91.90
Minimum Top Step Hourly Salary	\$20.48	\$18.00

As depicted in the table above, females are paid more than males across all statistical categories, with the exception of the Maximum Top Step Salary.

This report does not include an analysis of the City's workforce promotional data as it was not part of the original data request. However, the bi-annual Equal Employment Opportunity Work Force Report provides the following promotional data by occupational categories.

Table 3
Promotional Frequency by Occupational Categories

Category	Females	% of Promotions	Males	% of Promotions	Total Promotions
Officials/Managers	1	100%	0	0%	1
Professionals	4	57%	3	43%	7
Clerical	2	33%	4	67%	6
Technicians	0	0%	3	100%	3
Skilled Craft	0	0%	1	100%	1
Maintenance	0	0%	8	100%	8
Non-Sworn Personnel	1	100%	0	0%	1

BACKGROUND

The City of Berkeley values equal employment opportunity such that all persons shall be afforded equal access to positions in the public service, limited only by their ability to do the job. Additionally, the City is committed to establishing and maintaining a diverse work force at all levels.

All personnel employment actions such as recruitment, hiring, placements, transfers, promotions, compensation, benefits, layoffs, returns from layoffs, family care leave, terminations, training, social and recreational programs are administered regardless of race, color, national origin, ancestry, religion, age, physical or mental disability or medical condition, sex, gender, gender identity, gender expression, sexual orientation, genetic

information, marital status, pregnancy, political affiliation, or veterans' status and abide by applicable laws. No City employee or applicant for employment shall be subjected to unlawful discrimination, retaliation or harassment because of their membership in or their association with any of the above listed statutory protected classifications. Any person subjected to conduct they believe violates the above principles should report it to the City's Equal Employment Opportunity (EEO), Diversity Officer, or the Human Resources Director.

In order to determine whether or not there are inequities in compensation between males and females, City staff analyzed the pay of males and females in existing classifications and reviewed new hire data for calendar year 2018.

ENVIRONMENT SUSTAINABILITY

There are no identifiable environmental effects or opportunities associated with the subject of this report.

CONTACT PERSON

LaTanya Bellow, Director, Human Resources Department, (510) 981-6800

Attachments: Listing of Classifications

Attachment: Listing of Classifications

Classifications with Only One Female	Classifications with Only One Male
1. ACCOUNTANT I	1. ACCOUNTING OFF SPEC III UNRP
2. ACCOUNTANT II	2. ADMIN & FISCAL SVS MGR UNREP
3. ANIMAL SERVICES MANAGER	3. ADMIN HEARING EXAMINER
4. ASSISTANT TO THE MAYOR	4. AQUATICS SPECIALIST II
5. ASSIST MANGR OF MH SERVICES	5. ASSISTANT AQUATICS COORD HRLY
6. AUDIT MANAGER	6. ASSISTANTBUILDG&SAFTYMGR
7. AUDITOR I	7. ASSOCIATE TRAFFIC ENGINEER
8. BEHAVIORAL HEALTH CLINCIN I H	8. BUILDING AND SAFETY MANAGER
9. BEHAVIORAL HEALTH CLINCIN II H	9. CAMP MANAGER
10. BUDGET MANAGER	10. CHIEF OF PARTY
11. BUILDING PLANS ENGINEER	11. CIRCULATION SERVICES MANAGER
12. CAMP MEDICAL STAFF MEMBER H	12. CITYCLERK
13. CAPITAL IMPROVEMENT PRGM MGR	13. CODE ENFORCEMENT SUPERVISOR
14. CITY ATTORNEY	14. CUSTOMER SERVICE SPEC II H
15. CITY AUDITOR	15. DEPUTY CITY AUDTR PAYRL MGMT
16. CITY MANAGER	16. DEPUTY CITY MANAGER
17. CIVIC ARTS COORDINATOR	17. DEPUTY DIRECTOR HHCS
18. CODE ENFORCEMENT OFFICER II	18. DEPUTY DIRECTOR LIBRARY SVCS
19. COMMUNICATIONS MANAGER	19. DEPUTY DIRECTOR PUB WRKS REG
20. COMMUNITY HEALTH WORKER	20. DEPUTY FIRE CHIEF
21. CRIME ANALYST	21. DEPUTY FIRE MARSHAL
22. CRIME SCENE SUPERVISOR	22. DIRECTOR OF FINANCE
23. CUSTOMER SERVICE MANAGER	23. DIRECTOR OF PARKS REC WTRFRT
24. DATA BASE ADMINISTRATOR	24. DIRECTOR OF PLANNING
25. DEPUTY CITY CLERK	25. DIRECTOR OF PUBLICWORKS
26. DEPUTYDIRECTORPARKS/REC/WF	26. ECONOMIC DEVELOP MANAGER
27. DIGITAL COMMUNICATIONS COORD	27. ELECTRICAL PARTS TECHNICIAN
28. DIRECTOR OF HUMAN RESOURCES	28. ENVIRONMENTAL HEALTH SUPV
29. DIRECTOR OF INFORMATION TECH	29. EQUAL EMPLOPP & DIV OFFCR
30. DISABILITY SERVICES SPEC	30. EQUIPMENT SUPERINTENDENT
31. DRAFTING TECHNICIAN	31. EXECUTIVE DIRECTOR RENT BOARD
32. EMPLOYMENT PROGRAMS ADMIN	32. FIRE & LIFE SAFETY PLNS EXMR
33. ENERGY PROGRAM MANAGER	33. FIRE CHIEF
34. ENVIRONMENTAL COMPLIANC SPEC	34. FIRE MARSHAL
35. EPIDEMIOLOGIST	35. FORESTRY CLIMBER SUPERVISOR
36. FIRE PREVENTION INSPC SWORN	36. HOMELESS SERVICES COORDINATOR
37. GENERALSERVICESMANAGER	37. HOUSING INSPECTOR SUPV
38. HAZARDOUS MAT SPECIALIST I	38. INFO SECURITY MANAGER
39. HEALTH NUTRITION PROG COORD	39. INFO SYSTEM SUPORT TECH UNRP
40. HEALTH OFFICER (CERT)	40. LANDSCAPE GARDENER HRLY
41. INFORMATION SYSTEMS MANAGER	41. LAND USE PLANNING MANAGER
42. JANITOR SUPERVISOR	42. LEAD COMMUNICATIONS TECHNICIAN
43. LEGAL OFFICE SUPERVISOR	43. MANAGER OF ENVIRONMENTL HLTH
44. LIBRARY INFO SYSTEMS ADMIN	44. MANAGER OF MENTAL HLTH SRVCS
45. LIBRARY LITERACY PROG COORD	45. MECHANIC LEAD
46. MANAGER OF AGING SERVICES	46. OCCUPATIONAL HLTH/SAFTY OFCR
47. MANAGER OF ENGINEERING	47. OCCUPATIONAL HLTH/SAFTY SPEC
48. MANAGER OF HSNNG & COMM SRVCS	48. OFFICE SPECIALIST II UNREP H
49. MEAL SITE COORDINATOR	49. POLICE CHIEF

Classifications with Only One Female	Classifications with Only One Male
50. MGR OF PUBLIC HEALTH SVCS	50. POLICE REVIEW COMISION INVST
51. MID-LEVELPRACTITIONER	51. PUBLIC WORKS MAINT SUPERDNT
52. NUTRITIONIST	52. RECORDS ASSISTANT
53. OFFICE SPECIALIST III UNREP	53. RESERVE POLICE OFFICER II HRLY
54. OFFICE SPECIALIST II M&C H	54. REVENUE DEVELOPMENT SPEC II
55. PARKING ENFORCEMENT MANAGER	55. ROSARIAN
56. PARKING METER MAINT COLL SUP	56. SENIOR ELECTRICAL SUPERVISOR
57. PARKING SERVICES MANAGER	57. SENIOR EQUIPMENT SUPERVISOR
58. PERMIT CENTER COORDINATOR	58. SENIOR FIELD REPRESENTATIVE
59. PHYSICIAN	59. SENIOR FORESTRY SUPERVISOR
60. POLICE REVIEW COMISION OFICR	60. SENIOR GROUNDSKEEPER
61. PSYCHIATRIST	61. SENIOR HEALTH MGMT ANALYST
62. RECREATION&YOUTH SVCS MGR	62. SENIOR LANDSCAPE GARDNR SUPV
63. RECYCLING PROGRAM MANAGER	63. SENIOR SERVICE ASSISTANT HRLY
64. REGISTERED NURSE HRLY	64. SENIOR SOLID WASTE SUPERVISR
65. REGISTERED VETERINARY TECH	65. SOLID WASTE RECYCLING MNGR
66. RESILIENT BLDGS PROGRAM MGR	66. STAFF ATTORNEYIII
67. REVENUE COLLECTION MANAGER	67. SUPERVISING BUILDING INSPCTR
68. SECRETARY TO CITY MANAGER	68. SUPERVISING PSYCHIATRIST
69. SENIOR ANIMAL CONTROL OFFCR	69. SUPERVISING TRAFFIC ENGINEER
70. SENIOR COMM DEVL P PROJ COORD	70. SURVEY TECHNICIAN
71. SENIORDRAFTINGTECHNICIAN	71. SYSTEMS ACCOUNTANT
72. STAFF ATTORNEY I	72. TOOL LENDING SPECIALIST HRLY
73. TRAINING OFFICER	73. TRAFFIC ENGINEERING ASSIST
74. TREASURY MANAGER	74. TRAFFIC MAINTENANCE SUPV
75. WATERFRONT MANAGER	75. TRANSPORTATION MANAGER
	76. WATERFRONT SUPERVISOR
	77. WELDER MECHANIC

Classifications with More Than One Female	Classifications with More Than One Male
<ol style="list-style-type: none"> 1. ACCOUNTING OFF SPEC SUP MC 2. ADMIN ASSISTANT MC 3. ADMIN ASSISTANT UNREP 4. ADMIN SECRETARY 5. ASSISTANT MENTAL HLTH CLINCN 6. ASSOCIATE MANGMTANLST UNREP 7. BEHAVIORAL HEALTH CLINCIN I 8. CASHIERATTENDANT HRLY 9. COMMUNITY SERVICES SPEC III 10. CUSTOMER SERVICE SPEC II 11. CUSTOMER SERVICES SUPERVISOR 12. DEPUTY CITY ATTORNEY II 13. ECONOMICDEVELOPPROJCOORD 14. EMERGENCYSERVICESCOORD 15. FIELDREPRESENTATIVE 16. LIBRARY SERVICES MANAGER 17. MENTAL HEALTH PROGRAM SUPV 18. MID-LEVEL PRACTITIONER HRLY 19. MINI BUS DRIVER HRLY 20. OFFICE SPECIALIST SUPV M&C 21. PARKING ENFORCEMENT SUPV 22. PLANNINGTECHNICIAN 23. PUBLIC SAFETY DISPATCHER II H 24. SENIOR ACCOUNTANT LCL 1 25. SENIOR HEALTH SERV PROG SPEC 26. SENIOR HUMAN RESOURCE ANLYST 27. SENIOR LEGAL SECRETARY 28. SENIOR LIBRARIAN 29. SENIOR PERMIT SPECIALIST 30. SUPERVISING PUBLIC SFTY DISP 	<ol style="list-style-type: none"> 1. ANIMAL SERVICES ASSISTANT 2. ASSISTANT FIRECHIEF 3. ASSISTANT TRAFFIC ENGINEER 4. BATTALION CHIEF 5. BUILDING INSPECTOR II(CERT) 6. BUILDING MAINT MECH 7. BUILDINGMAINTSUPV 8. CAMP MAINTENANCE MECHANIC HRLY 9. COMMUNICATIONS TECHNICIAN 10. CONCRETE FINISHER 11. CONSTRUCTION EQUIPMENT OPER 12. CONTAINERMAINTENANCEWELDER 13. ELECTRICIAN 14. FIRECAPTAIN I 15. FIRE PREVENTION INSPCNONS WN 16. FORESTRY CLIMBER 17. HOUSING INSPECTOR (CERT) 18. LABORER 19. LEAD ELECTRICIAN 20. MAIL SERVICES AIDE 21. MECHANIC 22. MECHANIC SUPERVISOR 23. MINIBUSDRIVER 24. PARKING METER MECHANIC 25. PUBLIC WORKS OPERATIONS MGR 26. PUBLIC WORKS SUPERVISOR 27. REGISTERED ENVIRONHLTH SPEC 28. SENIOR AQUATICS SPECIALIST HRL 29. SENIOR BUILDINGI NSPECTOR 30. SENIOR BUILDING MAINTSUPV 31. SENIOR BUILDING PLANS ENGR 32. SENIOR ENVIRONMNTL HLTH SPEC 33. SENIOR FORESTRY CLIMBER 34. SENIOR PUBLICWORKS SUPV 35. SERVICE TECHNICIAN 36. SEWERMAINTENANCEASSTSUPV 37. SKILLED LABORER 38. SOLID WASTE LOADER OPERATOR 39. SOLID WASTE SUPERVISOR 40. SOLIDWASTETRUCKDRIVER 41. SOLIDWASTEWORKER 42. SPORTS FIELD MONITOR HRLY 43. SPORTS OFFICIAL 44. STAFF ATTORNEY II 45. TOOL LENDING SPECIALIST 46. TRACTOR TRAILERDRIVER 47. TRAFFIC MAINTENANCE WORKR I 48. TRAFFIC MAINTENANCE WORKR II 49. WEIGH MASTER



Office of the City Manager

35

INFORMATION CALENDAR

December 3, 2019

To: Honorable Mayor and Members of the City Council

From: Dee Williams-Ridley, City Manager

Submitted by: Timothy Burroughs, Director, Planning and Development Department

Subject: LPO NOD: 1581 Le Roy/#LMSAP2019-0004

INTRODUCTION

The attached Landmarks Preservation Commission Notice of Decision (NOD) is presented to the Mayor and City Council pursuant to Berkeley Municipal Code/Landmarks Preservation Ordinance (BMC/LPO) Section 3.24.240.A, which requires that “a copy of the Notice of Decision shall be filed with the City Clerk, and the City Clerk shall present said copy to the City Council at its next regular meeting.”

CURRENT SITUATION AND ITS EFFECTS

The Landmark Preservation Commission (LPC/Commission) has approved a Structural Alteration Permit (SAP) for the subject City Landmark property. This action is subject to a 15-day appeal period, which began on November 18, 2019.

BACKGROUND

BMC/LPO Section 3.24.300 allows City Council to review any action of the Landmarks Preservation Commission in granting or denying a Structural Alteration Permit. In order for Council to review the decision on its merits, Council must appeal the Notice of Decision. To do so, a Council member must move this Information Item to Action and then move to set the matter for hearing on its own. Such action must be taken within 15 days of the mailing of the Notice of Decision, or by December 3, 2019. Such certification to Council shall stay all proceedings in the same manner as the filing of an appeal.

If the Council chooses to appeal the action of the Commission, then a public hearing will be set. The Council must rule on the application within 30 days of closing the hearing, otherwise the decision of the Commission is automatically deemed affirmed.

Unless the Council wishes to review the determination of the Commission and make its own decision, the attached NOD is deemed received and filed.

ENVIRONMENTAL SUSTAINABILITY

Landmark designation provides opportunities for the adaptive re-use and rehabilitation of historic resources within the City. The rehabilitation of these resources, rather than their removal, achieves construction and demolition waste diversion, and promotes investment in existing urban centers.

POSSIBLE FUTURE ACTION

The Council may choose to appeal the decision, in which case it would conduct a public hearing at a future date.

FISCAL IMPACTS OF POSSIBLE FUTURE ACTION

There are no known fiscal impacts associated with this action.

CONTACT PERSON

Fatema Crane, Landmarks Preservation Commission Secretary, Planning and Development, 510-981-7410

Attachments:

1: Notice of Decision – #LMSAP2019-0004 for 1581 Le Roy Avenue



L A N D M A R K S
P R E S E R V A T I O N
C O M M I S S I O N
NOTICE OF DECISION

DATE OF BOARD DECISION: August 1, 2019
DATE NOTICE MAILED: November 18, 2019
APPEAL PERIOD EXPIRATION: December 3, 2019
EFFECTIVE DATE OF PERMIT (Barring Appeal or Certification): December 4, 2019¹

1581 Le Roy Avenue The Hillside School

Structural Alteration Permit #LMSAP2019-0004 to make exterior alterations to a City Landmark school building and site in order to convert the property to residential use; changes include installation of a vehicle door, new windows, a rooftop swimming pool and hot tub, a surface parking lot, five new storage sheds, perimeter fences and landscape improvements.

The Landmarks Preservation Commission of the City of Berkeley, **APPROVED** the Structural Alteration Permit for this project.

APPLICANT: Brad Gunkel, Gunkel Architecture, 2295 San Pablo Avenue, Berkeley, CA 94702

ZONING DISTRICT: C-DMU Core, Downtown Mixed-Use Core

ENVIRONMENTAL REVIEW STATUS: Categorically exempt from environmental review pursuant to Section 15331 of the CEQA Guidelines for Historical Resource Rehabilitation.

The Application materials for this project are available online at:

<http://www.cityofberkeley.info/zoningapplications>

FINDINGS, CONDITIONS AND APPROVED PLANS ARE ATTACHED TO THIS NOTICE

¹ Pursuant to BMC Section 1.04.070, if the close of the appeal period falls on a weekend or holiday, then the appeal period expires the following business day. Pursuant to BMC Section 3.24.190, the City Council may "certify" any decision of the LPC for review, within fifteen days from the mailing of the NOD. Such certification shall stay all proceedings in the same manner as the filing of a notice of appeal.

LANDMARKS PRESERVATION COMMISSION
NOTICE OF DECISION
LMSAP2019-0004
1581 Le Roy Avenue
November 18, 2019
Page 2 of 4

COMMISSION VOTE: 5-3-0-0 (one vacancy)

YES: ABRANCHES DA SILVA, ALLEN, CHAGNON, CRANDALL, OLSON

NO: FINACOM, O'MALLEY, SCHWARTZ

ABSTAIN: NONE

ABSENT: NONE

TO APPEAL THIS DECISION (see Section 3.24.300 of the Berkeley Municipal Code):

To appeal a decision of the Landmarks Preservation Commission to the City Council you must:

1. Submit a letter clearly and concisely setting forth the grounds for the appeal to the City Clerk, located at 2180 Milvia Street, 1st Floor, Berkeley. The City Clerk's telephone number is (510) 981-6900.
 - a. Pursuant to BMC Section 3.24.300.A, an appeal may be taken to the City Council by the application of the owners of the property or their authorized agents, or by the application of at least fifty residents of the City aggrieved or affected by any determination of the commission made under the provisions of Chapter 3.24.
2. Submit the required fee (checks and money orders must be payable to 'City of Berkeley'):
 - a. The basic fee for persons other than the applicant is \$500. This fee may be reduced to \$100 if the appeal is signed by persons who lease or own at least 50 percent of the parcels or dwelling units within 300 feet of the project site, or at least 25 such persons (not including dependent children), whichever is less. Signatures collected per the filing requirement in BMC Section 3.24.300.A may be counted towards qualifying for the reduced fee, so long as the signers are qualified. The individual filing the appeal must clearly denote which signatures are to be counted towards qualifying for the reduced fee.
 - b. The fee for appeals of affordable housing projects (defined as projects which provide 50 percent or more affordable units for households earning 80% or less of Area Median Income) is \$500, which may not be reduced.
 - c. The fee for all appeals by Applicants is \$2500.
3. The appeal must be received prior to 5:00 p.m. on the "APPEAL PERIOD EXPIRATION" date shown above (if the close of the appeal period falls on a weekend or holiday, then the appeal period expires the following business day).

If no appeal is received, the landmark designation will be final on the first business day following expiration of the appeal period.

STRUCTURAL ALTERATION PERMIT ISSUANCE:

If no appeal is received, the Structural Alteration permit will be issued on the first business day following expiration of the appeal period, and the project may proceed at that time. Information about the Building Permit process can be found at the following link:

LANDMARKS PRESERVATION COMMISSION
NOTICE OF DECISION
LMSAP2019-0004
1581 Le Roy Avenue
November 18, 2019
Page 3 of 4
<http://www.ci.berkeley.ca.us/permitservicecenter/>.

NOTICE CONCERNING YOUR LEGAL RIGHTS:

If you object to this decision, the following requirements and restrictions apply:

1. If you challenge this decision in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the Landmarks Preservation Commission at, or prior to, the public hearing.
2. You must appeal to the City Council within fifteen (15) days after the Notice of Decision of the action of the Landmarks Preservation Commission is mailed. It is your obligation to notify the Land Use Planning Division in writing of your desire to receive a Notice of Decision when it is completed.
3. Pursuant to Code of Civil Procedure Section 1094.6(b) and Government Code Section 65009(c)(1), no lawsuit challenging a City Council decision, as defined by Code of Civil Procedure Section 1094.6(e), regarding a use permit, variance or other permit may be filed more than ninety (90) days after the date the decision becomes final, as defined in Code of Civil Procedure Section 1094.6(b). Any lawsuit not filed within that ninety (90) day period will be barred.
4. Pursuant to Government Code Section 66020(d)(1), notice is hereby given to the applicant that the 90-day protest period for any fees, dedications, reservations, or other exactions included in any permit approval begins upon final action by the City, and that any challenge must be filed within this 90-day period.
5. If you believe that this decision or any condition attached to it denies you any reasonable economic use of the subject property, was not sufficiently related to a legitimate public purpose, was not sufficiently proportional to any impact of the project, or for any other reason constitutes a "taking" of property for public use without just compensation under the California or United States Constitutions, your appeal of this decision must including the following information:
 - A. That this belief is a basis of your appeal.
 - B. Why you believe that the decision or condition constitutes a "taking" of property as set forth above.
 - C. All evidence and argument in support of your belief that the decision or condition constitutes a "taking" as set forth above.

If you do not do so, you will waive any legal right to claim that your property has been taken, both before the City Council and in court.

LANDMARKS PRESERVATION COMMISSION
NOTICE OF DECISION
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1581 Le Roy Avenue
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PUBLIC COMMENT:

Communications to Berkeley boards, commissions or committees are public record and will become part of the City’s electronic records, which are accessible through the City’s website. **Please note: e-mail addresses, names, addresses, and other contact information are not required, but if included in any communication to a City board, commission or committee, will become part of the public record.** If you do not want your e-mail address or any other contact information to be made public, you may deliver communications via U.S. Postal Service or in person to the secretary of the relevant board, commission or committee. If you do not want your contact information included in the public record, please do not include that information in your communication. Please contact the secretary to the relevant board, commission or committee for further information.

FURTHER INFORMATION:

Questions about the project should be directed to the project planner, Fatema Crane, at (510) 981-7410 or fcrane@cityofberkeley.info. All project application materials, including full-size plans, may be viewed at the Permit Service Center (Zoning counter), 1947 Center Street, between 8 a.m. and 4 p.m., Monday through Friday.

ATTACHMENTS:

- 1. Approved Findings and Conditions
- 2. Project Plans, received **JULY 24, 2019**



ATTEST:
Fatema Crane, Secretary
Landmarks Preservation Commission

cc: City Clerk

Applicant: Jerri Holan, AIA
Holan & Associates
1323 Solano Avenue, #204
Albany, CA 94706

Owner: Samuli Seppälä
1581 Le Roy Avenue
Berkeley, CA 94708

Interested Party: Rebecca L. Davis
Lozeau Drury LLP
1939 Harrison Street, Suite 150
Oakland, CA 94612

FINDINGS AND CONDITIONS

1581 Le Roy Avenue – The Hillside School

Structural Alteration Permit #LMSAP2019-0004

To make exterior alterations to a City Landmark school building and site in order to convert them to residential use; changes include installation of a vehicle door, new windows, a rooftop swimming pool and hot tub, a surface parking lot, five storage sheds, perimeter fences and landscape improvements.

CEQA FINDINGS

1. The project is categorically exempt from the provisions of the California Environmental Quality Act (CEQA, Public Resources Code §21000, et seq. and California Code of Regulations, §15000, et seq.) pursuant to Section 153331 of the CEQA Guidelines (“Historic Resource Restoration/Rehabilitation”). Furthermore, none of the exceptions in CEQA Guidelines Section 15300.2 apply, as follows: (a) the site is not located in an environmentally sensitive area, (b) there are no cumulative impacts, (c) there are no significant effects, (d) the project is not located near a scenic highway, (e) the project site is not located on a hazardous waste site pursuant to Government Code Section 65962.5, and (f) the project will not affect any historical resource.

SECRETARY OF THE INTERIOR’S STANDARDS FINDINGS

Regarding the Secretary of the Interior’s Standards for Rehabilitation, the Landmarks Preservation Commission of the City of Berkeley makes the following findings:

1. The property and subject portion of the building be given a new residential use and proposed exterior changes will result in limited alterations to the historic building and overall site.
2. Because the proposed exterior changes to this site are limited and expected to have a limited overall effect on the character of the site, as described above, this property will retain its historic character as perceived through its building and site design.
3. The Hillside School will continue to be recognized as a physical record of Berkeley’s primary school and neighborhood development, where this site is the focal point of the immediate area. The building will retain its appearance, Tudor Revival style, location and relation to its surroundings.
4. No changes to a property that have acquired historic significance in their own right are the subject of this request.

5. The distinctive materials and features of this Tudor Revival building – such as its half-timber details and decorative architectural details – will not be affected by this request for exterior alterations and, therefore, will be preserved.
6. As conditioned herein, all repair and replacement work related to character-defining features of this building and site shall be designed to match the historic style, color, texture and, where possible, materials.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials are prohibited by the Conditions herein.
8. Because limited excavation will be required for the proposed alterations of this building and site, any existing archeological resources at this site will be unaffected by this proposal. Subsequent Use Permit approval of this project would include the City's standards conditions upon the discovery of any subsurface resources.
9. The proposed project is not expected to result in the destruction of historic fabric, materials, features or spatial relationships at this Landmark site. Certain new work – such as installation of a roof deck, swimming pool and hot tub – would occur on a portion of the building that is not historically significant, in and of itself. All other new work is limited in size and scale and, the thereby, will be compatible with the current conditions of this Landmark site.
10. The work proposed with this project will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment will be unimpaired.

LANDMARK PRESERVATION ORDINANCE FINDINGS

1. As required by Section 3.24.260 of the Landmarks Preservation Ordinance, the Commission finds that proposed work is appropriate for and consistent with the purposes of the Ordinance, and will preserve and enhance the characteristics and features specified in the designation for this property. Specifically:
 - The proposed building alterations are designed to either restore character-defining features, such as windows and doors, or replicate and compliment these details with new windows and doors, including a new garage door on the rear of the building. The Art Park and parking lot will be effectively screened by the existing chain link fence as well as with new, organic vegetative plantings to ensure continuity with the residential surroundings and the maintenance of the open character of the former school playground.
 - The proposal to legalize installation of the existing chain link fence is reasonable because the approximate height of 10 feet is effective for securing the site, and the design and materials maintain a visually open interface with the public-of-way. As conditioned herein, new plantings will screen the fence as well as the proposed parking lot and Art Park activities.
 - The new elevator penthouse will be located at the rear of the building, not readily visible from the right-of-way, and could be removed without significant impact to the historic

building and its character-defining features.

- The new, sloped driveway will be located on the rear of the building, the historic service area, and will not be readily visible from the public right-of-way.
- The new swimming pool and hot tub will be installed on the roof of the 1963 building addition, thereby avoiding impacts to the historically significant portions of the building.
- The proposed storage sheds will be limited by Condition #14 herein to a total of five and, therefore, will not result in the proliferations of accessory structures of inferior quality and design in the front yard area.

STANDARD CONDITIONS

The following conditions, as well as all other applicable provisions of the Landmarks Preservation Ordinance, apply to this Permit:

1. Conditions Shall be Printed on Plans

The conditions of this Permit shall be printed on the *second* sheet of each plan set submitted for a building permit pursuant to this Permit, under the title 'Structural Alteration Permit Conditions'. *Additional sheets* may also be used if the *second* sheet is not of sufficient size to list all of the conditions. The sheet(s) containing the conditions shall be of the same size as those sheets containing the construction drawings; 8-1/2" by 11" sheets are not acceptable.

2. Plans and Representations Become Conditions

Except as specified herein, the site plan, floor plans, building elevations and/or any additional information or representations, whether oral or written, indicating the proposed structure or manner of operation submitted with an application or during the approval process are deemed conditions of approval.

3. Subject to All Applicable Laws and Regulations

The approved use and/or construction is subject to, and shall comply with, all applicable City Ordinances and laws and regulations of other governmental agencies. Prior to construction, the applicant shall identify and secure all applicable permits from the Building and Safety Division, Public Works Department and other affected City divisions and departments.

4. Exercise and Lapse of Permits (Section 23B.56.100)

- B. A permit for the construction of a building or structure is deemed exercised when a valid City building permit, if required, is issued, and construction has lawfully commenced.
- A. A permit may be declared lapsed and of no further force and effect if it is not exercised within one year of its issuance, except that permits for construction or alteration of structures or buildings may not be declared lapsed if the permittee has:
 - (1) applied for a building permit; or, (2) made substantial good faith efforts to obtain a building permit and begin construction, even if a building permit has not been issued and/or construction has not begun.

5. Indemnification Agreement

The applicant shall hold the City of Berkeley and its officers harmless in the event of any legal action related to the granting of this Permit, shall cooperate with the City in defense of such action, and shall indemnify the City for any award of damages or attorneys fees that may result.

ADDITIONAL CONDITIONS

The following additional conditions are attached to this Permit:

6. **Use Permit approval.** This Structural Alteration Permit is contingent upon Use Permit approval for this project.
7. **Repair and replacement of character-defining features.** Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old or historic feature in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
8. **Chemical Treatments.** Any chemical treatments needed as construction progresses will be undertaken using the gentlest means possible.
9. **Roof equipment.** Any above ground or roof equipment, such as transformer(s), utilities, fire apparatus, air conditioning units, compressors, etc. shall be shown to scale on the architectural drawings of the building permit set of drawings in both plan and elevation, in order to determine if additional screening and design review may be required.
10. **Clear glass.** All glass is assumed to be clear glass. Any proposed glass that is not clear glass shall be indicated on all drawings, and shall be reviewed for approval by historic preservation staff, prior to approval of any building permit for this project.
11. **Exterior Lighting.** Exterior lighting, including for signage, shall be downcast and not cause glare on the public right-of-way and adjacent parcels.
12. **Landscape Plan.** Prior to approval of any building permit for this project, the proposed landscape improvements shall be revised to include new plantings to screen – or to supplement existing plantings – on both the north *and* south sides of the former playground area. Further, the landscape plan may be modified as needed to ensure compliance with zoning criterion for open space pavement.
13. **Irrigated, water efficient landscape.** New areas of landscape shall provide irrigation. This shall be called out on Landscape building permit drawings. The property owner shall maintain automatic irrigation and drainage facilities adequate to assure healthy growing conditions for all required planting and landscape. The landscape shall be drought-tolerant and achieve maximum water efficiency.
14. **Storage sheds within the front yard area.** The storage sheds shall be limited to not more than five total and to their proposed height, floor area and locations. Prior to issuance of any building permit for this project, the Commission shall appoint a Subcommittee to approval the final design of the storage sheds.
15. **Curb cuts.** All curbs and curb cuts shall be constructed per the standards and specifications of the Public Works Department. Curb cuts no longer utilized shall be restored per the Public Works Department specifications.

16. **Woodland maintenance.** The property owner shall establish and maintain a plan for maintenance and enhancement of the rustic woodland, which shall include a dripline protection zone wherein no structures has been place or items shall be stored.
17. **New surface parking lot.** Prior to issuance of any building permit for this project, the applicant shall re-design new parking area to further reduce visual impact to the playground area.
18. **Woodland maintenance.** The property owner shall establish and maintain a plan for maintenance and enhancement of the rustic woodland, which shall include a dripline protection zone wherein no structures has been place or items shall be stored.
19. At all times, the property owner shall preserve the existing pathways.



EXISTING WEST ELEVATIONS, 2019

PARCEL CONDITIONS:

- 1) Building is on the National Register of Historic Places and is a City Landmark;
- 2) Building is in the Fault Zone;
- 3) Building is in the Landslide Zone;
- 4) Building is not in a Creek Zone.

SCOPE OF ALTERATION WORK (NO SQUARE FOOTAGE BEING ADDED):

- 1) CHANGE OF OCCUPANCY FROM EDUCATIONAL TO SINGLE-FAMILY RESIDENTIAL WITH ADU;
- 2) REPLACE & RESTORE MISCELLANEOUS DOORS, WINDOWS & SIDELIGHTS;
- 3) RESTORE DAMAGED 3-STORY SOUTH WALL & REPLACE FOUNDATION;
- 4) RESTORE SOUTH TERRACE, ADD WING WALLS AND BRICK STAIRS SIMILAR TO ORIGINAL TERRACE.
- 5) CONVERT KITCHEN TO GARAGE AND ADD NEW CONCRETE DRIVEWAY AND RETAINING WALLS;
- 6) ADD ELEVATOR;
- 7) ADD BATHROOMS TO SECOND FLOOR;
- 8) REMODEL THIRD FLOOR AND ADD REAR DECK WITH STUCCO GUARD RAILS, POOL AND HOT TUB;
- 9) REPLACE ELECTRICAL AND MECHANICAL SYSTEMS;
- 10) ADD SOLAR PANELS;
- 11) ADD NEW FENCING;
- 12) ADD NEW PARKING AREA 2.

SECRETARY OF THE INTERIOR STANDARDS FOR REHABILITATING HISTORIC BUILDINGS:

As a property on the National Register of Historic Properties, the following Standards shall be followed:

- Standard 1** - A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.
- Standard 2** - The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
- Standard 3** - Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties will not be undertaken.
- Standard 4** - Changes to a property that have acquired historic significance in their own right will be retained and preserved.
- Standard 5** - Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
- Standard 6** - Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
- Standard 7** - Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
- Standard 8** - Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
- Standard 9** - New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale, and proportion and massing to protect the integrity of the property and its environment.
- Standard 10** - New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

2016 CALIFORNIA HISTORICAL BUILDING CODE (CHBC) NOTES:

As a qualified historic building, the application of the following provisions of the CHBC apply:

SECTION 8-102.1.6 - Qualified buildings shall not be subject to additional work required by the regular code beyond that required to complete the work undertaken.

SECTION 8-901.5 - Qualified buildings are exempted from compliance with energy conservation standards.

PLANNING, ZONING, & BUILDING INFORMATION:

APN: 058-2245-009-03 Fire Zone 2

Zoning: R-1H Existing Educational Building Occupancy (E) is converting to Single-family Residential Occupancy (R-3)

Three-story, Type VB Construction, Fully Sprinklered

Lot Size: 117,546 sf Footprint Size: 25,695 sf

First Floor Size: 25,695 sf
Second Floor Size: 21,562 sf
Third Floor Size: 3,045 sf

TOTAL SIZE 50,302 SF



Project Address: 1581 Le Roy Avenue Date: Feb. 20, 2019
Applicant's Name: Jerri Holan & Associates
Zoning District: R-1H

Please print in ink the following numerical information for your Administrative Use Permit, Use Permit, or Variance application:

	Existing	Proposed	Permitted/Required
Units, Parking Spaces & Bedrooms			
Number of Dwelling Units (#)	0	2	2
Number of Parking Spaces (#)	9	27	1
Number of Bedrooms (#) (R-1, R-1A, R-2, R-2A, and R-3 only)	0	5	0
Yards and Height			
Front Yard Setback (Feet)	10-20	10-20	20
Side Yard Setbacks (facing property)			
Left: (Feet)	25	25	4
Right: (Feet)	25	25	4
Rear Yard Setback (Feet)	15-40	15-40	20
Building Height* (# Stories)	3	3	3
Average* (Feet)	35	35	35
Maximum* (Feet)	50	50	35
Areas			
Lot Area (Square-Foot)	117,546	117,546	5,000
Gross Floor Area* (Square-Foot)	50,302	50,302	N/A
Total Area Covered by All Floors (Square-Foot)	25,695	25,695	N/A
Lot Coverage* (Footprint/Lot Area) (%)	22	22	40
Useable Open Space* (Square-Foot)	91,851	91,851	800
Floor Area Ratio Non-Residential only (Except ES-R)			

*See Definitions - Zoning Ordinance Title 23F. Revised: 06/15



1
T-1 VICINITY MAP

APPROX. SCALE: 1" = 100'

DRAWING INDEX

- T-1 TITLE SHEET
- A-1 SITE & ROOF PLAN
- SY-1 SURVEY
- A-2 FIRST & SECOND FLOOR PLANS
- A-3 THIRD FLOOR PLANS & BUILDING SECTION
- A-4 PARTIAL ELEVATIONS & DETAILS
- A-5 ENERGY FORMS & FLASHING DETAILS



JERRI HOLAN & ASSOCIATES
ARCHITECT • ENGINEERS • PLANNERS
1323 Solano Avenue, Suite 204, Albany, CA 94706
www.holanarchitects.com 510.528.1079

Rehabilitation & Remodel of
Hillside School
for
SAMULI SEPPÄLÄ
1581 Le Roy Avenue
Berkeley, CA

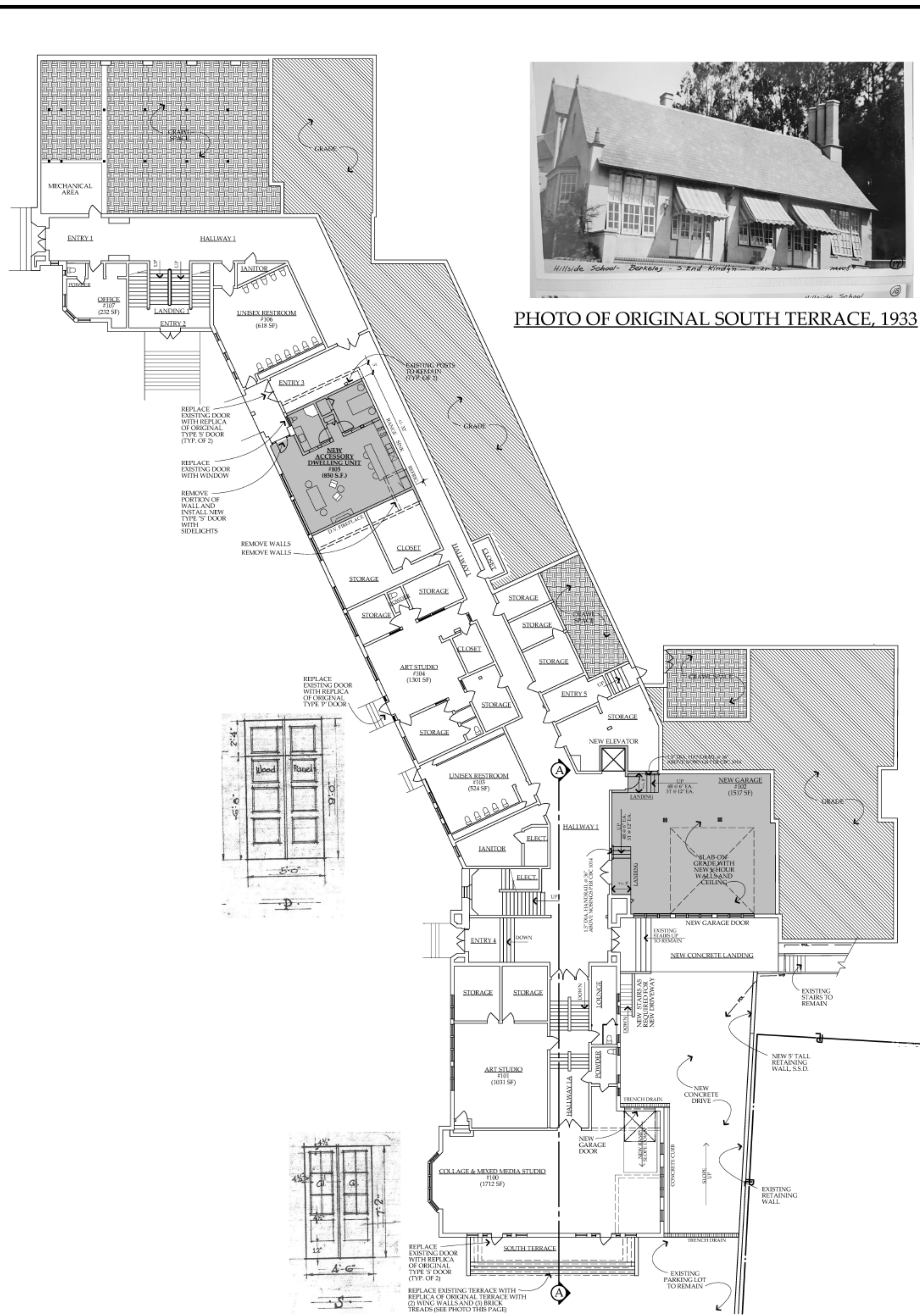
Revisions:
May 20, 2019 - Supplemental Submittal Set for Permit
July 2, 2019 - Supplemental Submittal Set for Permit

Issue Date:
April 3, 2019 - Submittal Set for Permit
April 3, 2019 - Submittal Set for Supplemental Alteration Permit & Design Review

TITLE SHEET
SHEET
T-1
of 6

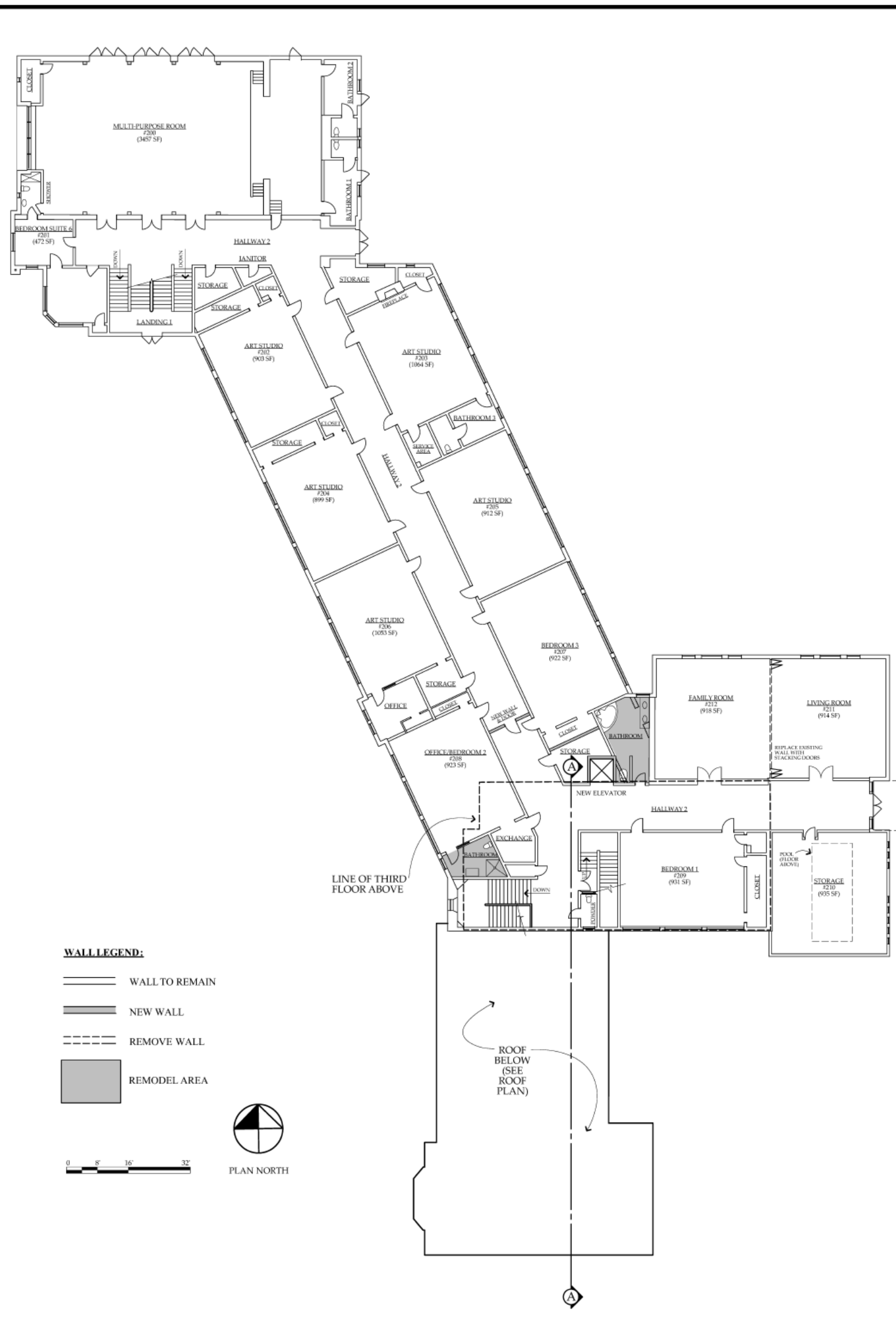


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1 FIRST FLOOR PLAN

SCALE: 1/16" = 1'-0"



2 SECOND FLOOR PLAN

MARCH 15, 2019 - PROGRESS SET FOR NEIGHBORS
FEB. 25, 2019 - PROGRESS SET FOR NEIGHBORS
SCALE: 1/16" = 1'-0"

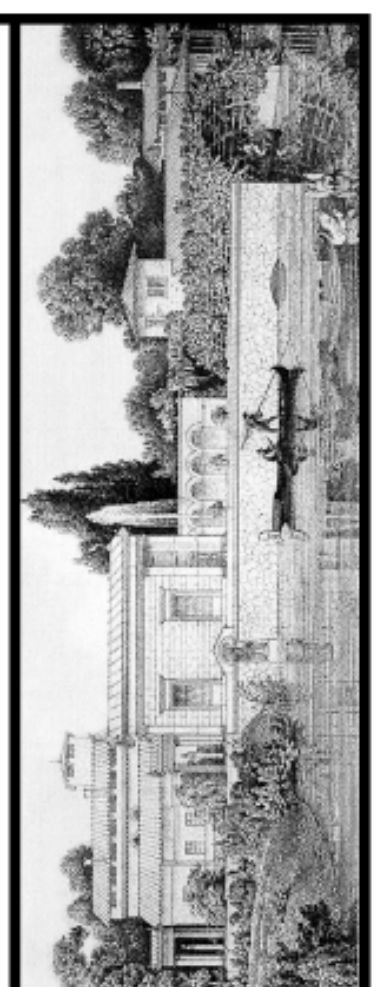


PHOTO OF ORIGINAL SOUTH TERRACE, 1933

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Revisions:
May 20, 2019 - Supplemental Submittals for Use Permit
July 25, 2019 - Supplemental Submittals for Use Permit
Issued Date:
April 1, 2019 - Submittal for Use Permit
April 1, 2019 - Submittal for Structural Alteration Permit & Design Review

FIRST & SECOND FLOOR PLANS

SHEET

A-2

of 6





Office of the City Manager

INFORMATION CALENDAR

December 3, 2019

To: Honorable Mayor and Members of the City Council

From: Dee Williams-Ridley, City Manager

Submitted by: Timothy Burroughs, Director, Planning and Development Department

Subject: LPO NOD: 2234 Haste Street/#LMSAP2016-0002

INTRODUCTION

The attached Landmarks Preservation Commission Notice of Decision (NOD) is presented to the Mayor and City Council pursuant to Berkeley Municipal Code/Landmarks Preservation Ordinance (BMC/LPO) Section 3.24.240.A, which requires that “a copy of the Notice of Decision shall be filed with the City Clerk, and the City Clerk shall present said copy to the City Council at its next regular meeting.”

CURRENT SITUATION AND ITS EFFECTS

The Landmark Preservation Commission (LPC/Commission) has approved a Structural Alteration Permit (SAP) for the subject City Landmark property. This action is subject to a 15-day appeal period, which began on November 18, 2019.

BACKGROUND

BMC/LPO Section 3.24.300 allows City Council to review any action of the Landmarks Preservation Commission in granting or denying a Structural Alteration Permit. In order for Council to review the decision on its merits, Council must appeal the Notice of Decision. To do so, a Council member must move this Information Item to Action and then move to set the matter for hearing on its own. Such action must be taken within 15 days of the mailing of the Notice of Decision, or by December 3, 2019. Such certification to Council shall stay all proceedings in the same manner as the filing of an appeal.

If the Council chooses to appeal the action of the Commission, then a public hearing will be set. The Council must rule on the application within 30 days of closing the hearing, otherwise the decision of the Commission is automatically deemed affirmed.

Unless the Council wishes to review the determination of the Commission and make its own decision, the attached NOD is deemed received and filed.

ENVIRONMENTAL SUSTAINABILITY

Landmark designation provides opportunities for the adaptive re-use and rehabilitation of historic resources within the City. The rehabilitation of these resources, rather than their removal, achieves construction and demolition waste diversion, and promotes investment in existing urban centers.

POSSIBLE FUTURE ACTION

The Council may choose to appeal the decision, in which case it would conduct a public hearing at a future date.

FISCAL IMPACTS OF POSSIBLE FUTURE ACTION

There are no known fiscal impacts associated with this action.

CONTACT PERSON

Fatema Crane, Landmarks Preservation Commission Secretary, Planning and Development, 510-981-7410

Attachments:

1: Notice of Decision – #LMSAP2016-0002 for 2234 Haste Street



L A N D M A R K S
P R E S E R V A T I O N
C O M M I S S I O N

N O T I C E O F D E C I S I O N

DATE OF BOARD DECISION: October 3, 2019
DATE NOTICE MAILED: November 18, 2019
APPEAL PERIOD EXPIRATION: December 3, 2019
EFFECTIVE DATE OF PERMIT (Barring Appeal or Certification): December 4, 2019¹

2234 Haste Street Brower Houses & David Brower Redwood

Structural Alteration Permit #LMSAP2016-0002 to replace the building foundation, to introduce new windows and light wells at the basement level, and to modify an existing, projecting deck on an upper story of a multi-unit residential City Landmark building.

The Landmarks Preservation Commission of the City of Berkeley, **APPROVED** the Structural Alteration Permit for this project.

APPLICANT: William Coburn, 1224 Center Street, Oakland, CA 94607

ZONING DISTRICT: C-DMU Core, Downtown Mixed-Use Core

ENVIRONMENTAL REVIEW STATUS: Categorically exempt from environmental review pursuant to Section 15331 of the CEQA Guidelines for Historical Resource Rehabilitation.

The Application materials for this project are available online at:
<http://www.cityofberkeley.info/zoningapplications>

¹ Pursuant to BMC Section 1.04.070, if the close of the appeal period falls on a weekend or holiday, then the appeal period expires the following business day. Pursuant to BMC Section 3.24.190, the City Council may “certify” any decision of the LPC for review, within fifteen days from the mailing of the NOD. Such certification shall stay all proceedings in the same manner as the filing of a notice of appeal.

LANDMARKS PRESERVATION COMMISSION
NOTICE OF DECISION
LMSAP2016-0002
2234 Haste Street
November 18, 2019
Page 2 of 4

FINDINGS, CONDITIONS AND APPROVED PLANS ARE ATTACHED TO THIS NOTICE

COMMISSION VOTE: 5-2-0-2

YES: ADAMS, ALLEN, NARAHARI, OLSON, SCHWARTZ

NO: ABRANCHES DA SILVA, MONTGOMERY

ABSTAIN: NONE

ABSENT: ENCHILL (recused), FINACOM

TO APPEAL THIS DECISION (see Section 3.24.300 of the Berkeley Municipal Code):

To appeal a decision of the Landmarks Preservation Commission to the City Council you must:

1. Submit a letter clearly and concisely setting forth the grounds for the appeal to the City Clerk, located at 2180 Milvia Street, 1st Floor, Berkeley. The City Clerk's telephone number is (510) 981-6900.
 - a. Pursuant to BMC Section 3.24.300.A, an appeal may be taken to the City Council by the application of the owners of the property or their authorized agents, or by the application of at least fifty residents of the City aggrieved or affected by any determination of the commission made under the provisions of Chapter 3.24.
2. Submit the required fee (checks and money orders must be payable to 'City of Berkeley'):
 - a. The basic fee for persons other than the applicant is \$500. This fee may be reduced to \$100 if the appeal is signed by persons who lease or own at least 50 percent of the parcels or dwelling units within 300 feet of the project site, or at least 25 such persons (not including dependent children), whichever is less. Signatures collected per the filing requirement in BMC Section 3.24.300.A may be counted towards qualifying for the reduced fee, so long as the signers are qualified. The individual filing the appeal must clearly denote which signatures are to be counted towards qualifying for the reduced fee.
 - b. The fee for appeals of affordable housing projects (defined as projects which provide 50 percent or more affordable units for households earning 80% or less of Area Median Income) is \$500, which may not be reduced.
 - c. The fee for all appeals by Applicants is \$2500.
3. The appeal must be received prior to 5:00 p.m. on the "APPEAL PERIOD EXPIRATION" date shown above (if the close of the appeal period falls on a weekend or holiday, then the appeal period expires the following business day).

If no appeal is received, the landmark designation will be final on the first business day following expiration of the appeal period.

LANDMARKS PRESERVATION COMMISSION
NOTICE OF DECISION
LMSAP2016-0002
2234 Haste Street
November 18, 2019
Page 3 of 4

STRUCTURAL ALTERATION PERMIT ISSUANCE:

If no appeal is received, the Structural Alteration permit will be issued on the first business day following expiration of the appeal period, and the project may proceed at that time. Information about the Building Permit process can be found at the following link:

<http://www.ci.berkeley.ca.us/permitservicecenter/>.

NOTICE CONCERNING YOUR LEGAL RIGHTS:

If you object to this decision, the following requirements and restrictions apply:

1. If you challenge this decision in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the Landmarks Preservation Commission at, or prior to, the public hearing.
2. You must appeal to the City Council within fifteen (15) days after the Notice of Decision of the action of the Landmarks Preservation Commission is mailed. It is your obligation to notify the Land Use Planning Division in writing of your desire to receive a Notice of Decision when it is completed.
3. Pursuant to Code of Civil Procedure Section 1094.6(b) and Government Code Section 65009(c)(1), no lawsuit challenging a City Council decision, as defined by Code of Civil Procedure Section 1094.6(e), regarding a use permit, variance or other permit may be filed more than ninety (90) days after the date the decision becomes final, as defined in Code of Civil Procedure Section 1094.6(b). Any lawsuit not filed within that ninety (90) day period will be barred.
4. Pursuant to Government Code Section 66020(d)(1), notice is hereby given to the applicant that the 90-day protest period for any fees, dedications, reservations, or other exactions included in any permit approval begins upon final action by the City, and that any challenge must be filed within this 90-day period.
5. If you believe that this decision or any condition attached to it denies you any reasonable economic use of the subject property, was not sufficiently related to a legitimate public purpose, was not sufficiently proportional to any impact of the project, or for any other reason constitutes a "taking" of property for public use without just compensation under the California or United States Constitutions, your appeal of this decision must including the following information:
 - A. That this belief is a basis of your appeal.
 - B. Why you believe that the decision or condition constitutes a "taking" of property as set forth above.
 - C. All evidence and argument in support of your belief that the decision or condition constitutes a "taking" as set forth above.

LANDMARKS PRESERVATION COMMISSION
NOTICE OF DECISION
LMSAP2016-0002
2234 Haste Street
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Page 4 of 4

If you do not do so, you will waive any legal right to claim that your property has been taken, both before the City Council and in court.

PUBLIC COMMENT:

Communications to Berkeley boards, commissions or committees are public record and will become part of the City's electronic records, which are accessible through the City's website. **Please note: e-mail addresses, names, addresses, and other contact information are not required, but if included in any communication to a City board, commission or committee, will become part of the public record.** If you do not want your e-mail address or any other contact information to be made public, you may deliver communications via U.S. Postal Service or in person to the secretary of the relevant board, commission or committee. If you do not want your contact information included in the public record, please do not include that information in your communication. Please contact the secretary to the relevant board, commission or committee for further information.

FURTHER INFORMATION:

Questions about the project should be directed to the project planner, Fatema Crane, at (510) 981-7410 or fcrane@cityofberkeley.info. All project application materials, including full-size plans, may be viewed at the Permit Service Center (Zoning counter), 1947 Center Street, between 8 a.m. and 4 p.m., Monday through Friday.

ATTACHMENTS:

1. Approved Findings and Conditions
2. Project Plans, received **AUGUST 27, 2019**

ATTEST: 
Fatema Crane, Secretary
Landmarks Preservation Commission

cc: City Clerk
Applicant: William Coburn
1224 Center Street
Oakland, CA 94607

Owner: Everest Properties
2228 Shattuck Avenue
Berkeley, CA 94704

FINDINGS AND CONDITIONS

2234 Haste Street - Brower Houses and David Brower Redwood Tree

Structural Alteration Permit #LMSAP2016-0002

To replace the building foundation, to introduce new windows and light wells at the basement level, and to modify an existing, projecting deck on an upper story of a multi-unit residential City Landmark building.

CEQA FINDINGS

1. The project is categorically exempt from the provisions of the California Environmental Quality Act (CEQA, Public Resources Code §21000, et seq. and California Code of Regulations, §15000, et seq.) pursuant to Section 15331 of the CEQA Guidelines (“Historic Resource Restoration/Rehabilitation”). Furthermore, none of the exceptions in CEQA Guidelines Section 15300.2 apply, as follows: (a) the site is not located in an environmentally sensitive area, (b) there are no cumulative impacts, (c) there are no significant effects, (d) the project is not located near a scenic highway, (e) the project site is not located on a hazardous waste site pursuant to Government Code Section 65962.5, and (f) the project will not affect any historical resource.

SECRETARY OF THE INTERIOR’S STANDARDS FINDINGS

Regarding the Secretary of the Interior’s Standards for Rehabilitation, the Landmarks Preservation Commission of the City of Berkeley makes the following findings:

1. The subject property will continue its residential use with this proposed rehabilitation project.
2. The project does not include removal or alteration of distinctive materials, character-defining features or those “to-be-preserved,” as identified in the 2008 City Landmarks designation for this site.
3. The proposed rehabilitation project for the rear building at this City Landmark site would render it -- as well as the front building -- primarily intact and able to convey their unique identities as physical records of time. No introduction of conjectural features has been proposed.
4. No changes to this property that have acquired historic significance in their own right are the subject of this proposal.
5. Distinctive features, such as the building’s wood shingles, will be preserved with this proposal. Shingles which have deteriorated will be replaced in kind. No other

distinctive materials, finished or construction techniques, or examples of craftsmanship, would be removed or affected by this project.

6. Deteriorated historic features will be repaired rather than replaced, as conditioned herein. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials are prohibited, as conditioned herein.
8. Archeological resources are not known to exist at this site. However, as conditioned herein, procedures and measures for protection will be undertaken if resources are unexpectedly discovered.
9. None of the aspects of this proposal are expected to result in the destruction of historic materials, features and spatial relationships that characterize this City Landmark property. New work, such as basement-level windows and guardrails, will be compatible with and yet differentiated in style from the Victorian-era construction.
10. The proposed new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

LANDMARK PRESERVATION ORDINANCE FINDINGS

1. As required by Section 3.24.260 of the Landmarks Preservation Ordinance, the Commission finds that proposed work is appropriate for and consistent with the purposes of the Ordinance, and will preserve and enhance the characteristics and features specified in the designation for this property. Specifically:
 - The proposed project includes a limited scope of work that will result in exterior changes, and none of these changes are expected to permanently or significantly impair the integrity, or alter the character-defining features, of this Victorian-era building.

STANDARD CONDITIONS

The following conditions, as well as all other applicable provisions of the Landmarks Preservation Ordinance, apply to this Permit:

1. Conditions Shall be Printed on Plans

The conditions of this Permit shall be printed on the *second* sheet of each plan set submitted for a building permit pursuant to this Permit, under the title 'Structural Alteration Permit Conditions'. *Additional sheets* may also be used if the *second* sheet is not of sufficient size to list all of the conditions. The sheet(s) containing the conditions shall be of the same size as those sheets containing the construction drawings; 8-1/2" by 11" sheets are not acceptable.

2. Plans and Representations Become Conditions

Except as specified herein, the site plan, floor plans, building elevations and/or any additional information or representations, whether oral or written, indicating the proposed structure or manner of operation submitted with an application or during the approval process are deemed conditions of approval.

3. Subject to All Applicable Laws and Regulations

The approved use and/or construction is subject to, and shall comply with, all applicable City Ordinances and laws and regulations of other governmental agencies. Prior to construction, the applicant shall identify and secure all applicable permits from the Building and Safety Division, Public Works Department and other affected City divisions and departments.

4. Exercise and Lapse of Permits (Section 23B.56.100)

B. A permit for the construction of a building or structure is deemed exercised when a valid City building permit, if required, is issued, and construction has lawfully commenced.

A. A permit may be declared lapsed and of no further force and effect if it is not exercised within one year of its issuance, except that permits for construction or alteration of structures or buildings may not be declared lapsed if the permittee has: (1) applied for a building permit; or, (2) made substantial good faith efforts to obtain a building permit and begin construction, even if a building permit has not been issued and/or construction has not begun.

5. Indemnification Agreement

The applicant shall hold the City of Berkeley and its officers harmless in the event of any legal action related to the granting of this Permit, shall cooperate with the City in defense of such action, and shall indemnify the City for any award of damages or attorneys fees that may result.

ADDITIONAL CONDITIONS

The following additional conditions are attached to this Permit:

6. **Halt Work/Unanticipated Discovery of Tribal Cultural Resources.** In the event that cultural resources of Native American origin are identified during construction, all work within 50 feet of the discovery shall be redirected. The project applicant and project construction contractor shall notify the City Planning Department within 24 hours. The City will again contact any tribes who have requested consultation under AB 52, as well as contact a qualified archaeologist, to evaluate the resources and situation and provide recommendations. If it is determined that the resource is a tribal cultural resource and thus significant under CEQA, a mitigation plan shall be prepared and implemented in accordance with State guidelines and in consultation with Native American groups. If the resource cannot be avoided, additional measures to avoid or reduce impacts to the resource and to address tribal concerns may be required.
7. **Archaeological Resources** (*Ongoing throughout demolition, grading, and/or construction*). Pursuant to CEQA Guidelines section 15064.5(f), "provisions for historical or unique archaeological resources accidentally discovered during construction" should be instituted. Therefore:
 - A. In the event that any prehistoric or historic subsurface cultural resources are discovered during ground disturbing activities, all work within 50 feet of the resources shall be halted and the project applicant and/or lead agency shall consult with a qualified archaeologist, historian or paleontologist to assess the significance of the find.
 - B. If any find is determined to be significant, representatives of the project proponent and/or lead agency and the qualified professional would meet to determine the appropriate avoidance measures or other appropriate measure, with the ultimate determination to be made by the City of Berkeley. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and/or a report prepared by the qualified professional according to current professional standards.
 - C. In considering any suggested measure proposed by the qualified professional, the project applicant shall determine whether avoidance is necessary or feasible in light of factors such as the uniqueness of the find, project design, costs, and other considerations.
 - D. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while mitigation measures for cultural resources is carried out.
 - E. If significant materials are recovered, the qualified professional shall prepare a report on the findings for submittal to the Northwest Information Center.
8. **Human Remains** (*Ongoing throughout demolition, grading, and/or construction*). In the event that human skeletal remains are uncovered at the project site during ground-disturbing activities, all work shall immediately halt and the Alameda County Coroner shall be contacted to evaluate the remains, and following the procedures and protocols pursuant to Section 15064.5 (e)(1) of the CEQA Guidelines. If the County Coroner determines that the remains are Native American, the City shall contact the California Native American Heritage Commission (NAHC), pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, and all excavation and site preparation activities

shall cease within a 50-foot radius of the find until appropriate arrangements are made. If the agencies determine that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and timeframe required to resume construction activities. Monitoring, data recovery, determination of significance and avoidance measures (if applicable) shall be completed expeditiously.

9. **Paleontological Resources** (*Ongoing throughout demolition, grading, and/or construction*). In the event of an unanticipated discovery of a paleontological resource during construction, excavations within 50 feet of the find shall be temporarily halted or diverted until the discovery is examined by a qualified paleontologist (per Society of Vertebrate Paleontology standards [SVP 1995, 1996]). The qualified paleontologist shall document the discovery as needed, evaluate the potential resource, and assess the significance of the find. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. If the City determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of the project on the qualities that make the resource important, and such plan shall be implemented. The plan shall be submitted to the City for review and approval.
10. **Repair and replacement of character-defining features.** Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old or historic feature in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence, to the satisfaction of City staff.
11. **Chemical Treatments.** Any chemical treatments needed as construction progresses will be undertaken using the gentlest means possible.
12. **Clear glass.** All glass is assumed to be clear glass. Any proposed glass that is not clear glass shall be indicated on all drawings, and shall be reviewed for approval by historic preservation staff, prior to approval of any building permit for this project.
13. **Exterior Lighting.** Exterior lighting, including for signage, shall be downcast and not cause glare on the public right-of-way and adjacent parcels.
14. **Colors & Materials.** Prior to staff sign-off of the building permit set of drawings, the applicant shall submit color and materials information for review and approval by staff.
15. **Window Detail.** Prior to staff sign-off of the building permit set of drawings, the applicant shall submit section drawings with details to provide dimensional relief and articulation for all new windows on basement level, for review and approval by staff.
16. **Certified arborist report.** Prior to submittal of any building permit for this project, the applicant shall obtain a certified arborist report with recommendation on the assessment and protection of the Brower redwood tree during project construction. The building permit plans for this project shall incorporate the recommendations of this report.

17. **Plaque.** Prior to submittal of any building permit for this project, the applicant shall indicate on the building permit plans, the location and design of a plaque with information about the historic significance of this Landmark site.

18. Upon completion of this project, the property owner shall remove or relocate (and screen, subject to BMC Chapter 23) the dumpster currently stored in the driveway/parking area. The applicant shall consult with the City's Zero Waste Division for guidance on improving and maintaining adequate collection and storage of debris and recycling for this site.

GENERAL NOTES:
 1. SCOPE OF WORK: DEVELOPING CASEMENT IN AREA ALLOWABLES INTO ONE BEDROOMS GAMBROUN & BATH, CONNECTING NEW SPACE TO EXISTING UNIT 1 WITH AN INTERIOR STAIR. ALL NEW WINDOWS WOOD, NEW DOOR WOOD.
 2. MOIST ELEVATION SHINGLES ON MAIN MOUSE GABLE TO BE REPLACED WITH CEDAR SHINGLES, STAINED DARK BROWN TO GIVE CHARACTER OF REDWOOD SHINGLES. ALL OTHER SHINGLES TO BE PAINTED DARK BROWN TO MATCH.
 3. TRIM, WINDOWS & DOORS ON EXT. TO BE PAINTED AS NOTED ON ELEV SHEET
 4. LIGHT WELLS TO BE PROVIDED AS SHOWN ON ELEVATIONS

2234 Haste St Berkeley CA GENERAL NOTES:

Scope of work: New foundation, expand Unit 1 into casement, no change to other units except chimney removal and patching after removal of chimney.

1. BUILDING CODES:
 ALL WORK SHALL CONFORM TO ALL APPLICABLE CODES INCLUDING CBC, CBC, CEC, CFC, and CMC, AND 2013 CALIFORNIA ENERGY CODE AND CITY ORDINANCES APPLICABLE TO THIS PROJECT. ALL WORK TO CONFORM WITH CITY OF OAKLAND CODES, ORDINANCES AND REQUIREMENTS.

2. SITE CONDITIONS:
 CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH ALL EXISTING LIMITATIONS. ALL FEATURES OF CONSTRUCTION NOT FULLY SHOWN SHALL BE OF SAME TYPE AND CHARACTER AS THAT SHOWN FOR SIMILAR CONDITIONS. IF DISCREPANCIES ARE DISCOVERED, NOTIFY THE ARCHITECT BEFORE THE PROCEEDING WITH THE WORK.

3. DIMENSIONS:
 CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD. DIMENSIONS ARE TO THE ROUGH FRAME UNLESS OTHERWISE NOTED. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND/OR SPECIFICATIONS MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.

4. DEMOLITION:
 CONTRACTOR SHALL EXECUTE DEMOLITION WORK TO ENSURE THE SAFETY OF PERSONS AND ADJACENT PROPERTY FROM DAMAGE OF ANY KIND IN CONNECTION WITH THIS WORK. WHERE EXISTING CONSTRUCTION IS CUT, DAMAGED OR REMODELED, PATCH OR REPLACE WITH MATERIALS WHICH MATCH THE KIND, QUALITY AND PERFORMANCE OF ADJACENT SURFACES.

5. SCHEDULE:
 THE CONTRACTOR SHALL INFORM THE OWNER AND ARCHITECT OF THE CONSTRUCTION SCHEDULE PRIOR TO STARTING WORK. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO MINIMIZE DISRUPTION TO OCCUPANTS AND NEIGHBORS DURING CONSTRUCTION.

6. CHANGE ORDERS:
 ALL CHANGE ORDERS SHALL BE AGREED TO AND IN WRITING PRIOR TO EXECUTION OF WORK.

7. CLEANUP:
 THE CONTRACTOR SHALL REMOVE THE CONSTRUCTION DEBRIS AT THE END OF THE JOB AND DISPOSE OF IT LEGALLY. CLEAN ALL NEW WINDOWS AND LEAVE THE JOB BROOM CLEAN.

ARCHITECTURAL NOTES:

- A1 SCOPE OF THE PROPOSED WORK IS TO PROVIDE A NEW FOUNDATION AND EXPAND UNIT ONE INTO BASEMENT.
- A2 CER TILE ON 1/2" CEMENTITIOUS BACKER BOARD OVER (2) LAYERS 1/2" FELT PAPER ON WALLS AT TUBS & SHOWERS TO 6"-8" HEIGHT MIN. ABOVE FLOOR AND PER MIN. CBC 807.1 REQUIREMENTS.
- A3 PROVIDE TEMPERED SLIDING CLASS SHOWER DOORS TO MIN. 70"HT. ABOVE DRAIN INLET.
- A4 DIMENSIONS ARE TO FACE OF STUD, U.O.N.
- A5 IF ANY DISCREPANCIES, ERRORS OR OMISSIONS ARE FOUND IN THE DRAWINGS, NOTIFY THE ARCHITECT, PRIOR TO PROCEEDING WITH ANY WORK.
- A6 ALL 2X FRAMING MEMBERS TO BE #2 DF OR BETTER
ALL 4X FRAMING MEMBERS TO BE #1DF OR BETTER
- A7 ALL NAILING AND BRACING AS PER CODE.
- A8 NEW VINYL WINDOWS TO MEET TITLE 24 REQUIREMENTS FOR THERMAL TRANSMISSION AND ALL OTHER REQUIRED CONDITIONS.
- A9 IN ALL EXISTING WALLS TO REMAIN, FILL CAVITY WITH MIN R-13 BATT INSUL. PRIOR TO COVERING UP OPENING. FOR ANY CEILING AREA, INSTALL R-30. PROVIDE REQUIRED INSULATION IN NEW FRAMED WALLS IN BASEMENT
- A10 Provide one hour fire rated assembly in the ceiling of the expanded unit ceiling.

A-11 WINDOW U PART 4/8" T-24

ELECTRICAL NOTES:

- E1. ALL KITCHEN OUTLETS TO BE 42 INCHES ABOVE FIN FLOOR GFCI PROTECTED
- E2. PROVIDE MIN. TWO 20 AMP CIRCUITS FOR KITCHEN APPLIANCES.
- E3. ANY CLOSET LIGHT FIXTURE CLEARANCES (IF USED) SHALL CONFORM TO CEC 410.8.
- E4. ALL 120 VOLT, SINGLE PHASE, 15 AND 20 AMP BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN UNIT FAMILY ROOMS, DINING, LIVING, PARLORS AND LIBRARIES, DENS, BEDROOMS AND SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS AND SIMILAR SPACES SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER. 9CEC ART. 210.12
- E5. PROVIDE ONE 20 AMP CIRCUIT FOR ALL BATHROOM OUTLETS PER CEC 210-11 (C) (3) IN NEW BATHROOMS.
- E6. VENT BATH FAN TO EXTERIOR WALL OR ROOF W/ RAIN CAP FAN CAPABLE OF PROVIDING MIN 5 AIR CHANGES/HOUR AS PER CBC 1203.4.2 HUMIDISTATS T BE PROVIDED ACCORDING TO CGBS 4.506.1
- E7. PROVIDE MANUAL-ON MOTION SENSOR FOR INCANDESCENT LIGHTS IN BATHROOMS AS INDICATED.
- E8. PROVIDE MIN. 24" HORIZ. SEPARATION BETWEEN ELECT. BOXES ON OPPOSITE SIDE OF WALLS BETWEEN UNITS.
- E9. MINIMUM OF 50% OF WATTAGE IN KITCHEN TO BE HIGH EFFICIENCY LIGHTS MANUAL-ON MOTION SENSORS OR DIMMER SWITCHES TO BE USED.
- E10. IN ALL OTHER ROOMS & AREAS (I.E. LIVING, BEDROOMS, AND HALLWAYS) PROVIDE HIGH EFFICACY LIGHTS, MANUAL-ON MOTION SENSORS, OR DIMMER SWITCHES AS SHOWN.
- E11. LIGHT FIXTURES IN TUB / SHOWER ENCLOSURES SHALL BE LABELED "SUITABLE FOR DAMP LOCATIONS".
- E12 ALL SMOKE DETECTORS SHALL BE COMBINATION UNITS WITH CARBON MONOXIDE DETECTORS TO MEET CODE REQUIREMENTS.
- E13 ALL 125 VOLT 15 AND 20 AMP RECEPTACLES SHALL BE LISTED TAMPERPROOF RECEPTACLES (CEC ART. 406.12)

MECHANICAL / PLUMBING NOTES:

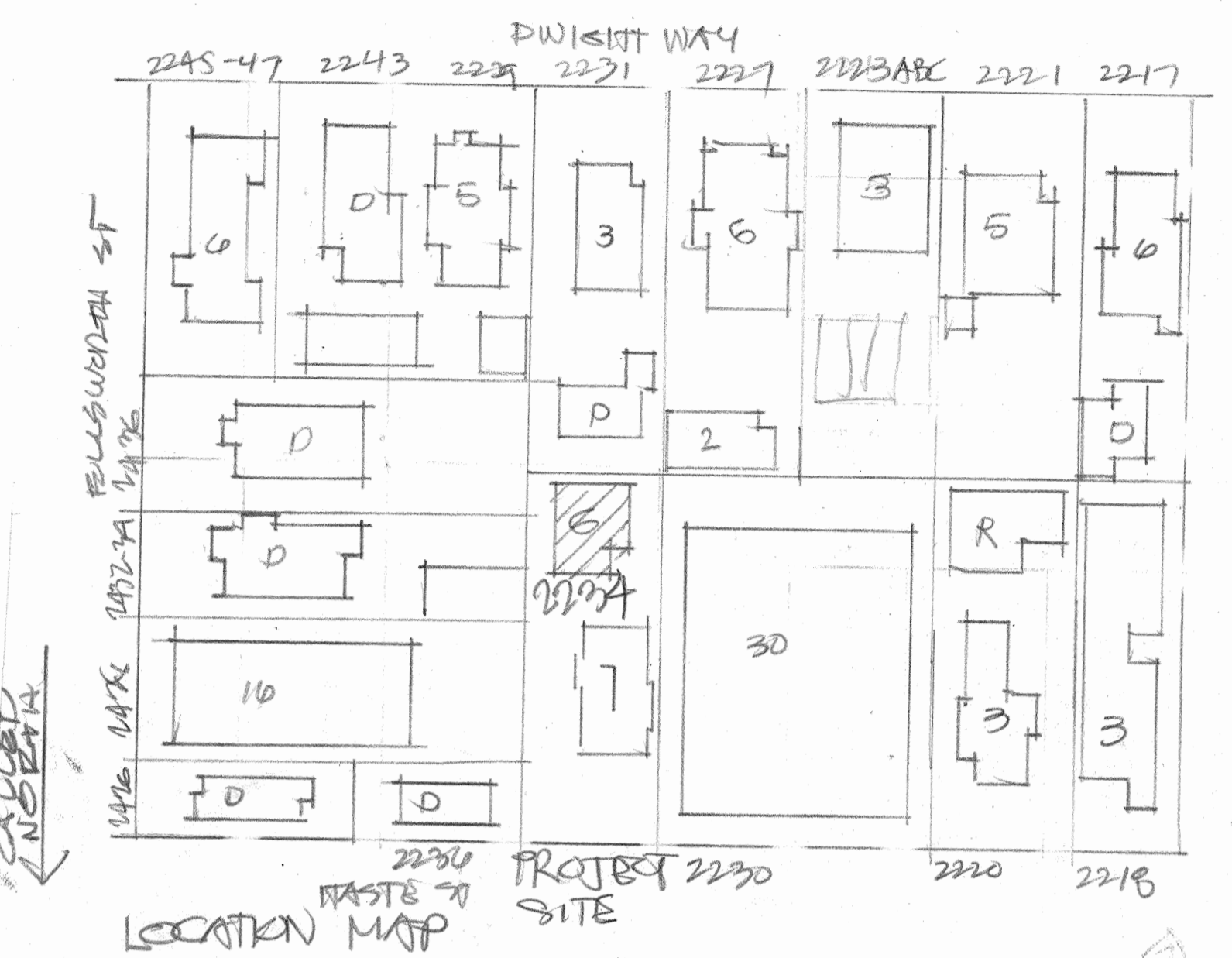
- M1. NEW TOILET TO BE MAX. 1.28 GAL/FLUSH.
- M2. NEW TANK WATER HEATER TO BE INSTALLED AS PER MFR RECOMMENDATIONS.
- M3. BATH COMBINATION SHOWER/TUB CONTROLS (INDIVIDUAL HOT/ COLD PRESSURE BALANCE OR THERMOSTATIC MIXING VALVE) SHALL CONFORM TO CPC 420.0.
- M4. PROVIDE LOW FLOW FAUCET DEVICES OF FIXTURES WITH MAXIMUM FLOW RATE OF 1.8 GAL/MINUTE MEASURED AT 60 PSI (CPC 403.6) BATHROOM LAVATORY FAUCET MAX 1.5 GAL/MIN.

AT 60PSI AND NOT LESS THAN .8GAL/MIN. AT 20PSI 9CPC403.70 SHOWER HEADS MAX FLOW 2.0 GAL/MIN. (MEASURED AT 80 PSI) 9CPC SEC. 408.2

M.5 PROVIDE AUTOMATIC GAS SHUT OFF VALVE ON DOWNSTREAM SIDE OF GAS UTILITY METER

M.6 PLUMBING MAX FLOW RATES OF KIT FAUCET SHALL NOT EXCEED 1.8 GAL/MIN AT 60 PSI. KIT FAUCET MAY TEMPORARILY INCREASE THE FLOW RATE BUT NOT EXCEED 2.2 GAL/MIN. AT 60 PSI. AND MUST DEFAULT TO A MAX FLOW RATE OF 1.5 GAL/MIN GOB.

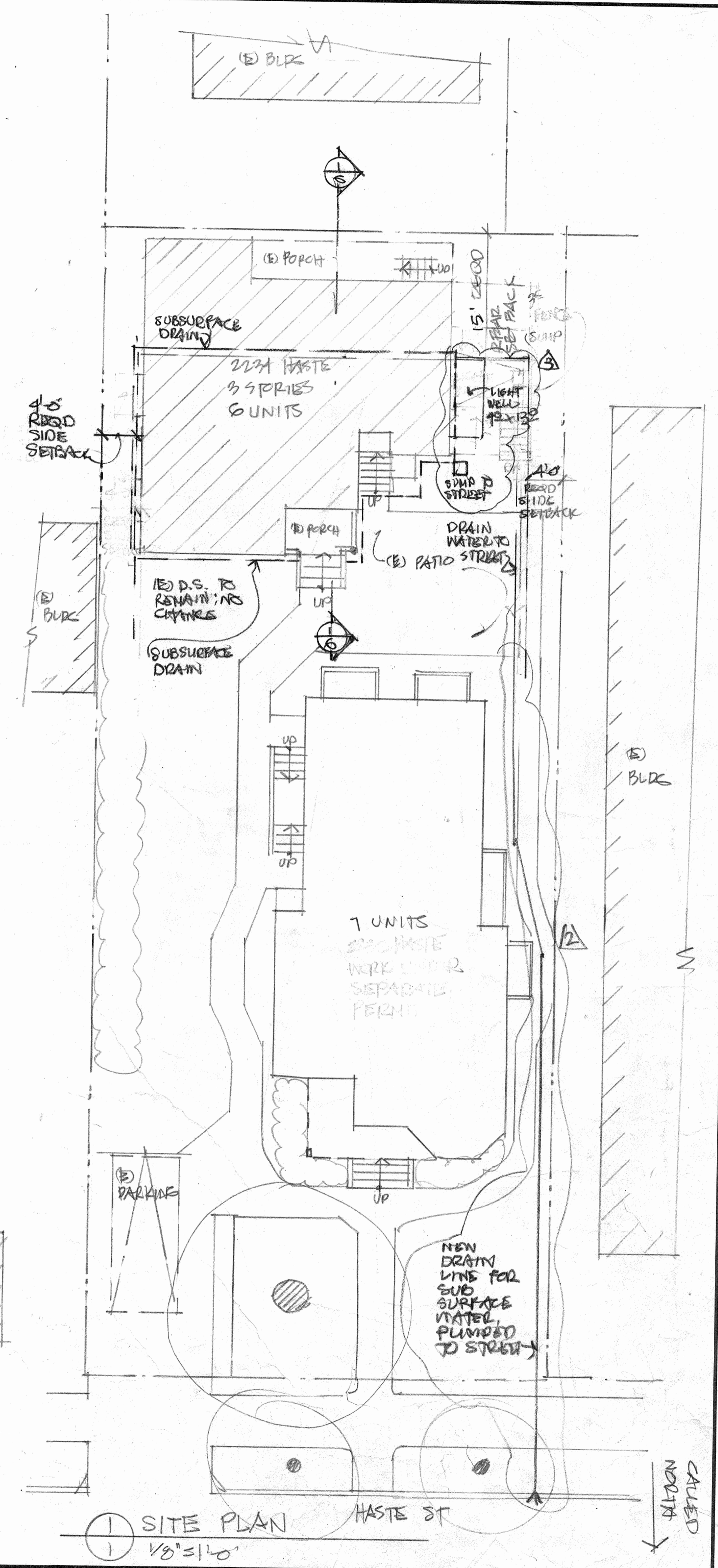
M.7. FOR DRAIN LINES, APPROVED PIPING MATERIALS TO BE USED: POLYVINYL CHLORIDE SDR 20 MIN. POLYETHYLENE SDR 26 MIN. CAST IRON CUPPER LATERAL ONLY, DUCTILE IRON, VITRIFIED CLAY EXTRA STRENGTH, BELL & SPST. FOR PIPE LINE BEYOND THE ROADWAY, CITY OF BERKELEY WILL REQUIRE PVC OR PE, SDR 21 MIN. RCP IS PERMITTED FOR SPM DRAINS,



DEFERRED SUBMITTALS: ANY DEFERRED SUBMITTAL TO BE REVIEWED & APPROVED BY ARCHITECT OR ENGINEER PRIOR TO BEING SUBMITTED TO THE CITY OF BERKELEY FOR REVIEW & APPROVAL. APPROVAL BY ARCHITECT OR ENGINEER TO BE INDICATED ON SUBMITTAL P CTY

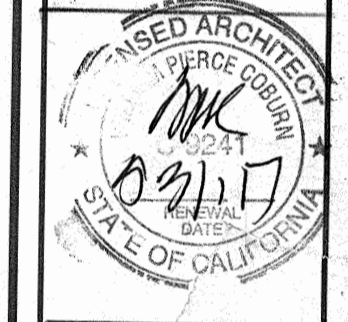
DEFERRED:
 1. LADDER AT LIGHT WELL
 2. NON TANKLESS WH. FOR OTHER UNITS SEPARATE PERMIT
 3. 3 GAS METERS MOVED, SEPARATE PERMIT
 4. A SEPARATE ENGINEERING PERMIT IS REQUIRED FOR CONSTRUCTION SIGNING, CONSTRUCTION PARKING, SIDEWALK OR SEWER WORK IN THE PUBLIC RIGHT OF WAY TO BE ISSUED AFTER THE APPROVAL AND ISSUANCE OF THE BUILDING PERMIT

DRAWING SCHEDULE	
NO	TITLE
1	SITE PLAN
2	EXIST FLOOR 1 & 2 PLAN
3	EXIST FLOOR 3 & ROOF PLAN
4	EXIST & NEW BASEMENT FLOOR PLAN
5	ELEVATIONS
6	SECTION & SCHEDULES
7	DETAILS
8	TITLE 24-1
9	TITLE 24-2
S-1	BASEMENT/PDN PLAN PER
S-2	FRAMING PLATE & DETS
S-3	DETS
S-4	DETS
10	FOR REFERENCE - EXIST & PROPOSED UNIT 1 PLANS
11	CAL GREEN
12	BEST MANAGEMENT PLAN

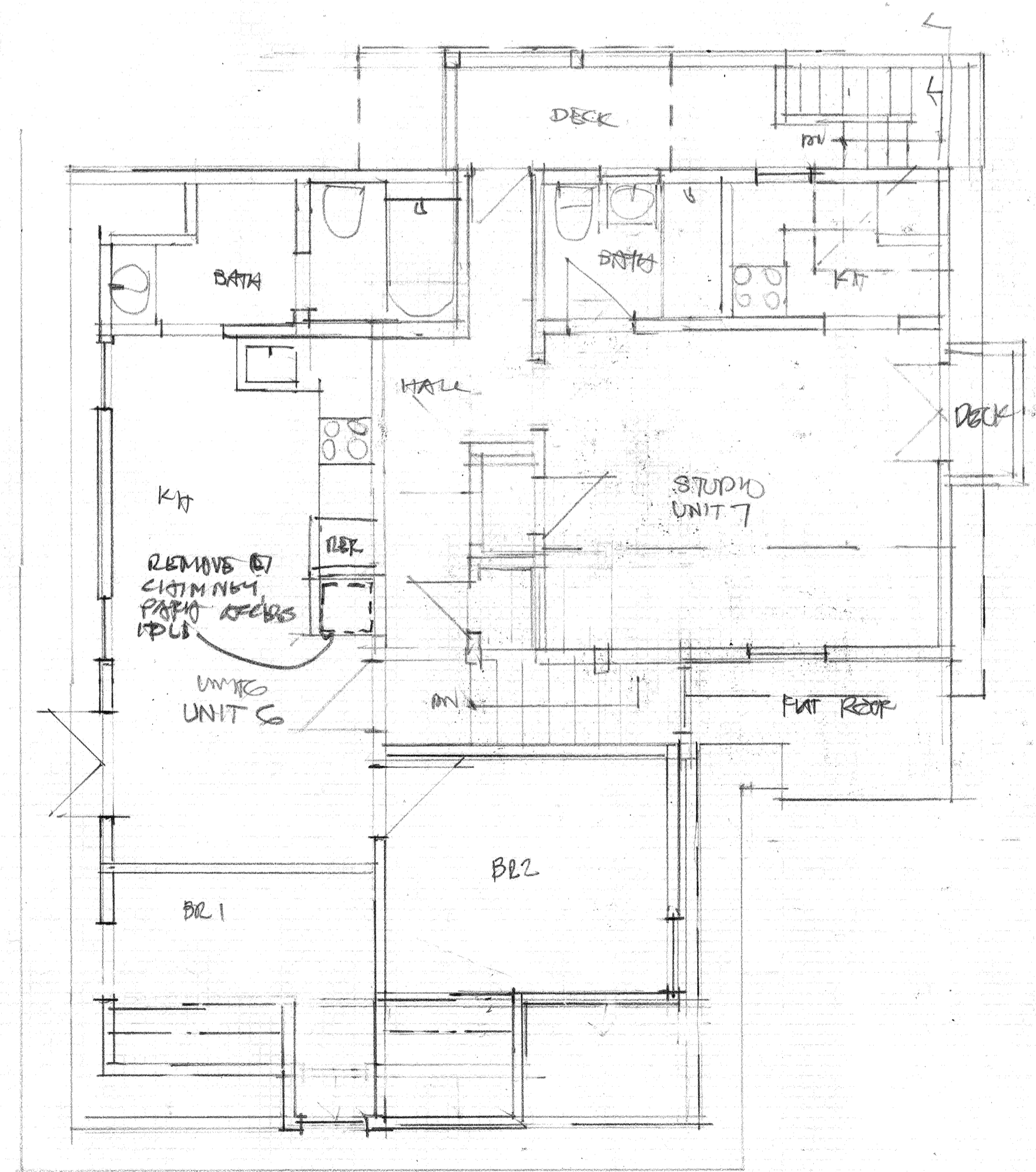


REVISIONS	
2	2.7.18.19
3	2.7.26.19

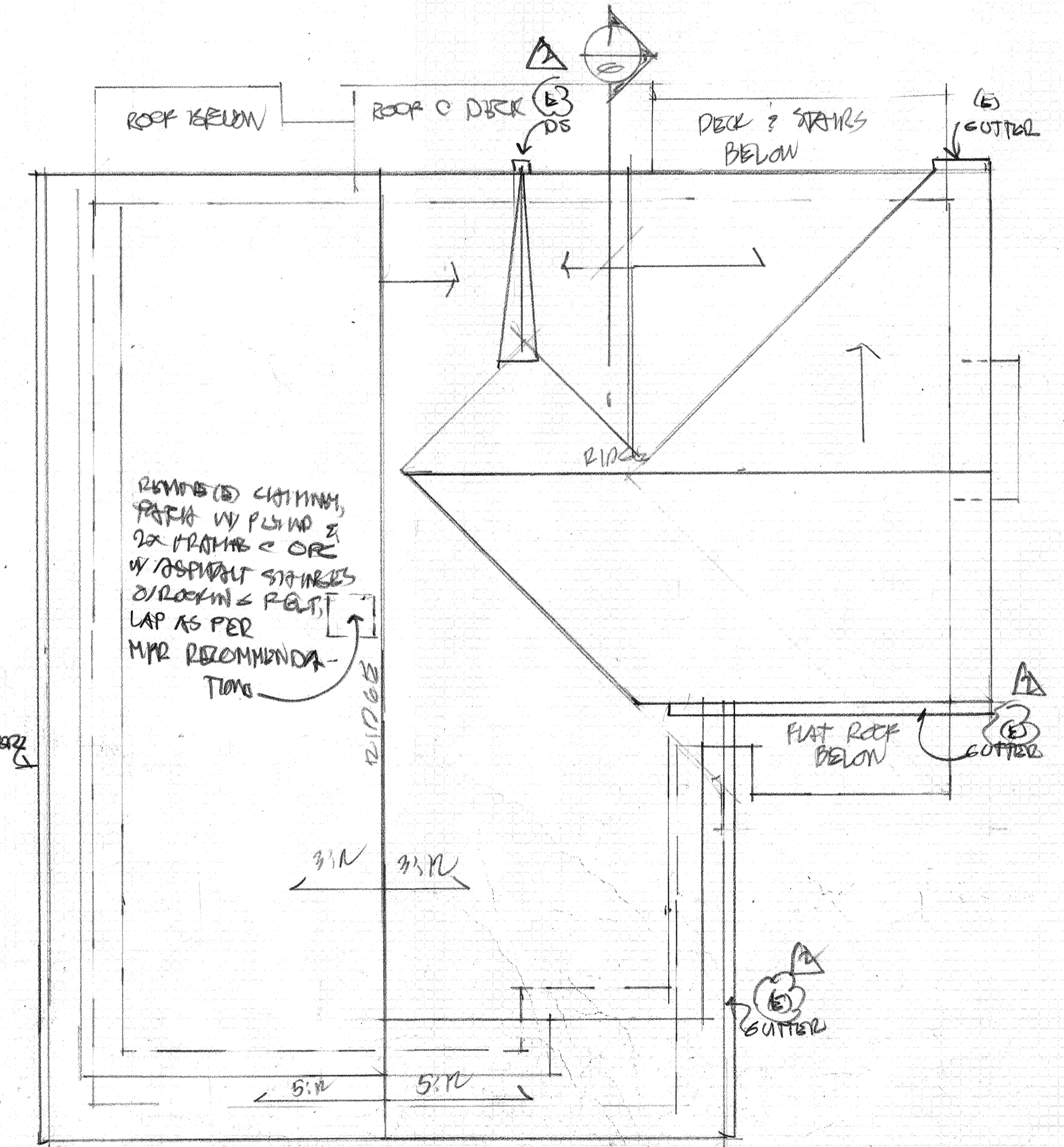
WILLIAM F. CEBRAN ARCHITECTS
 1224 CENTER ST
 OAKLAND CA 94607
 510-873-8526
 510-465-2837
 510-167-4085
 wfcbran@pacbell.net



NEW FOUNDATION & UNIT 1 RECONFIGURATION AT:
 2234 HASTE ST
 BERKELEY CA
 DATE: 12-21-16
 Scale:
 Drawn:
 Job:
 Sheet:
 Of 16 Sheets



④ THIRD FLOOR PLAN
1/2" = 1'-0"



⑤ ROOF PLAN
1/4" = 1'-0"

2.18.19

WILLIAM F. COBURN ARCHITECT
1001 CENTER ST
OAKLAND CA 94607
906.878.8826
FAX 906.465.2537
CELL 510.151.4085
wpcoburn@pacbell.net



NEW FOUNDATION = UNIT 1 RECONFIGURATION AT:
2024 LARK CREEK ST
FERRYLAND CA
FOR EVERETT PROPERTIES
5273 SHATTUCK AVE
BERKELEY CA 94704

12.21.16

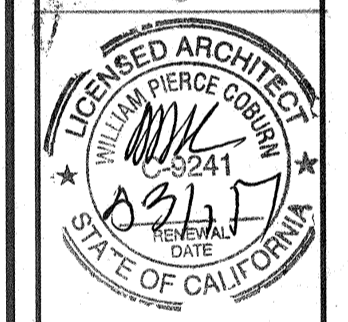
16 3

04/10/00

REVISIONS	BY
1	12.17
2	2.28.19
3	7.26.19

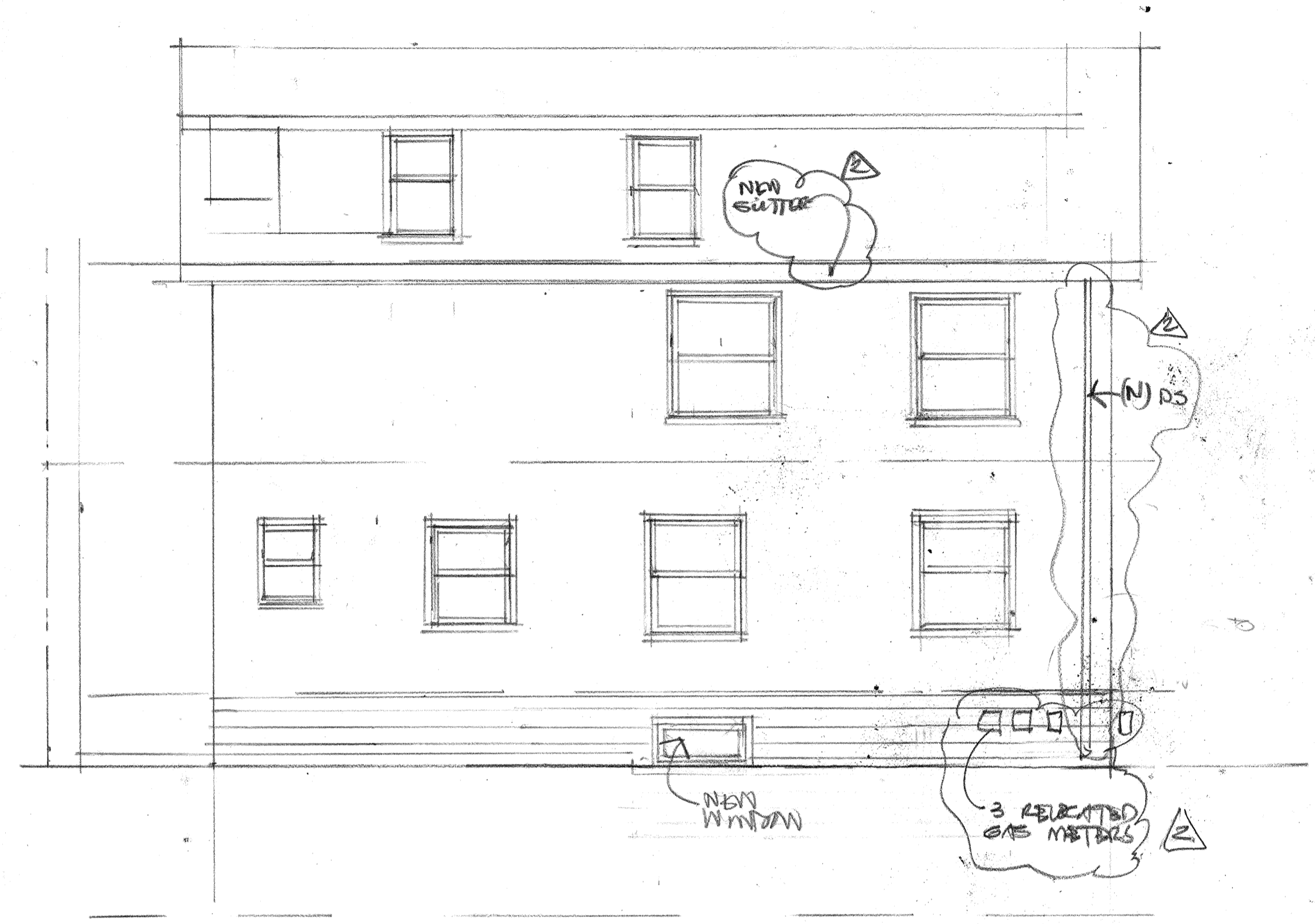
510.893.8825
510.463.8627
FAX 510.757.4085
CELL 510.757.4085
wpc@wpcacbel.net

WILLIAM P. CORRYEN ARCHITECTS
1241 CENTER ST
OAKLAND CA 94607

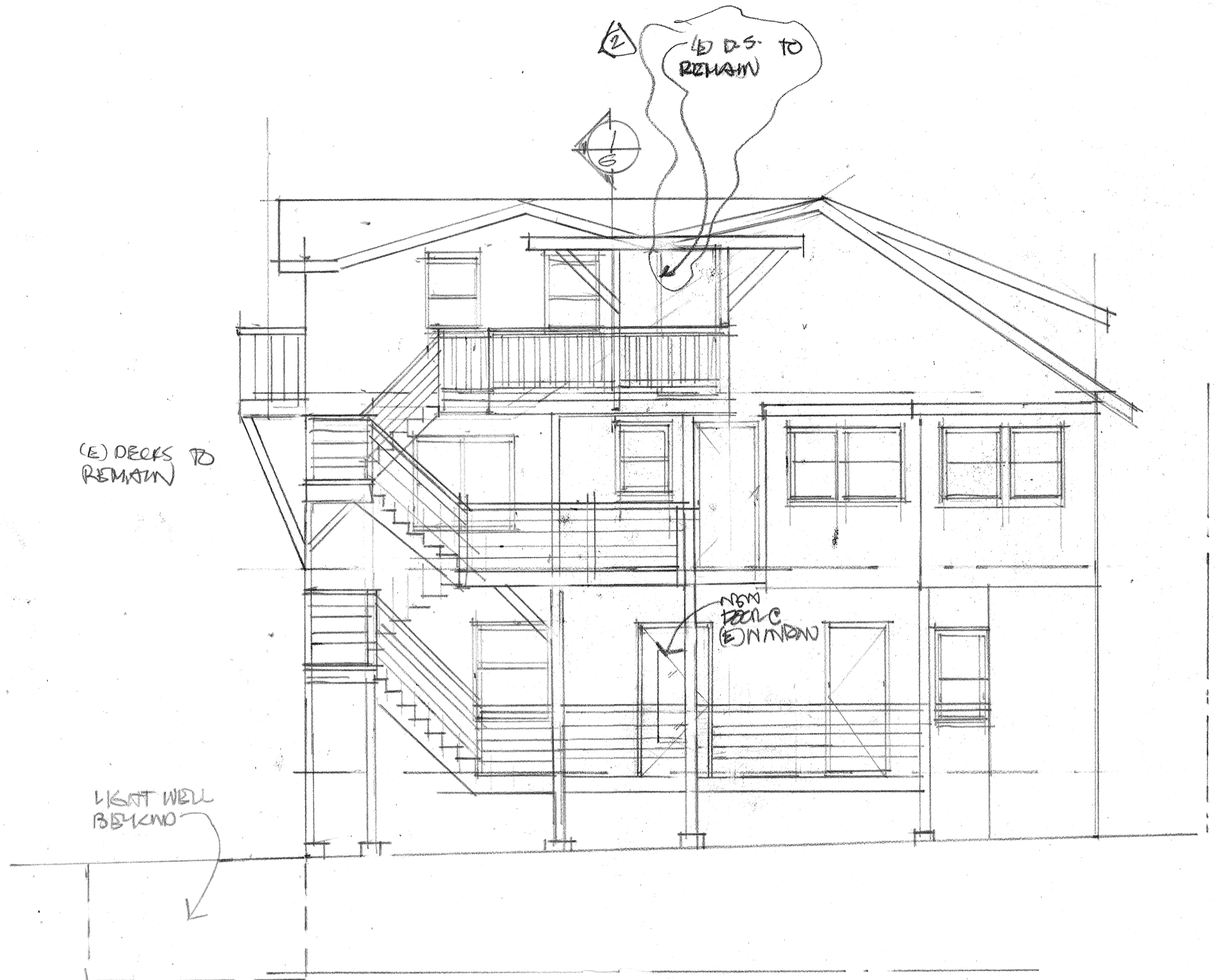


NEW FOUNDATION S UNIT 1 RECONSTRUCTION AT:
2224 PARADE ST
BERKELEY CA
FOR: EVEREST PROPERTIES
2278 SHATTUCK ST
BERKELEY CA 94704

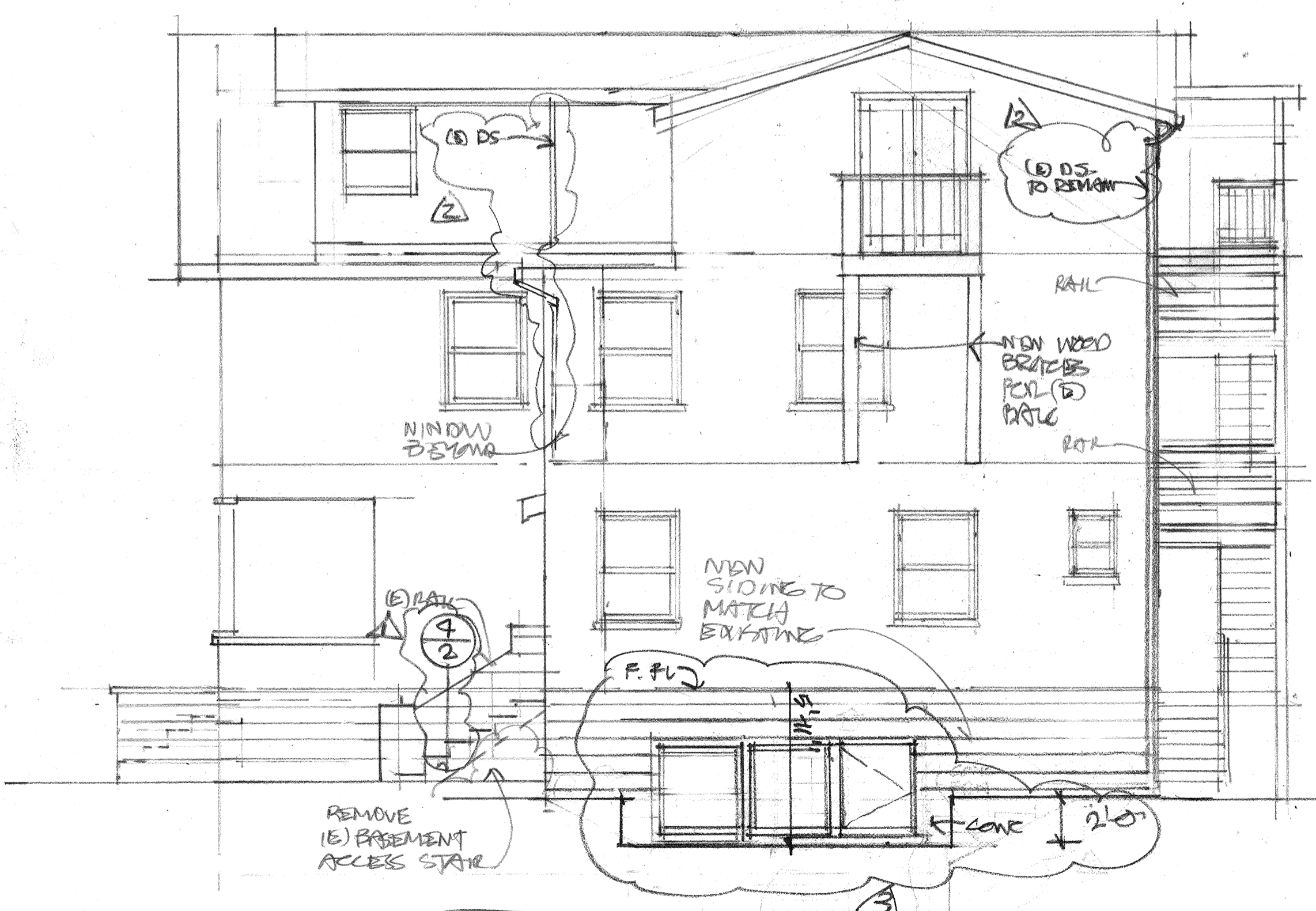
Date: 12/16
Scale:
Drawn:
Job:
Sheet: 5
Of: 16 Sheets



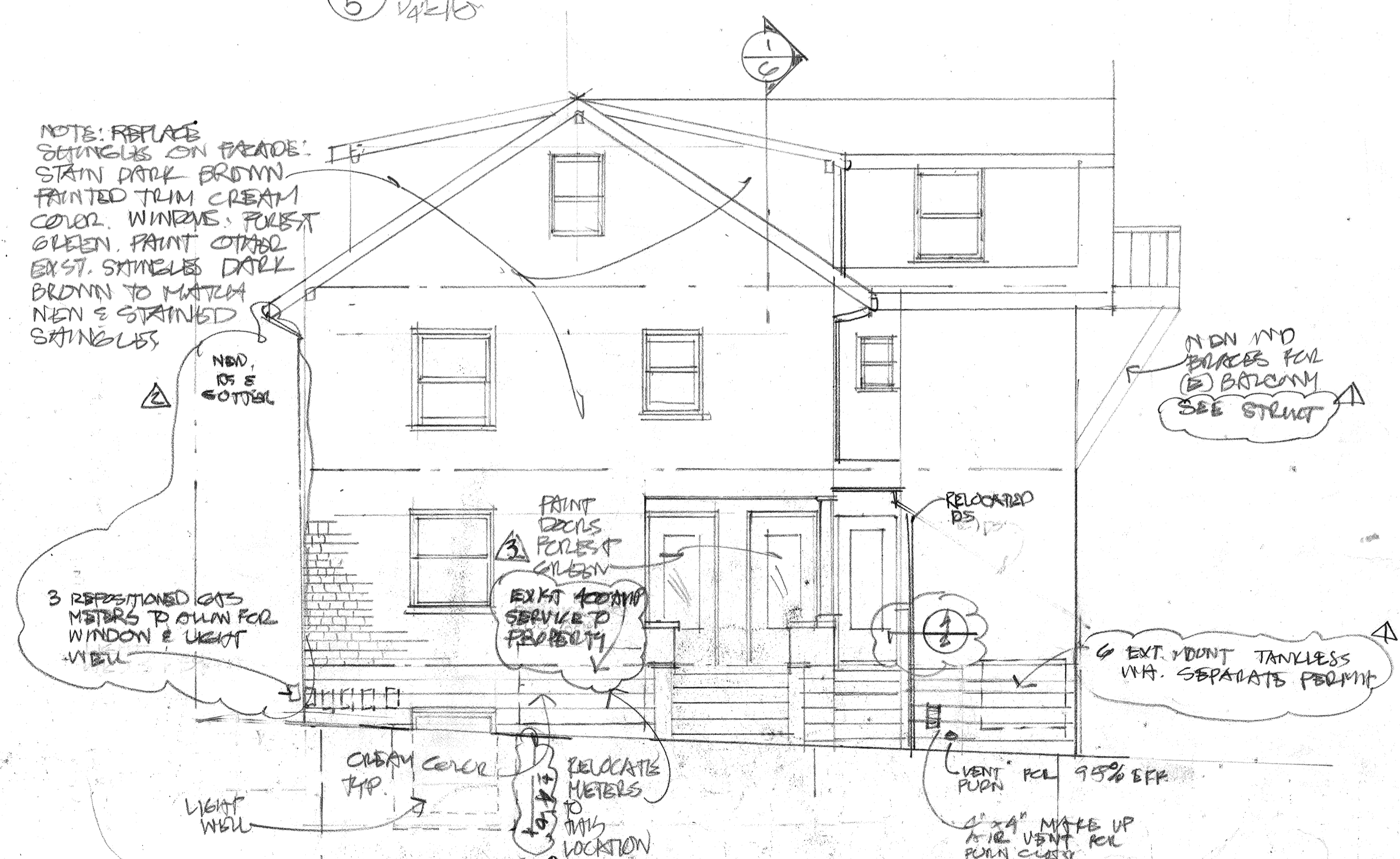
4 EAST SIDE ELEVATION
5 1/4"=1'-0"



3 REAR/SOUTH ELEVATION
5 1/4"=1'-0"

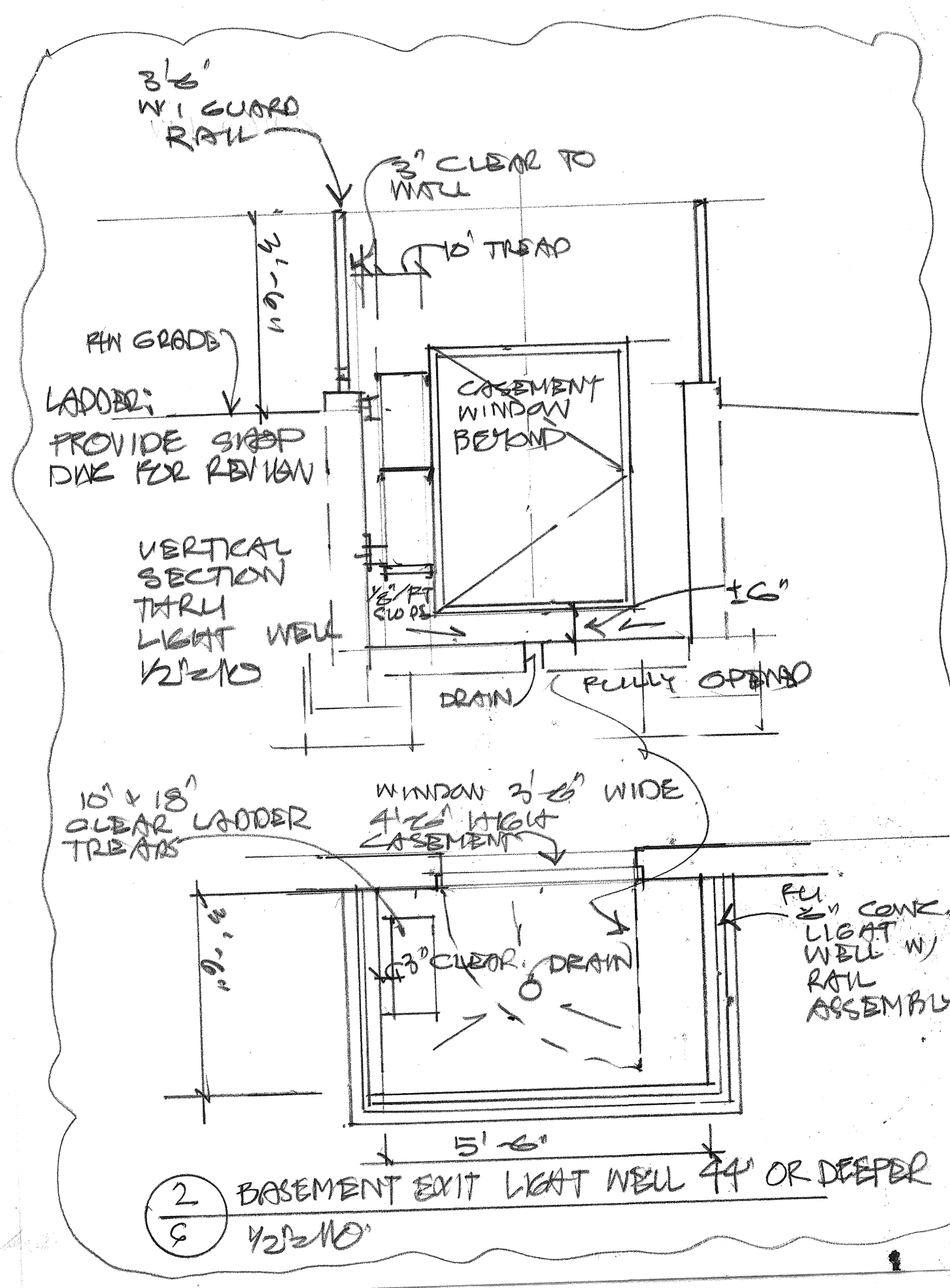


2 WEST SIDE ELEVATION
5 1/4"=1'-0"



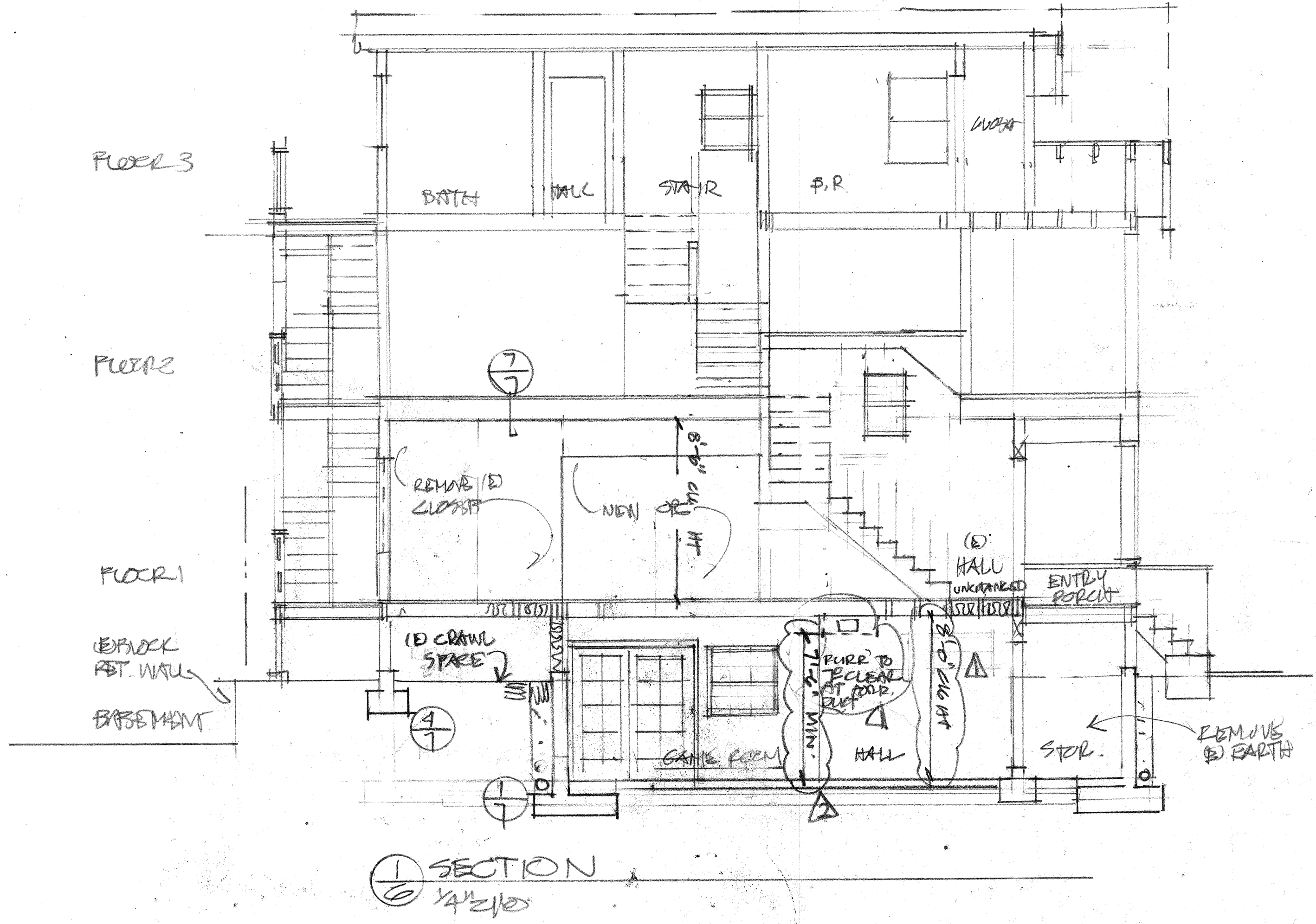
1 FRONT/NORTH ELEVATION
5 1/4"=1'-0"

NOTE: REPLACE SHINGLES ON BRACKLE: STAIN DARK BROWN, PAINTED TUM CREAM COLOR. WINDOVS: POLYST GREEN, PAINT OTHER EXST. SHINGLES DARK BROWN TO MATCH NEW & STAINED SHINGLES.



CEILING HEIGHT NOTE: UPPER EXIT FLOOR 8'-6", LOWER FLOOR 8'-0" ALL ROOMS TO ACHIEVE THIS HEIGHT.

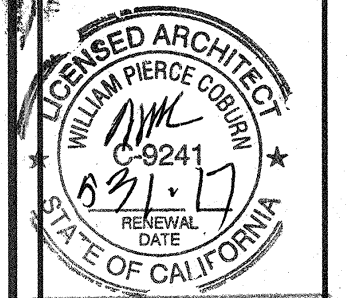
- 2 BASEMENT EXIT LIGHT WELL 4' OR DEEPER
- 5 1/2=10'



1 SECTION
1/2=10'

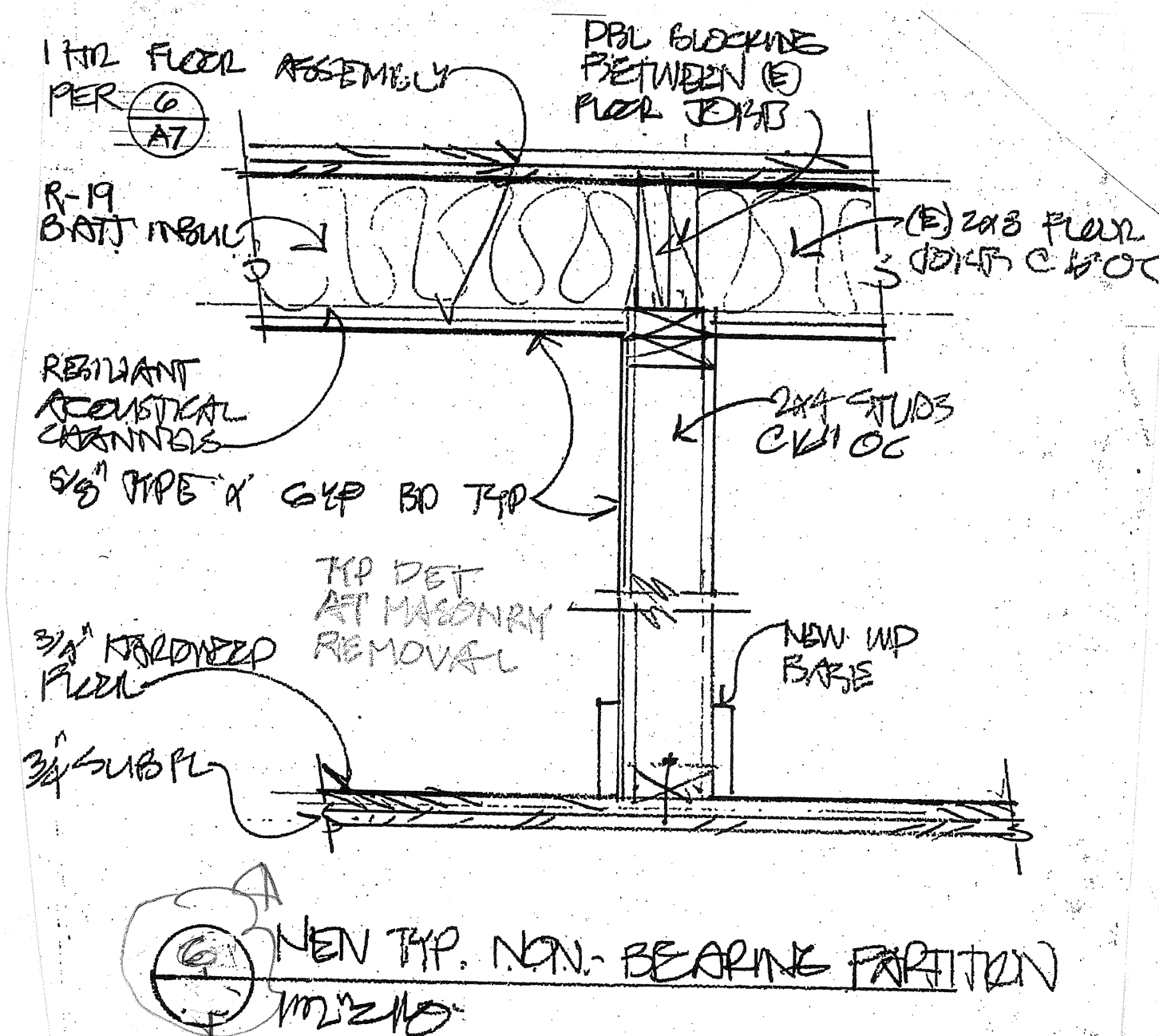
REVISIONS	BY
1	
2	2/28/19

WILLIAM P. CORBURN ARCHITECT 510.897.8826
1241 CENTER ST FAX 510.465.2537
OAKLAND CA 94607 CELL 510.757.4085
wpc@wpcarc.com wpc@burns.pacific.net

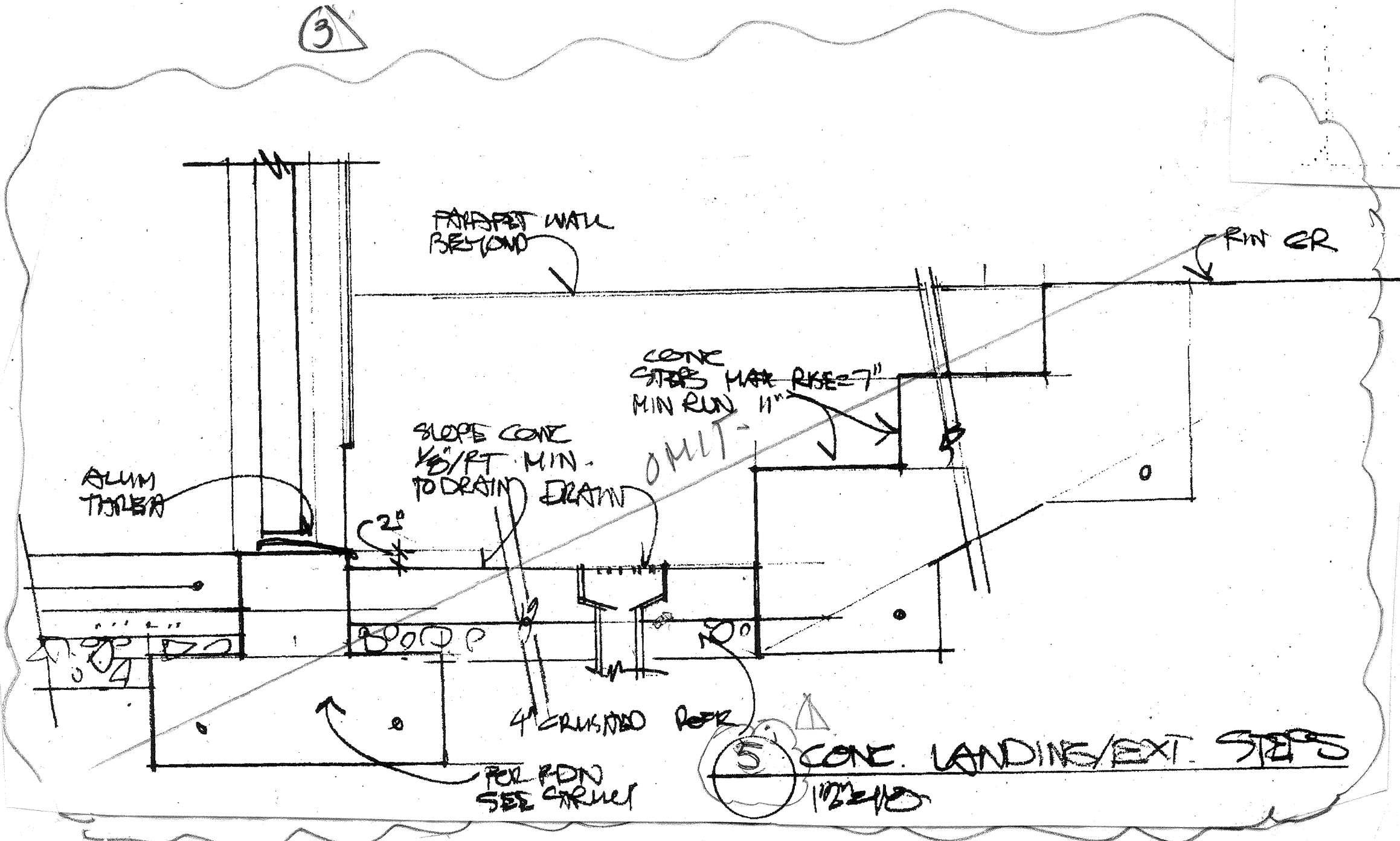


NEW FOUNDATION E UNIT RECONFIGURATION AT:
2234 MARSH ST
BERKELEY CA
TEL: 925.841.1111
1075 SHERATON BLVD
BERKELEY CA 94704

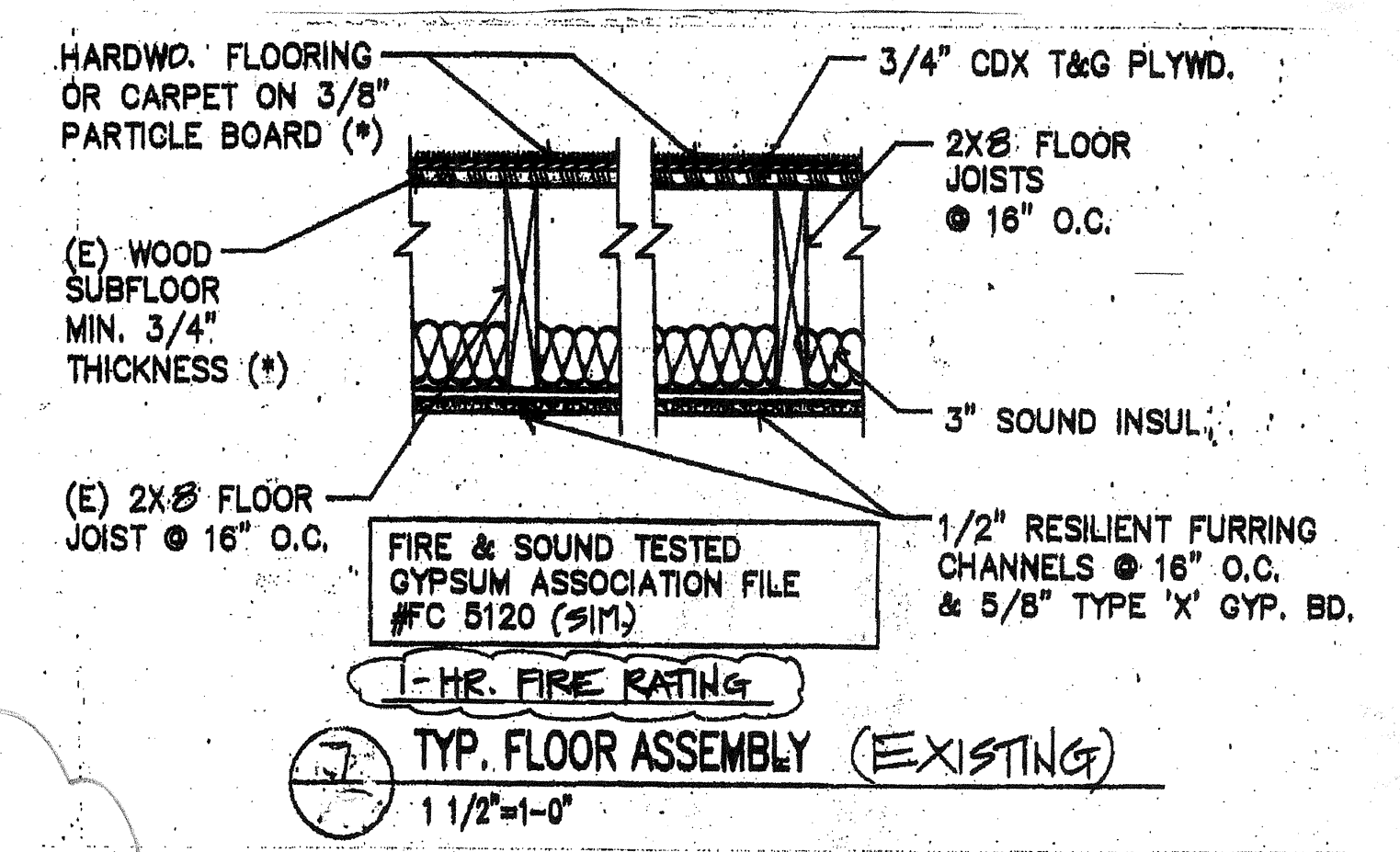
Date	12/21/16
Scale	
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Job	
Sheet	166
Of	166
Sheets	



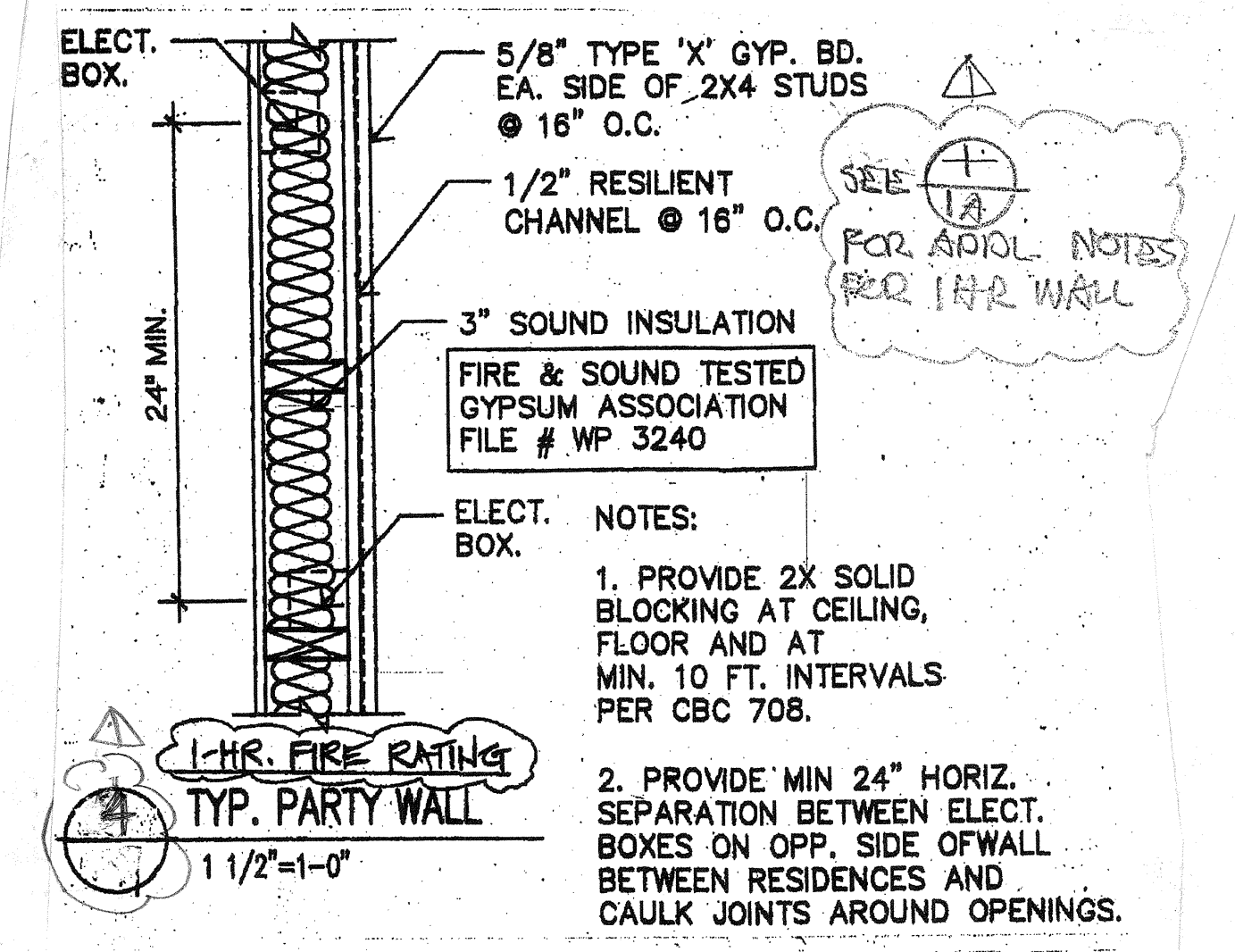
NEW TYP. NON-BEARING PARTITION
1 1/2"=1'-0"



CONCRETE LANDING/EXIT STEPS
1 1/2"=1'-0"

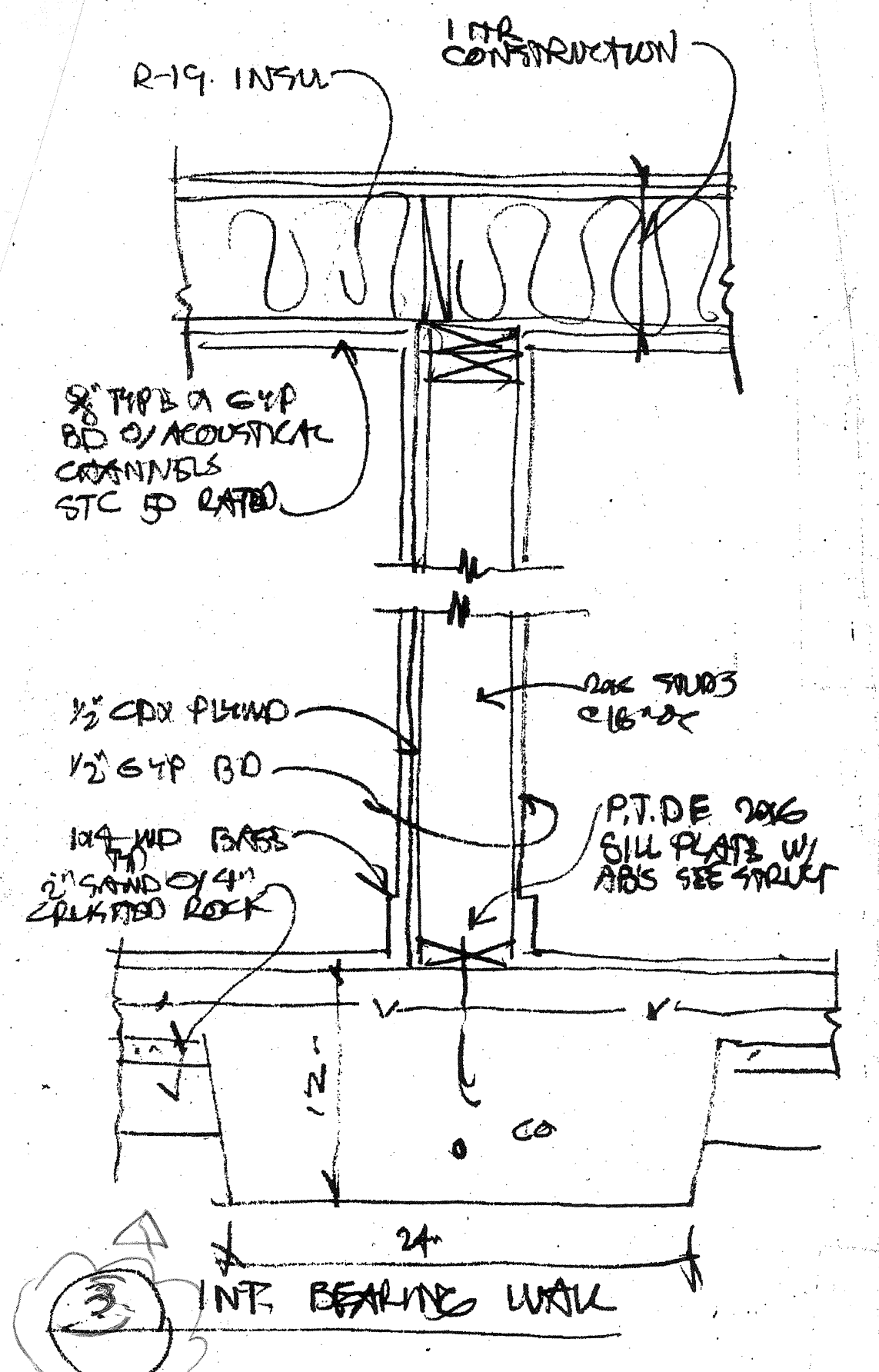


TYP. FLOOR ASSEMBLY (EXISTING)
1 1/2"=1'-0"

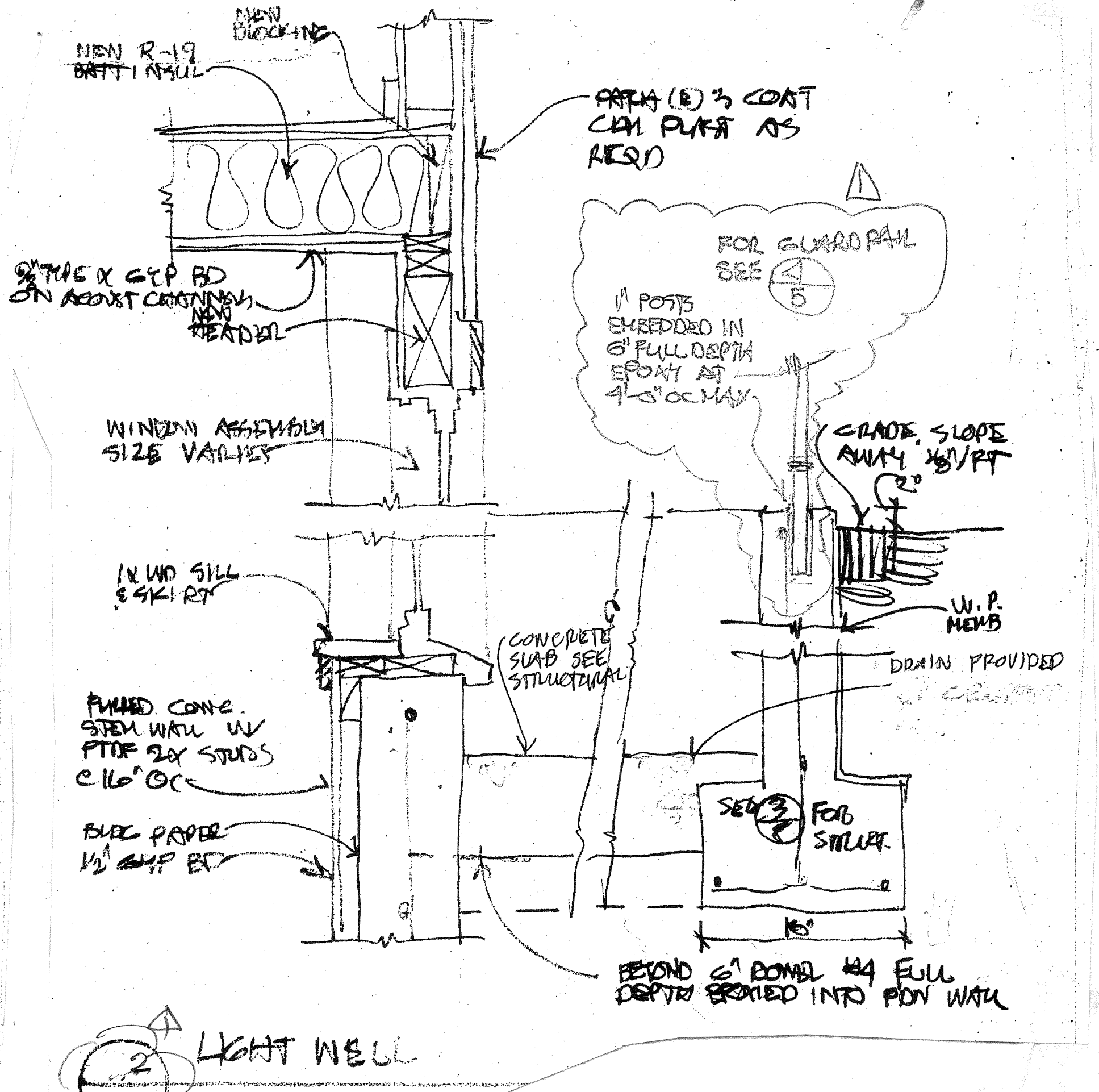


TYP. PARTY WALL
1 1/2"=1'-0"

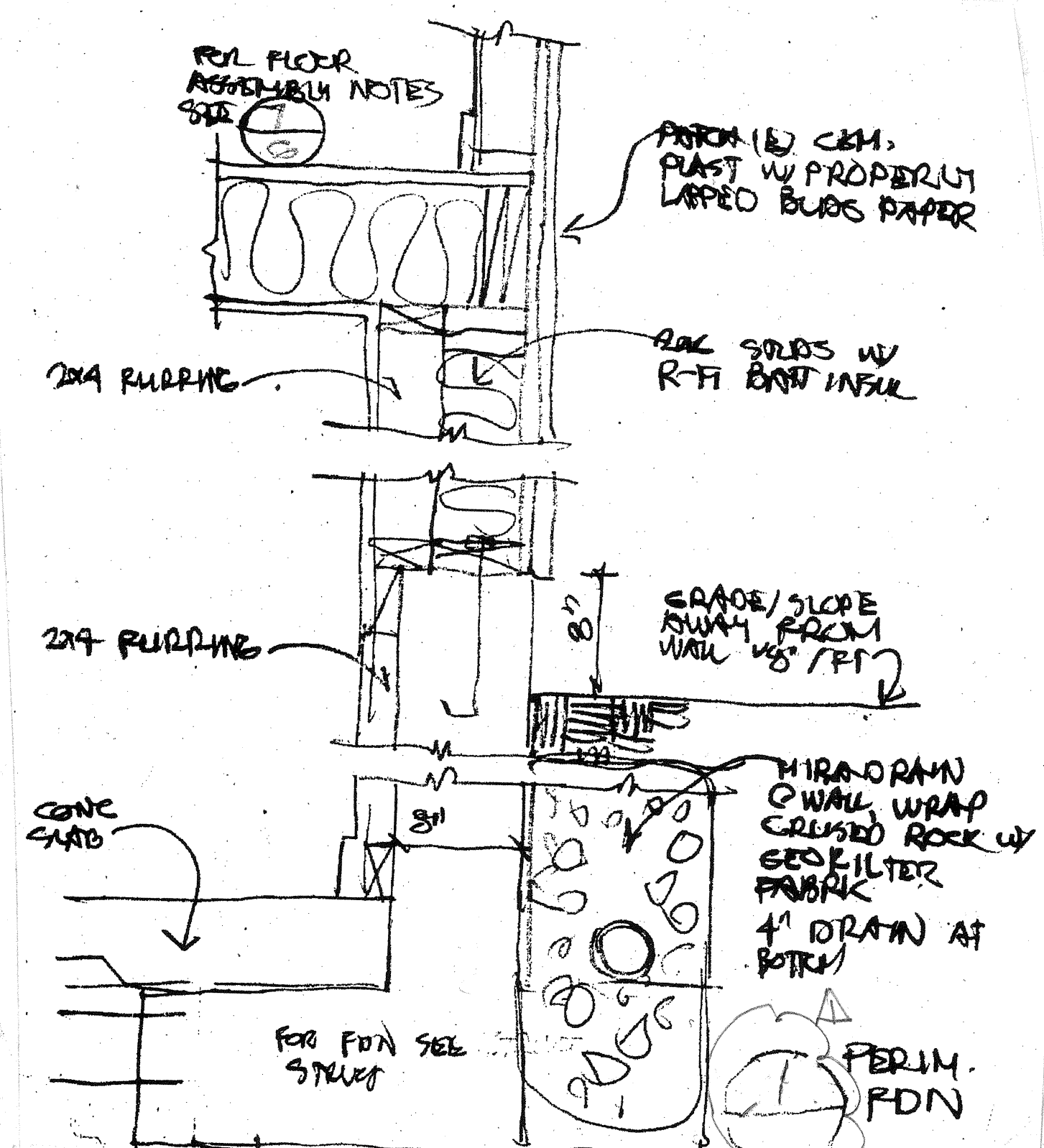
- NOTES:
1. PROVIDE 2X SOLID BLOCKING AT CEILING, FLOOR AND AT MIN. 10 FT. INTERVALS PER CBC 708.
 2. PROVIDE MIN 24" HORIZ. SEPARATION BETWEEN ELECT. BOXES ON OPP. SIDE OF WALL BETWEEN RESIDENCES AND CAULK JOINTS AROUND OPENINGS.



INT. BEARING WALL
1 1/2"=1'-0"



LIGHT WELL
1 1/2"=1'-0"



FOUND. & FOOTING
1 1/2"=1'-0"

REVISIONS	
1	18.18
2	4.26.19
3	8.22.19
4	8.23.19
5	8.23.19
6	8.23.19
7	8.23.19
8	8.23.19
9	8.23.19
10	8.23.19
11	8.23.19
12	8.23.19
13	8.23.19
14	8.23.19
15	8.23.19
16	8.23.19
17	8.23.19
18	8.23.19
19	8.23.19
20	8.23.19

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OAKLAND CA 94607
CELL 510.757.4035
wfc@wfcarch.com

DATE: 12.21.16
SCALE:
DRAWN:
JOB:
SHEET: 7
01/16 Sheets

2013 Low-Rise Residential Mandatory Measures Summary

\$110.0(b):	Any pool or spa heating equipment shall be installed with at least 3/4 inch of pipe between filter and heater or dedicated suction and return lines, or built-up connections for future solar heating.
\$110.0(c):	Outdoor pools or spas that have a heat pump or gas heater shall have a cover.
\$110.0(d):	Pools shall have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods.
\$110.5:	Natural gas pool and spa heaters shall not have a continuous burning pilot light.
\$150.0(p):	Residential pool systems or equipment shall meet specified pump sizing, flow rate, piping, filters, and valve requirements.
Lighting Measures:	
\$110.9:	All lighting control devices and systems, ballasts, and luminaires shall meet the applicable requirements of §110.9.
\$150.0(k)(A):	Installed luminaires shall be classified as high-efficiency or low-efficiency for compliance with §150.0(k) in accordance with TABLE 150.0.A or TABLE 150.0.B, as applicable.
\$150.0(k)(B):	When a high efficiency and low efficiency lighting system are combined in a single luminaire, each system shall separately comply with the applicable provisions of §150.0(k).
\$150.0(k)(C):	The wattage and classification of permanently installed luminaires in residential kitchens shall be determined in accordance with §130.0(c). In residential kitchens, the wattage of electrical boxes finished with a blank cover or where no electrical equipment has been installed, and where the electrical box can be used for a luminaire or a surface mounted ceiling fan, shall be calculated as 180 watts of low efficiency lighting per electrical box.
\$150.0(k)(D):	Ballasts for fluorescent lamps rated 13 watts or greater shall be electronic and shall have an output frequency no less than 20 kHz.
\$150.0(k)(E):	Permanently installed night lights and night lights installed in luminaires or exhaust fans shall be rated to consume no more than 5 watts of power per luminaire or exhaust fan as determined in accordance with §130.0(c). Night lights do not need to be controlled by vacancy sensors.
\$150.0(k)(F):	Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) shall meet the applicable requirements of §150.0(k).
\$150.0(k)(G):	High efficiency luminaires must be switched separately from low efficiency luminaires.
\$150.0(k)(H):	Exhaust fans shall be switched separately from lighting systems.
\$150.0(k)(I):	Luminaires shall be switched with readily accessible controls that permit the luminaires to be manually switched ON and OFF.
\$150.0(k)(J):	Controls and equipment are installed in accordance with manufacturer's instructions.
\$150.0(k)(K):	No control shall bypass a dimmer or vacancy sensor function if the control is installed to comply with §150.0(k).
\$150.0(k)(L):	Lighting controls comply with applicable requirements of §110.9.
\$150.0(k)(M):	An Energy Management Control System (EMCS) may be used to comply with dimmer requirements if it functions as a dimmer according to §110.9, meets Installation Certificate requirements of §130.4, the EMCS requirements of §130.5, and all other requirements in §150.0(k).
\$150.0(k)(N):	An Energy Management Control System (EMCS) may be used to comply with vacancy sensor requirements of §150.0(k) if it functions as a vacancy sensor according to §110.9, meets Installation Certificate requirements of §130.4, the EMCS requirements of §130.5, and all other requirements in §150.0(k).
\$150.0(k)(O):	A multi-stage programmable controller may be used to comply with dimmer requirements of this section if it provides the functionality of a dimmer according to §110.9, and complies with all other applicable requirements in §150.0(k).
\$150.0(k)(P):	A minimum of 50 percent of the total rated wattage of permanently installed lighting in kitchens shall be high efficiency.
\$150.0(k)(Q):	Kitchen lighting includes all permanently installed lighting in the kitchen except internal lighting in cabinets that illuminate only the inside of the cabinets. Lighting in areas adjacent to the kitchen, including but not limited to dining and nook areas, are considered kitchen lighting if they are not separately switched from kitchen lighting.
\$150.0(k)(R):	Permanently installed lighting that is internal to cabinets shall not have more than 20 watts of power per linear foot of illuminated cabinet.
\$150.0(k)(S):	A minimum of one high efficiency luminaire shall be installed in each bathroom; and all other lighting installed in each bathroom shall be high efficiency or controlled by vacancy sensors.
\$150.0(k)(T):	Lighting installed in attached and detached garages, laundry rooms, and utility rooms shall be high efficiency luminaires and controlled by vacancy sensors.
\$150.0(k)(U):	Lighting installed in rooms or areas other than in kitchens, bathrooms, garages, laundry rooms, and utility rooms shall be high efficiency, or shall be controlled by either dimmers or vacancy sensors.
\$150.0(k)(V):	Luminaires recessed into ceilings shall be listed for zero clearance insulation contact (CIC) by Underwriters Laboratories or other nationally recognized testing laboratory, have a label that certifies that the luminaire is airtight with air leakage less than 2.0 CFM at 75 Pascals when tested in accordance with ASTM E283; be sealed with a gasket or caulk between the luminaire housing and ceiling, and shall have all air leak paths between conditioned and unconditioned spaces sealed with a gasket or caulk; and allow bulb maintenance and replacement without requiring cutting holes in the ceiling.
\$150.0(k)(W):	For recessed compact fluorescent luminaires with ballasts to qualify as high efficiency for compliance with §150.0(k), the ballasts shall be certified to the Energy Commission to comply with the applicable requirements in §110.9.
\$150.0(k)(X):	For single-family residential buildings, outdoor lighting permanently mounted to a residential building or other buildings on the same lot shall be high efficiency, or may be low efficiency if it meets all of the following requirements: i. Controlled by a manual ON and OFF switch that does not override to ON the automatic actions of items ii or iii below; and ii. Controlled by a motion sensor not having an override or bypass switch that disables the motion sensor; or controlled by a motion sensor having a temporary override switch which temporarily bypasses the motion sensing function and automatically reactivates the motion sensor within 6 hours; and iii. Controlled by one of the following methods: 1. Controlled by a manual ON and OFF switch that does not override to ON the automatic actions of items ii or iii below; and 2. Controlled by a motion sensor not having an override or bypass switch that disables the motion sensor; or controlled by a motion sensor having a temporary override switch which temporarily bypasses the motion sensing function and automatically reactivates the motion sensor within 6 hours; and 3. Controlled by one of the following methods: a. Photocell not having an override or bypass switch that disables the photocell; or b. Astronomical time clock not having an override or bypass switch that disables the astronomical time clock, and which is programmed to automatically turn the outdoor lighting OFF during daylight hours; or c. Energy management control system which meets all of the following requirements: At a minimum provides the functionality of an astronomical time clock in accordance with §110.9; meets the Installation Certificate requirements in §130.4, meets the requirements for an EMCS in §130.5; does not have an override or bypass switch that allows the luminaire to be always ON; and is programmed to automatically turn the outdoor lighting OFF during daylight hours.
\$150.0(k)(Y):	For low-rise multifamily residential buildings, outdoor lighting for private patios, entrances, balconies, and porches; and outdoor lighting for residential parking lots and residential carports with less than eight vehicles per site shall comply with one of the following requirements: i. Shall comply with §150.0(k)(P); or ii. Shall comply with the applicable requirements in §110.9, §130.0, §130.2, §130.4, §140.7 and §141.0.
\$150.0(k)(Z):	For low-rise multifamily residential buildings with four or more dwelling units, outdoor lighting not regulated by §150.0(k)(P) or §150.0(k)(Y) shall comply with the applicable requirements in §110.9, §130.0, §130.2, §130.4, §140.7 and §141.0.
\$150.0(k)(AA):	Externally illuminated address signs shall comply with §140.8; or shall consume no more than 5 watts of power as determined according to §130.0(c).
\$150.0(k)(AB):	Lighting for residential parking garages for eight or more vehicles shall comply with the applicable requirements for nonresidential garages in §110.9, §130.0, §130.2, §130.4, §140.6, and §141.0.
\$150.0(k)(AC):	In a low-rise multifamily residential building where the total interior common area in a single building equals 20 percent or less of the floor area, permanently installed lighting for the interior common areas in that building shall be high efficiency luminaires or controlled by an occupant sensor.
\$150.0(k)(AD):	In a low-rise multifamily residential building where the total interior common area in a single building equals more than 20 percent of the floor area, permanently installed lighting in that building shall: i. Comply with the applicable requirements in §110.9, §130.0, §130.2, §140.6 and §141.0; and ii. Lighting installed in corridors and stairwells shall be controlled by occupant sensors that reduce the lighting power in each space by at least 50 percent. The occupant sensors shall be capable of turning the light fully On and Off from the input feeder location or ingress and egress.
Solar Ready Buildings:	
\$110.10(a):	Single family residences located in subdivisions with ten or more single family residences and where the application for a tentative subdivision map for the residences has been deemed complete, by the enforcement agencies, on or after January 1, 2014, shall comply with the requirements of §110.10(b) through §110.10(d).
\$110.10(a)(2):	Low-rise multi-family buildings shall comply with the requirements of §110.10(b) through §110.10(d).
\$110.10(b):	The solar zone shall have a minimum total area as described below. The solar zone shall comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other Parts of Title 24 or in any requirements adopted by a local jurisdiction. The solar zone total area shall be comprised of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet.
\$110.10(b)(1):	For single family residences the solar zone shall be located on the roof or overhang of the building and have a total area no less than 250 square feet. For low-rise multi-family buildings the solar zone shall be located on the roof or overhang of the building or on the roof or overhang of another structure within 250 feet of the building or on covered parking installed with the building project and have a total area no less than 15 percent of the total roof area of the building excluding any skylight area.
\$110.10(b)(2):	All sections of the solar zone located on steep-sloped roofs shall be oriented between 110 degrees and 270 degrees of true north.
\$110.10(b)(3):	No obstructions, including but not limited to, vents, chimneys, architectural features, and roof mounted equipment, shall be located in the solar zone.
\$110.10(b)(3)(A):	Any obstruction, located on the roof or any other part of the building that projects above a solar zone shall be located at least twice the distance, measured in the horizontal plane, of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane.
\$110.10(b)(3)(B):	For areas of the roof designated as solar zone, the structural design loads for roof dead load and roof live load shall be clearly indicated on the construction documents.
\$110.10(b)(3)(C):	The construction documents shall indicate a location for inverters and metering equipment and a pathway for routing of conduit from the solar zone to the point of interconnection with the electrical service for single family residences the point of interconnection will be the main service panel; a pathway for routing of plumbing from the solar zone to the water-heating system.
\$110.10(c):	A copy of the construction documents or a comparable document indicating the information from §110.10(b) through §110.10(c) shall be provided to the occupant.
\$110.10(d):	The main electrical service panel shall have a minimum busbar rating of 200 amps.
\$110.10(e):	The main electrical service panel shall have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space shall be positioned on the opposite (load) end from the input feeder location or main circuit location, and permanently marked as "For Future Solar Electric".

2013 Low-Rise Residential Mandatory Measures Summary

\$150.0(j)(2C):	Pipe for cooling system lines shall be installed as specified in §150.0(j)(2A). Piping insulation for steam and hydronic heating systems or hot water systems with pressure > 15 psig shall meet the requirements in TABLE 120.3-A.
\$150.0(j)(3):	Insulation is protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind.
\$150.0(j)(3A):	Insulation exposed to weather shall either be rated for outdoor use or installed with a cover suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation protected as specified or painted with coating that is water resistant and provides shielding from solar radiation that degrades the material.
\$150.0(j)(3B):	Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space shall have a Class I or Class II vapor retarding film, or the insulation shall be installed at the thickness that qualifies as a Class I or Class II vapor retarder.
\$150.0(n):	Systems using gas or propane water heaters to serve individual dwelling units shall include a 120V electrical receptacle within 3 feet of the water heater, a Category III or IV vent, or a Type B vent with straight pipe between the outside termination and the space where the water heater is installed; a condensate drain that is no more than 2 inches higher than the base of the installed water heater, and allows natural draining without pump assistance; and a gas supply line with a capacity of at least 200,000 Btu/hr.
\$150.0(n)(2):	Recirculating loops serving multiple dwelling units shall meet the requirements of §110.3(c)(5).
\$150.0(n)(3):	Solar water heating systems and collectors shall be certified and rated by the Solar Rating and Certification Corporation (SRCC) or by a testing agency approved by the Executive Director.
Ducts and Fans Measures:	
\$150.0(m):	All air-distribution system ducts and plenums installed are sealed and insulated to meet the requirements of CMC §601.0, §602.0, §603.0, §604.0, §605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Supply-air and return-air ducts and plenums are insulated to a minimum installed level of R-6 (or higher if required by CMC §605.0) or enclosed entirely in directly conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8). Connections of metal ducts and inner core of flexible ducts are mechanically fastened. Openings shall be sealed with mastic, tape, or other duct-closure system that meets the applicable requirements of UL 181, UL 181A, or UL 181B or aerosol sealant that meets the requirements of UL 723. If mastic or tape is used to seal openings greater than 1/4 inch, the combination of mastic and either mesh or tape shall be used. Building cavities, support platforms for air handlers, and plenums defined or constructed with materials other than sealed sheet metal, duct board or flexible duct shall not be used for conveying conditioned air. Building cavities and support platforms may contain ducts. Ducts installed in cavities and support platforms shall not be compressed to cause reductions in the cross-sectional area of the ducts.
\$150.0(m)(2):	Factory-Fabricated Duct Systems shall comply with specified requirements for duct construction, connections, and closures; joints and seams of duct systems and their components shall not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.
\$150.0(m)(3-6):	Field-Fabricated Duct Systems shall comply with requirements for pressure-sensitive tapes, mastics, sealants, and duct labeling requirements specified for duct construction, duct insulation R-value ratings, duct insulation thickness, and duct labeling.
\$150.0(m)(7):	All fan systems that exchange air between the conditioned space and the outside of the building must have backdraft or automatic dampers.
\$150.0(m)(8):	Gravity-ventilating systems serving conditioned space have either automatic or readily accessible, manually operated dampers except combustion inlet and outlet air openings and elevator shaft vents.
\$150.0(m)(9):	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind but not limited to the following: insulation exposed to weather shall be suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation shall be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation.
\$150.0(m)(10):	Flexible ducts cannot have porous inner cores.
\$150.0(m)(11):	When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts shall be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.
\$150.0(m)(12):	Mechanical systems that supply air to an occupiable space through ductwork exceeding 10 feet in length and through a thermal conditioning component, except evaporative coils, shall be provided with air filter devices that meet the requirements of §150.0(m)(2).
\$150.0(m)(13):	Space conditioning systems that utilize forced air ducts to supply cooling to an occupiable space shall have a hole for the placement of a static pressure probe (RSP), or a permanently installed static pressure probe (PSP) in the supply plenum. The space conditioning system must also demonstrate airflow > 250 CFM per ton of nominal cooling capacity through the return grilles, and an air-handling unit fan efficiency > 0.58 WCFM as confirmed by field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.
\$150.0(m)(15):	Zonally controlled central forced air cooling systems shall be capable of simultaneously delivering, in every zonal control mode, an airflow from the dwelling, through the air handler fan and delivered to the dwelling, of > 250 CFM per ton of nominal cooling capacity, and operating an air-handling unit fan efficiency of > 0.58 WCFM as confirmed by field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.
\$150.0(o):	All dwelling units shall meet the requirements of ASHRAE Standard 62.2. Neither window operation nor continuous operation of central forced air system air handlers used in central fan integrated-ventilation systems are permissible methods of providing the Whole Building Ventilation.
\$150.0(n)(A):	Whole Building Ventilation airflow shall be confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.
Pool and Spa Heating Systems and Equipment Measures:	
\$110.14(a):	Any pool or spa heating system shall be certified to have a thermal efficiency that complies with the Appliance Efficiency Regulations; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and shall not use electric resistance heating.

2013 Low-Rise Residential Mandatory Measures Summary

NOTE: Low-rise residential buildings subject to the Standards must comply with all applicable mandatory measures listed, regardless of the compliance approach used. Exceptions may apply. Review the respective code section for more information.

Building Envelope Measures:	
\$110.6(a):	Doors and windows between conditioned and unconditioned spaces are manufactured to limit air leakage.
\$110.6(a)(5):	Penetration products (except field-fabricated windows) have a label listing the certified U-Factor, certified Solar Heat Gain Coefficient (SHGC), and infiltration that meets the requirements of §110.11(a).
\$110.7:	Exterior doors and windows are weatherstripped, all joints and penetrations are caulked and sealed.
\$110.8(a):	Insulation specified or installed meets Standards for Insulating Material. Indicate type and include on the CF2R.
\$110.8(b):	The thermal emittance and aged solar reflectance values of the cool roofing material meets the requirements of §110.8(b) when the installation of a cool roof is specified on the CF2R.
\$110.8(g):	A radiant barrier shall have an emittance of 0.05 or less when the installation of a radiant barrier is specified on the CF2R.
\$110.8(h):	Minimum R-30 insulation in wood-frame ceiling, or the weighted average U-factor shall not exceed 0.031. Minimum R-19 in a rafter roof alteration. Attic access doors shall have permanently attached insulation using adhesive or mechanical fasteners. The attic access shall be gasketed to prevent air leakage.
\$150.0(a):	Loose fill insulation shall conform with manufacturer's installed design labeled R-value.
\$150.0(b):	Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less (R-19 in 2x6 or 0.074 maximum U-factor).
\$150.0(d):	Minimum R-19 insulation in raised wood-frame floor or 0.037 maximum U-factor.
\$150.0(g):	In Climate Zones 14 and 16 a Class II vapor retarder shall be installed on the conditioned space side of all insulation in all exterior walls, vented attics and unvented attics with air-permeable insulation.
\$150.0(g)(2):	In Climate Zones 1-16 with unvented crawl spaces the earth floor of the crawl space shall be covered with a Class I or Class II vapor retarder.
\$150.0(g)(3):	In a building having a controlled ventilation crawl space, a Class I or Class II vapor retarder shall be placed over the earth floor of the crawl space to reduce moisture entry and protect insulation from condensation, as specified in Section 150.0(d).
\$150.0(i):	Slab edge insulation shall: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3%; have water vapor permeance rate is no greater than 2.0 perms/inch, be protected from physical damage and UV light deterioration; and when installed as part of a heated slab floor meets the requirements of §110.8(g).
\$150.0(j):	Penetration, including skylights, separating conditioned space from unconditioned space or outdoors shall have a maximum U-factor of 0.58; or the weighted average U-factor of all penetration shall not exceed 0.58.
Fireplaces, Decorative Gas Appliances and Gas Log Measures:	
\$150.0(e)(A):	Masonry or factory-built fireplaces have a closable metal or glass door covering the entire opening of the firebox.
\$150.0(e)(B):	Masonry or factory-built fireplaces have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper or a combustion-air control device.
\$150.0(e)(C):	Masonry or factory-built fireplaces have a flue damper with a readily accessible control.
\$150.0(f):	Continuous burning pilot lights and the use of indoor air for cooling a firebox jacket, when that indoor air is vented to the outside of the building, are prohibited.
Space Conditioning, Water Heating and Plumbing System Measures:	
\$110.0-§110.3:	HVAC equipment, water heaters, showerheads, faucets and all other regulated appliances are certified to the Energy Commission.
\$110.3(c)(5):	Water heating recirculation loops serving multiple dwelling units meet the air release valve, backflow prevention, pump isolation valve, and recirculation loop connection requirements of §110.3(c)(5).
\$110.5:	Continuously burning pilot lights are prohibited for natural gas, fan-type central furnaces, household cooking appliances (appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu/hr are exempt), and pool and spa heaters.
\$150.0(h):	Heating and/or cooling loads are calculated in accordance with ASHRAE, SMACNA or ACCA using design conditions specified in §150.0(h)(2).
\$150.0(h)(3A):	Installed air conditioner and heat pump outdoor condensing units shall have a clearance of at least five feet from the outlet of any dryer vent.
\$150.0(i):	Heating systems are equipped with thermostats that meet the setback requirements of §110.2(c).
\$150.0(j)(1A):	Storage gas water heaters with an energy factor equal to or less than the federal minimum standards shall be externally wrapped with insulation having an installed thermal resistance of R-12 or greater.
\$150.0(j)(1B):	Unfired hot water tanks, such as storage tanks and backup storage tanks for solar water-heating systems, have R-12 external insulation or R-16 internal insulation where the internal insulation R-value is indicated on the exterior of the tank.
\$150.0(j)(2A):	For domestic hot water system piping, whether buried or unburied: the first 5 feet of hot and cold water pipes from the storage tank, all piping with a nominal diameter of 3/4 inch or larger, all piping associated with a domestic hot water recirculation system regardless of the pipe diameter, piping from the heating source to storage tank or between tanks, piping buried below grade, and all hot water pipes from the heating source to kitchen fixtures must be installed according to the requirements of TABLE 120.3-A.
\$150.0(j)(2B):	All domestic hot water pipes that are buried below grade must be installed in a water proof and non-crushable casing or sleeve that allows for installation, removal, and replacement of the enclosed pipe and insulation.

RESIDENTIAL MEASURES SUMMARY

Project Name: Unit 1 Addition & Remodel		Building Type: <input checked="" type="checkbox"/> Single Family <input type="checkbox"/> Multi Family <input type="checkbox"/> Addition Alone		Date: 12/9/2016	
Project Address: 2234 Haste Street Berkeley		California Energy Climate Zone: 03		Total Cond. Floor Area: 1,279	
INSULATION		CAVITY		SPECIAL FEATURES	
Wall	Wood Framed	R 13	768		New
Slab	Unheated Slab-on-Grade	-no insulation	796	Perim = 120'	New
Demising	Wood Framed	-no insulation	307		New
Wall	Wood Framed	-no insulation	407		Existing
Floor	Wood Framed w/ Crawl Space	-no insulation	180		Existing
FENESTRATION		Total Area: 165		Glazing Percentage: 12.9 %	
Orientation Area (ft²)		U-Fac		SHGC	
Front (N)	15.0	0.400	0.70	none	none
Left (E)	6.0	0.400	0.70	none	none
Right (W)	87.0	0.400	0.70	none	none
Front (N)	20.0	0.990	0.74	none	none
Rear (S)	37.0	0.400	0.70	none	none
HVAC SYSTEMS		Min. Eff		Cooling	
Qty.	Heating	Min. Eff	Cooling	Min. Eff	Thermostat
1	Central Furnace	80% AFUE	No Cooling	14.0 SEER	Setback
HVAC DISTRIBUTION		Location		Duct Location	
New FAU1		Heating	Cooling	Ducts	R-Value
		Ducted	Ducted	Outdoors	6.0
WATER HEATING		Qty.		Type	
		Gallons	Min. Eff	Distribution	
		50	0.60	Standard	
				Status	
				New	
EnergyPro 6, by EnergySoft		User Number: 3388		ID: 161218	
				Page 10 of 20	

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Unit 1 Addition Remodel
Calculation Date/Time: 14:40, Fri, Dec 09, 2016
Input File Name: coburn 2234 haste unit1.ridx

CFIR-PRF-01
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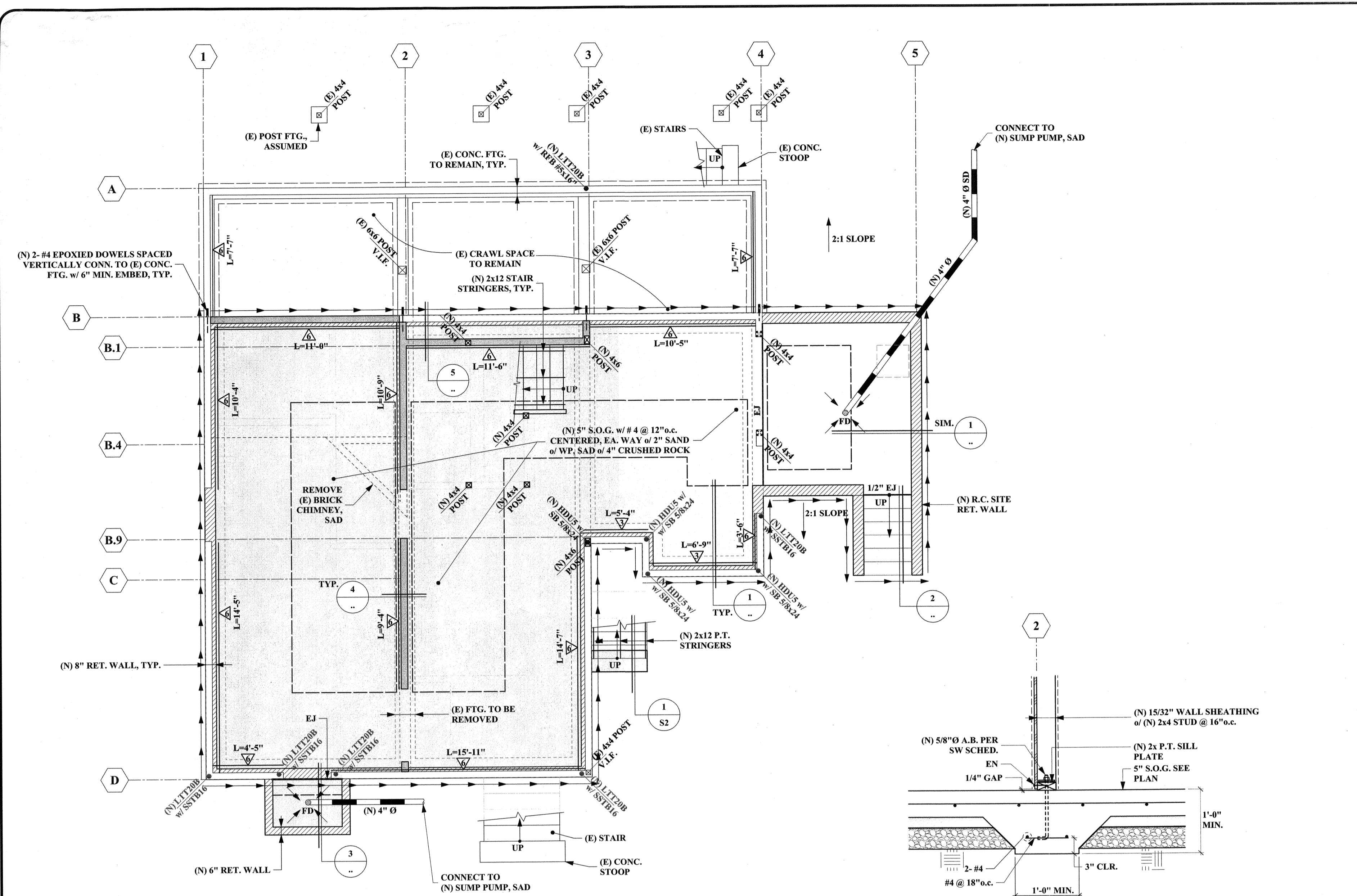
REQUIRED SPECIAL FEATURES						
The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.						
NO SPECIAL FEATURES REQUIRED						
HERS FEATURE SUMMARY						
The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building components tables below.						
Building-Level Verifications:						
• None						
Cooling System Verifications:						
• None						
HVAC Distribution System Verifications:						
• Duct Sealing						
• Domestic Hot Water System Verifications:						
• None						
ENERGY DESIGN RATING						
This is the sum of the annual TDV energy consumption for energy use components included in the performance compliance approach for the Standard Design Building (Energy Budget) and the annual energy consumption for lighting and components not regulated by Title 24, Part 6 (such as domestic appliances and consumer electronics) and accounting for the annual TDV energy offset by an on-site renewable energy system.						
Reference Energy Use (kWh/yr)	Energy Design Rating	Margin	Percent Improvement			
95.30	64.39	0.91	1.0%			
Total Energy (kWh/yr)*						
* includes calculated Appliances and Miscellaneous Energy Use (AMEU)						
BUILDING - FEATURES INFORMATION						
01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft²)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
Unit 1 Addition Remodel	1279	1	1	2	0	1
ZONE INFORMATION						
01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft²)	Avg. Ceiling Height	Water Heating System 1	Water Heating System 2
Addition	Conditioned	New FAU1	796	9	DHW Sys 1	
Existing	Conditioned	New FAU1	483	9		

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Unit 1 Addition Remodel
Calculation Date/Time: 14:40, Fri, Dec 09, 2016
Input File Name: coburn 2234 haste unit1.ridx

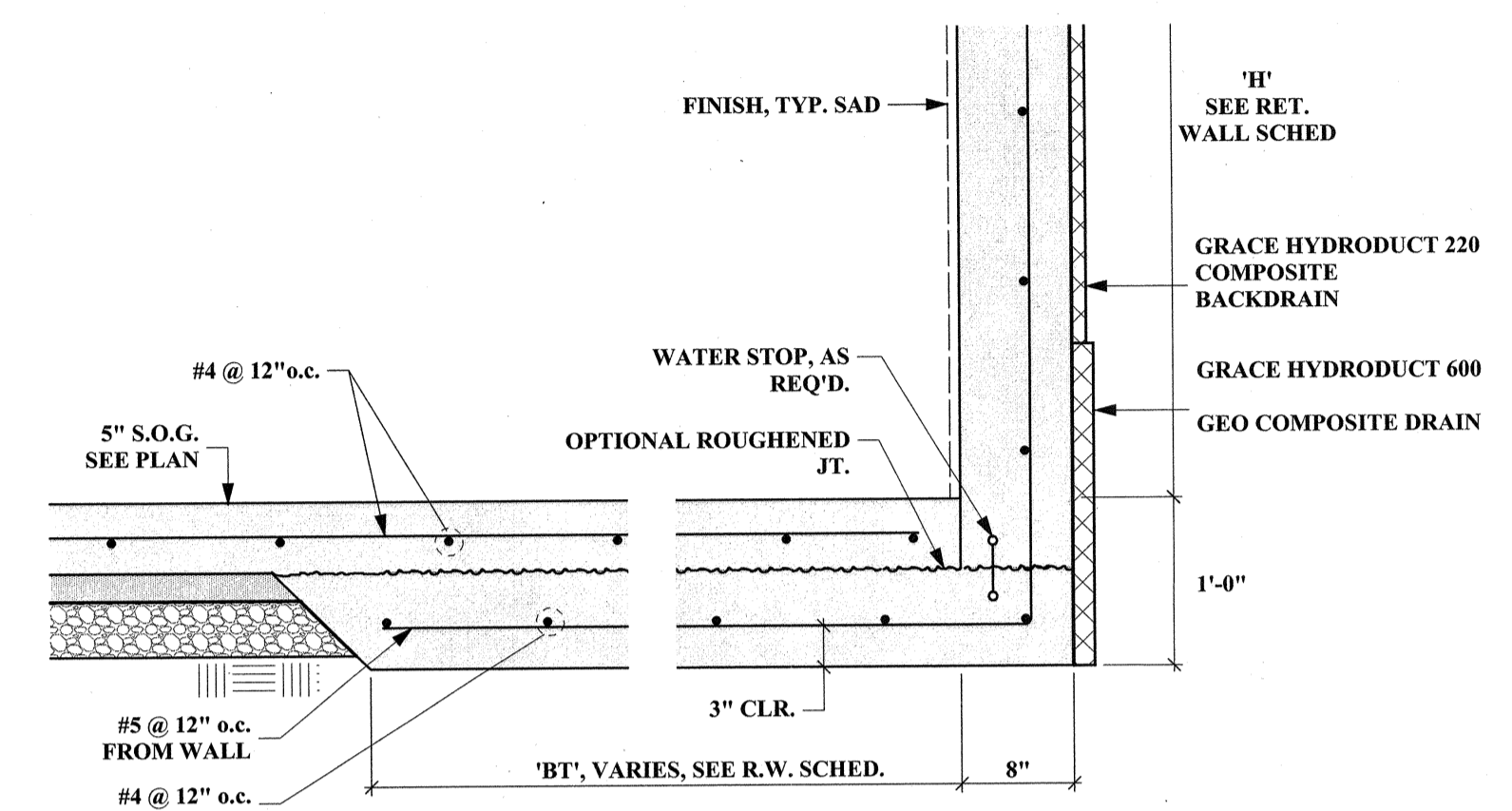
CFIR-PRF-01
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GENERAL INFORMATION			
01	Project Name: Unit 1 Addition Remodel		
02	Calculation Description: Title 24 Analysis		
03	Project Location: 2234 Haste Street		
04	City: Berkeley		
05	Standards Version: Compliance 2015		
06	Compliance Manager Version: BEMCrpMgr 2013-4b (433)		
07	Software Version: EnergyPro 6.8		
08	Climate Zone: C23		
09	Front Orientation (deg/Cardinal): 350		
10	Building Type: Single Family		
11	Number of Dwelling Units: 1		
12	Project Scope: Addition and/or Alteration		
13	Number of Zones: 2		
14	Total Cond. Floor Area (ft²): 1279		
15	Number of Stories: 2		
16	Slab Area (ft²): 796		
17	Number of Stories: 2		
18	Addition Cond. Floor Area (ft²): 796		
19	Natural Gas Available: Yes		
20	Addition Slab Area (ft²): 796		
21	Glazing Percentage (%): 12.9%		
COMPLIANCE RESULTS			
01	Building Complies with Computer Performance		
02	This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider.		
ENERGY USE SUMMARY			
04	Energy Use (kWh/yr)*	05	Standard Design</

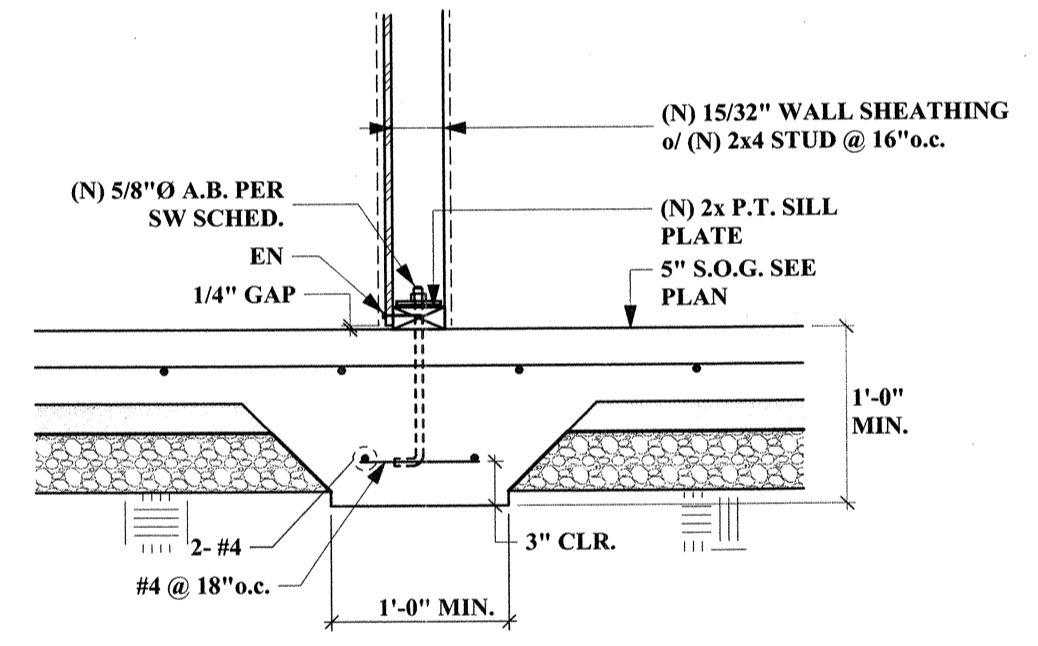


BASEMENT & FOUNDATION PLAN
1/4" = 1'-0" NOTE: 5/8" Ø RFB ANCHORS, LTT20B, SHALL BE TENSION TESTED TO 2500 LB.

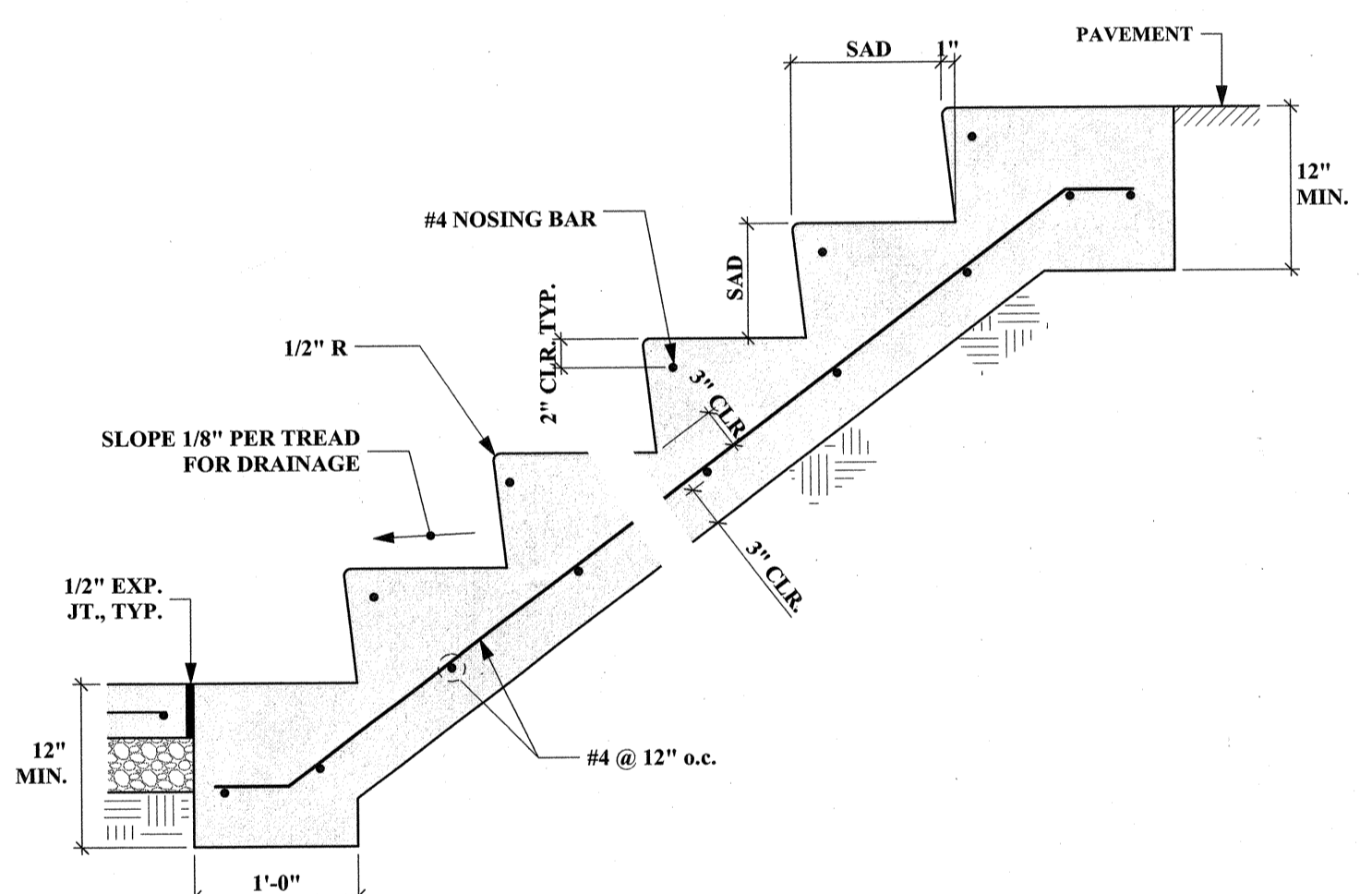
RET. WALL SCHEDULE		
WALL LOCATION	WALL HEIGHT 'H', FT.	FTG. LENGTH 'BT', FT.
HOUSE	> 4'-6" ≤ 6'-6"	4'-9"
SITE	> 4'-0" ≤ 6'-0"	3'-9"
	> 2'-0" ≤ 4'-0"	2'-0"
	≤ 2'-0"	1'-0"



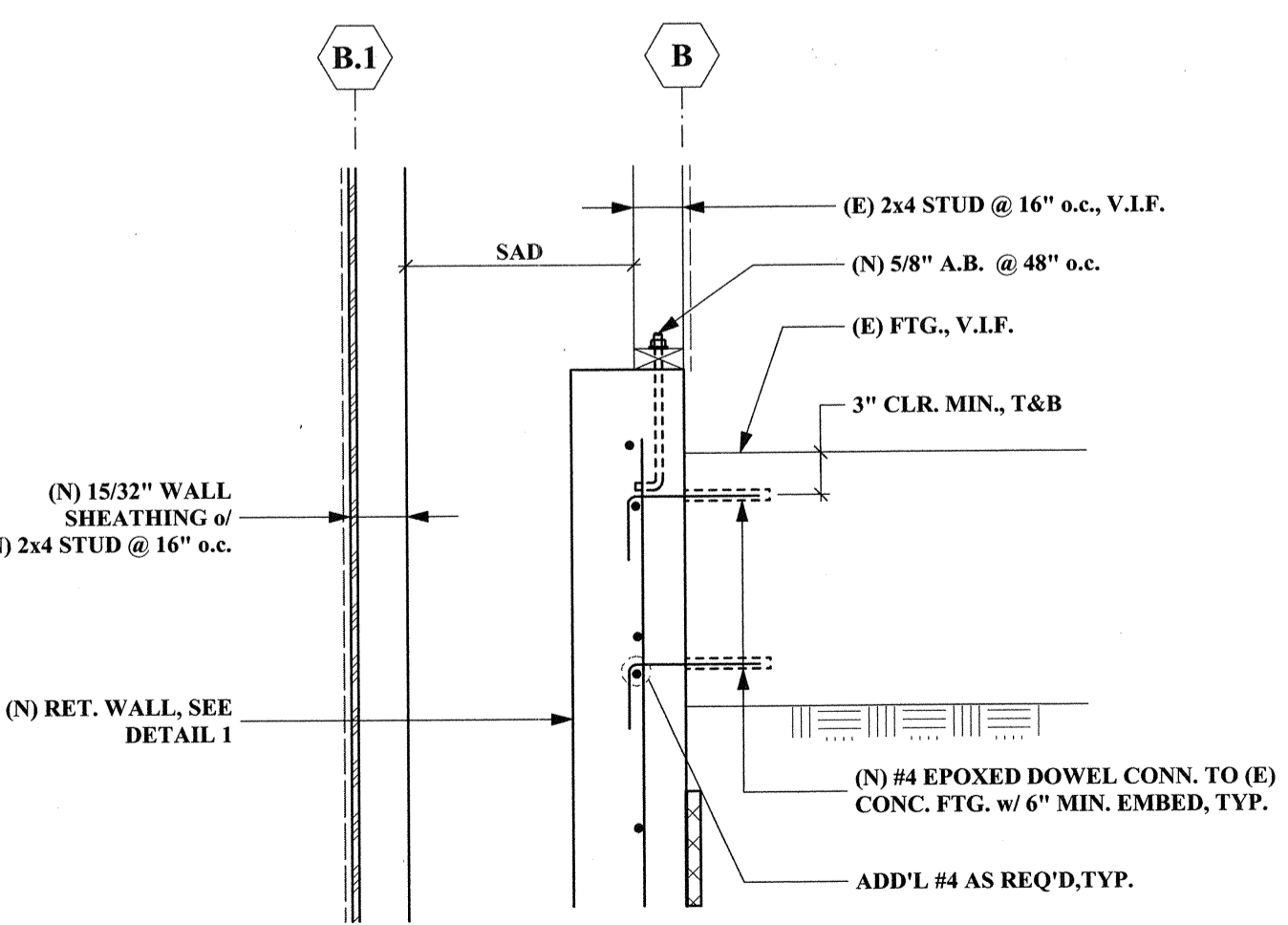
1 TYPICAL CANTILEVER RET. WALL
1" = 1'-0"



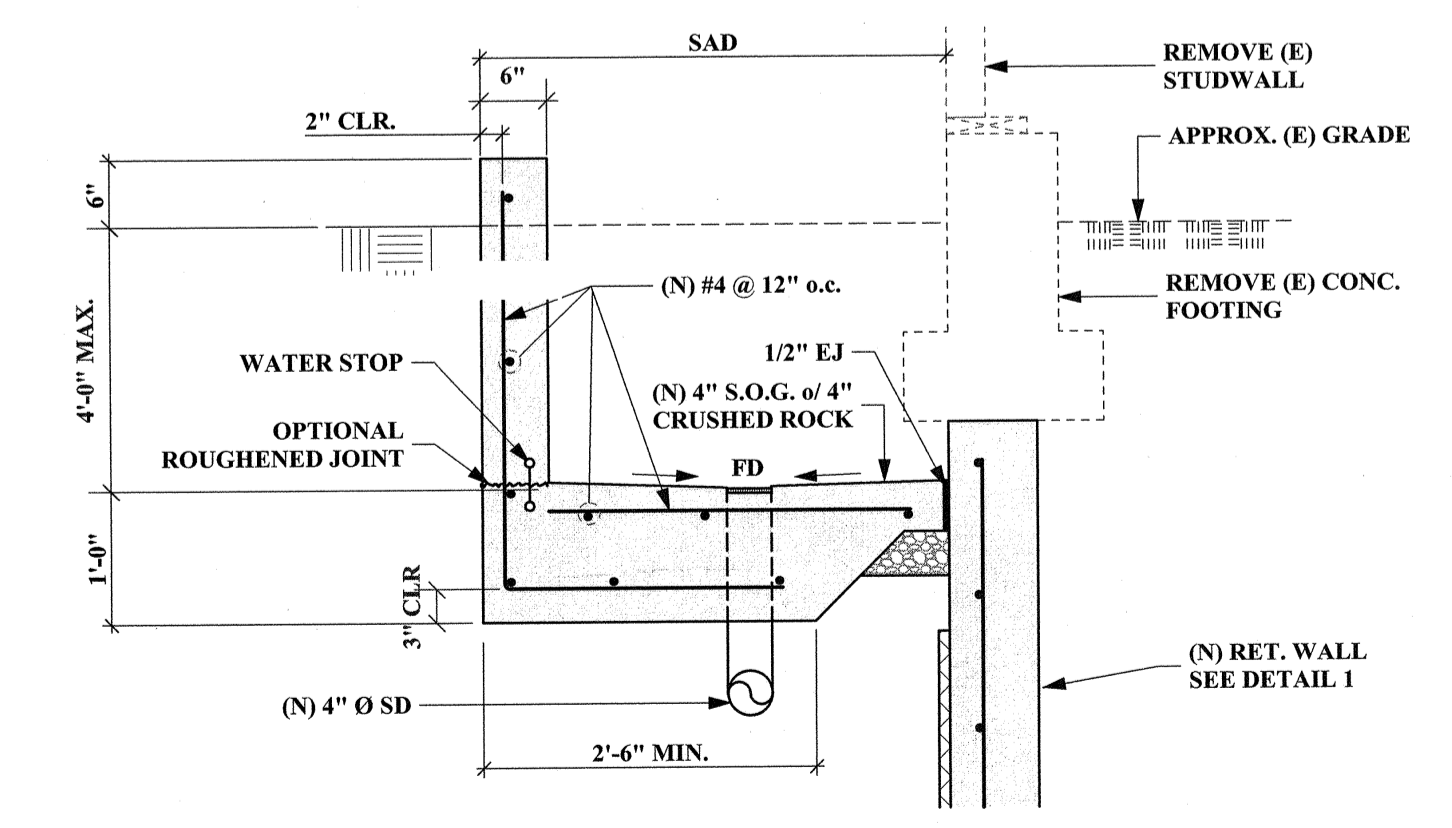
4 (N) INTERIOR WALL FTG. @ LINE 2
1" = 1'-0"



2 (N) CONC. STAIRS @ PATIO
1" = 1'-0"



5 SECTION @ (N) RET. WALL & (E) FTG. CONN. @ LINES B & B.1
1" = 1'-0"



3 SECTION @ (N) LIGHT WELL
3/4" = 1'-0"

LEGEND

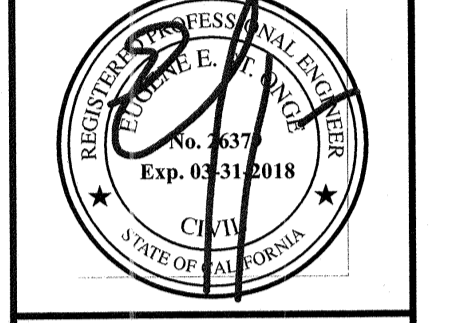
- (N) CONC. AREA
- (N) 8" RET. WALL
- (N) STRUCTURAL WALL ABOVE
- (E) STRUCTURAL WALL ABOVE
- (N) SHEARPLY w/ (N) STRUCTURAL WALL ABOVE
- (N) SHEARPLY w/ (E) STRUCTURAL WALL ABOVE
- V.I.F. VERIFY IN FIELD
- GRACE HYDRODUCT COMPOSITE BACKDRAIN SYSTEM
- 4" Ø SDR 35 PVC STORM DRAIN. PROVIDE 1'-0" MIN. COVER, & INSTALL w/ 1/8" FT MIN. GRADIENT.
- FD FLOOR DRAIN

SHEAR WALL SCHEDULE				
WALL MARK	ALLOWABLE SHEAR LOAD (PLF)	EDGE NAILING	SIMPSON CLIP SIZE & SPACING	ANCHOR BOLTS SPACING (NOTE 7)
▽	310	10d @ 6" o.c.	A35 @ 16" o.c. OR LTP4 @ 24" o.c.	SDS25600 @ 12" o.c., 48" o.c.
▽	600	10d @ 3" o.c.	A35 @ 8" o.c. OR LTP4 @ 12" o.c.	SDS25600 @ 6" o.c., 30" o.c.

- NOTES:**
- SHEATHING: 15/32" DOUGLAS FIR APA EXTERIOR, EXPOSURE 1, RATED SHEATHING IN CONFORMANCE WITH THE U.S. COMMERCIAL STANDARDS PS-1. AT CONTRACTOR'S OPTION, SHEATHING MAY BE INSTALLED ON OPPOSITE SIDE OF WALL AS INDICATED.
 - STUDS SHALL BE AT 16" O.C. MAXIMUM
 - FIELD NAILING SHALL BE 12" O.C.
 - BLOCK & NAIL ALL SHEATHING EDGES.
 - ALL SHEATHING SHALL BE SPLICED AT CENTERLINE OF FRAMING OR BLOCKING.
 - USE 3x OR DBL 2x's MIN. AT FOUNDATION SILL PLATE AND FOR ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ABUTTING PANELS WHERE ALLOWABLE SHEAR VALUES EXCEED 350 PLF. ALL EDGE NAILING AT ADJOINING PANEL EDGES SHALL BE STAGGERED.
 - ALL WET SET ANCHOR BOLTS SHALL BE 5/8" Ø x 12" w/ 7" MIN. EMBEDMENT AT CONTRACTORS OPTION, 5/8"x8" TITEN HD MAY SUBSTITUTE FOR ANCHOR BOLTS SHOWN, PROVIDE THE SAME SPACING AS PER SCHEDULE. USE 3" SQ. x 1/4" PLATE WASHER w/ DIAGONALLY SLOTTED HOLE.
- * PROVIDE 3x OR ADDITIONAL 2x NAILER AT SILL PLATE RECEIVING EDGE NAILING WHERE PANELS ARE APPLIED ON BOTH FACES.

REVISIONS	BY

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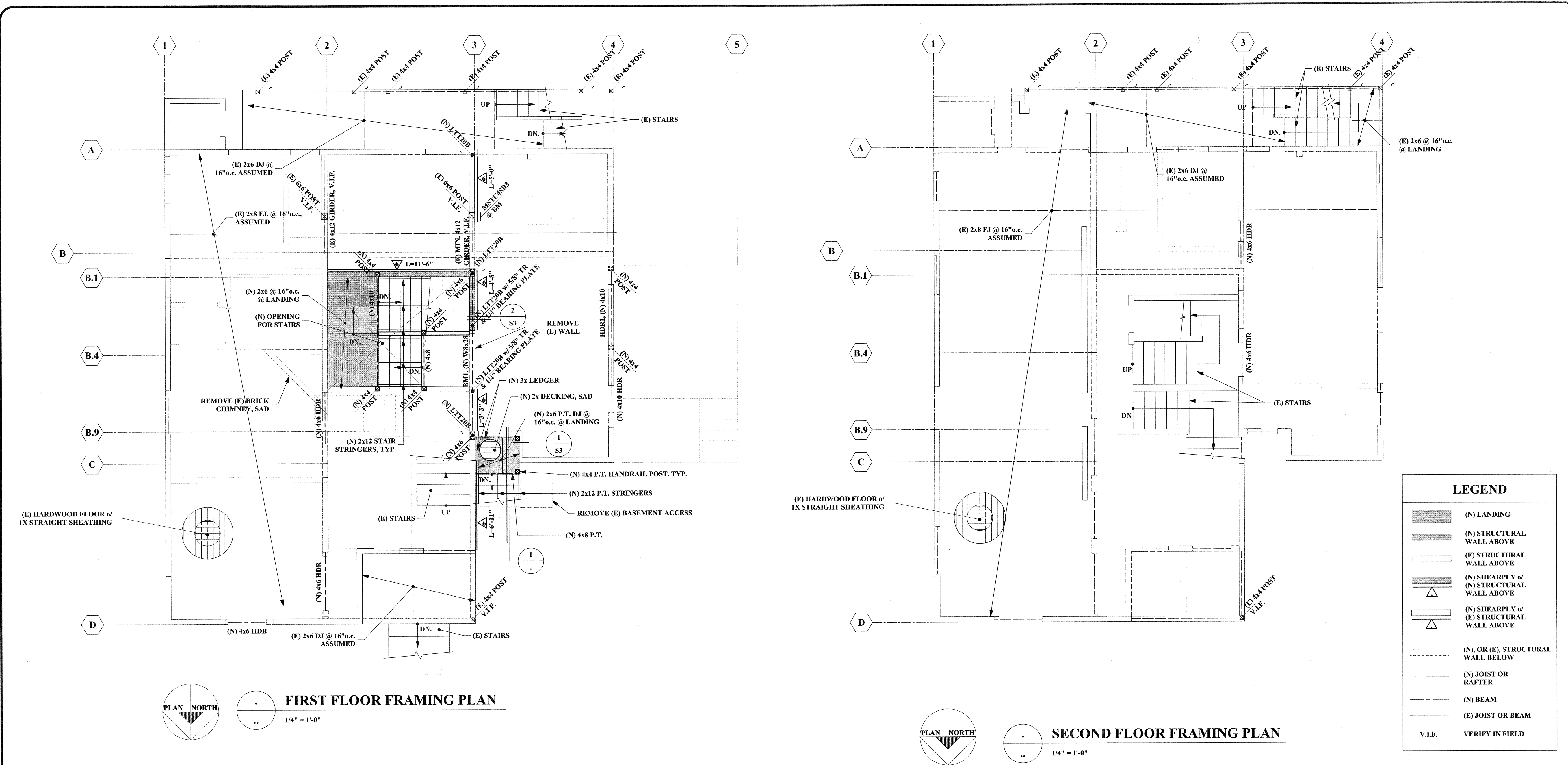
Client:
L.B Reddy
Everest Properties
2278 Shattuck Ave.
Berkeley, CA 94704

New Basement Remodel
2234 Haste Street
Berkeley, CA 94704

BASEMENT & FOUNDATION PLAN, & DETAILS

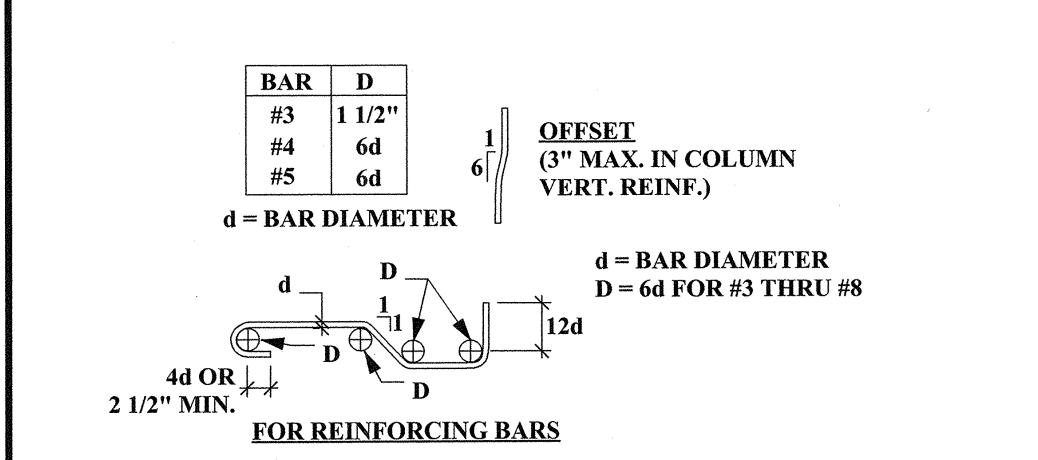
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CHECKED: GSO
DATE: December 6, 2016
SCALE: As Noted
JOB: 1685
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WALL MARK	ALLOWABLE SHEAR LOAD (PLF)	EDGE NAILING	SIMPSON CLIP SIZE & SPACING	SILL PLATE NAILING SIZE & SPACING
▽	310	10d @ 6" o.c.	A35 @ 16" o.c. OR LTP4 @ 24" o.c.	SDS25600 @ 12" o.c.

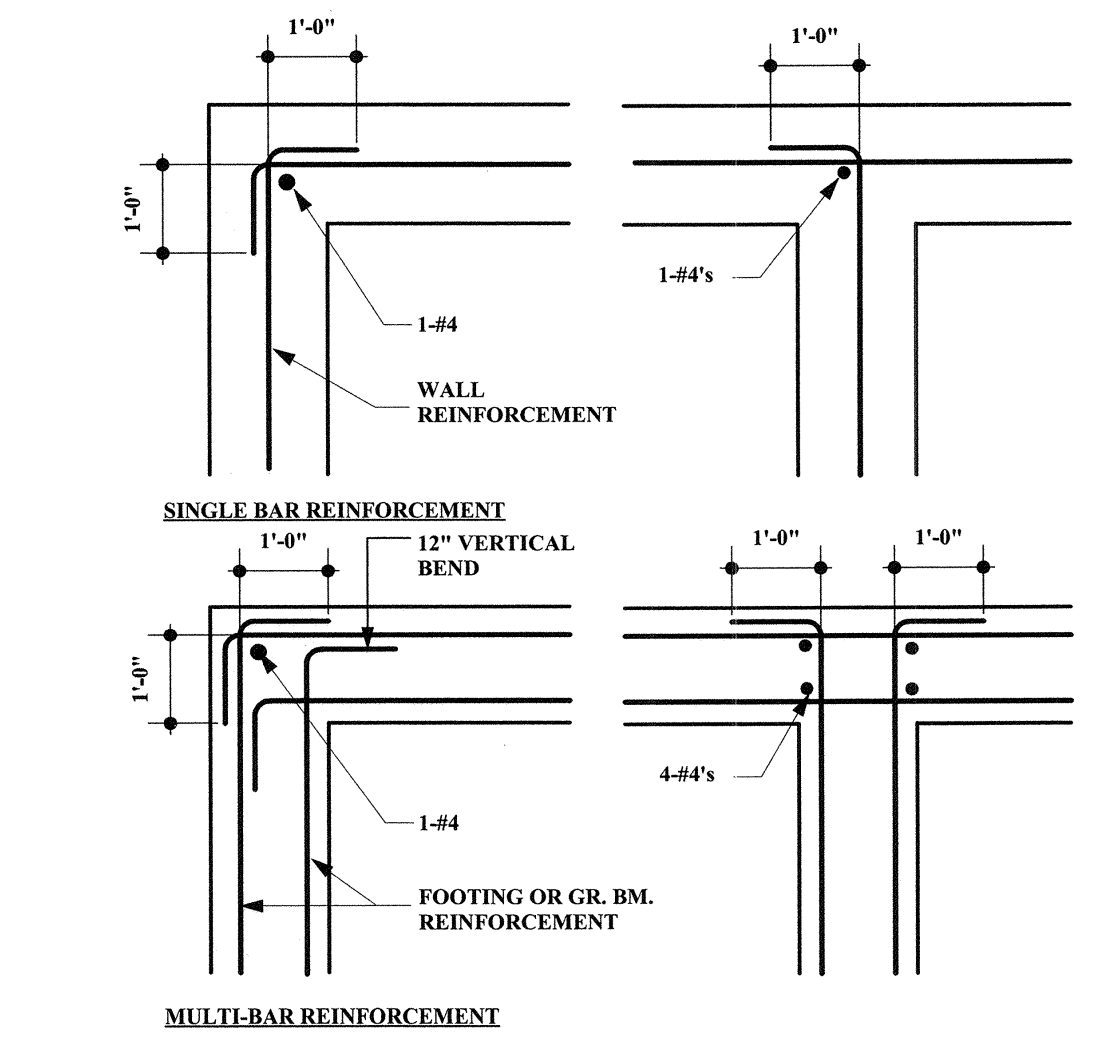
- NOTES:
1. SHEATHING: 1532" DOUGLAS FIR APA EXTERIOR, EXPOSURE 1, RATED SHEATHING IN CONFORMANCE WITH THE U.S. COMMERCIAL STANDARDS PS-1. AT CONTRACTOR'S OPTION, SHEATHING MAY BE INSTALLED ON OPPOSITE SIDE OF WALL AS INDICATED.
 2. STUDS SHALL BE AT 16" O.C. MAXIMUM
 3. FIELD NAILING SHALL BE 12" O.C.
 4. BLOCK & NAIL ALL SHEATHING EDGES.
 5. ALL SHEATHING SHALL BE SPLICED AT CENTERLINE OF FRAMING OR BLOCKING.



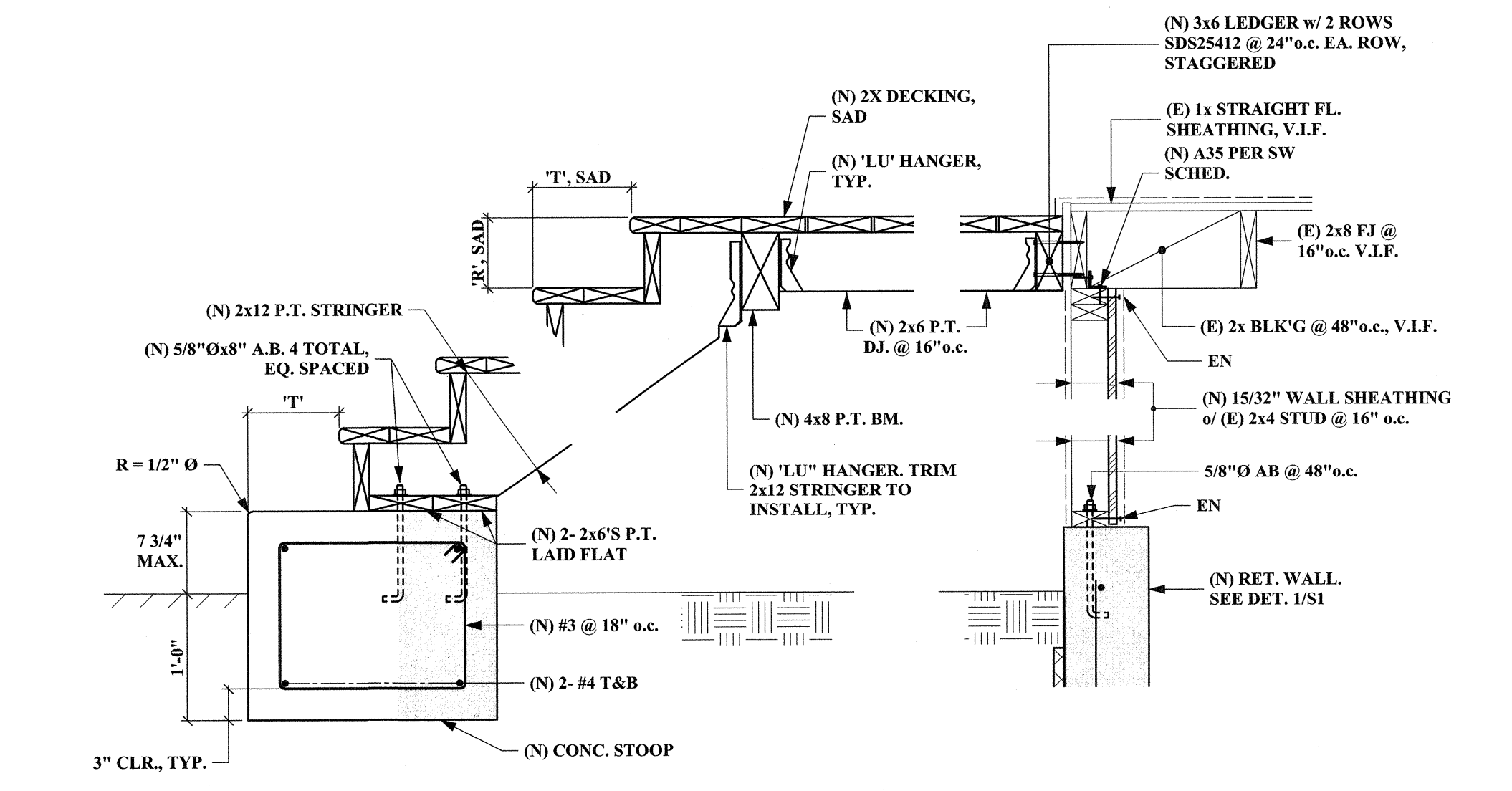
4 BAR BENDING DETAIL
NOT TO SCALE

BAR SIZE	HARDROCK CONCRETE	
	HORIZ. SLAB BARS	GRADE BEAMS
#3	25"	31"
#4	32"	41"
#5	40"	52"

3 TENSION LAP SPlice SCHEDULE
NTS



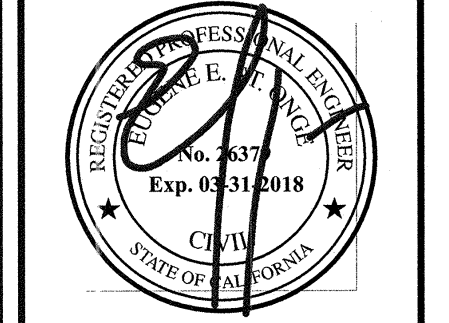
2 REINFORCING @ INTERSECTIONS & CORNERS
NOT TO SCALE



1 SECTION @ (N) EXTERIOR STAIRS
1" = 1'-0" NOTE: SAD FOR WATERPROOFING.

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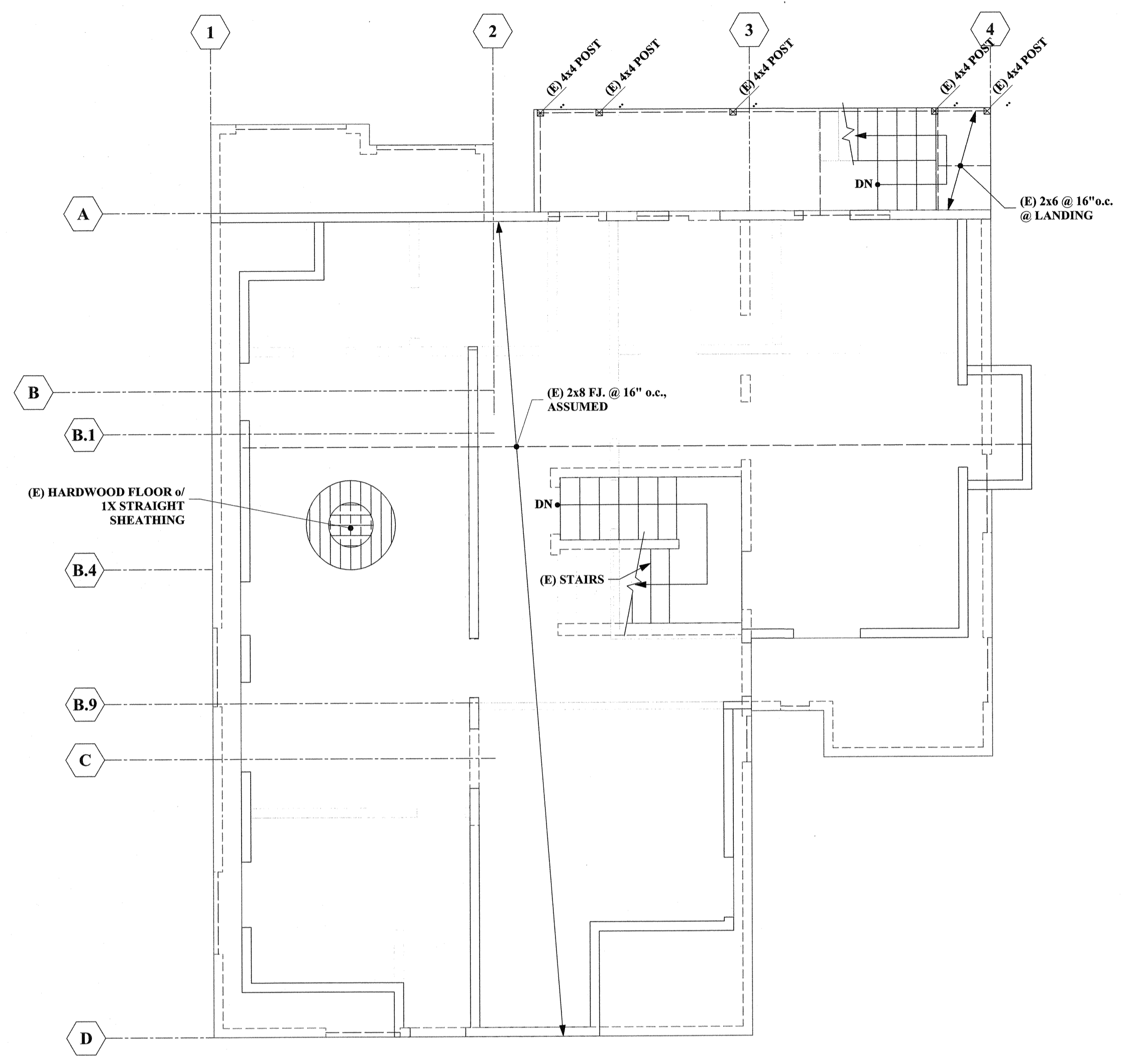
New Basement Remodel
2234 Haste Street
Berkeley, CA 94704

FIRST FLOOR FRAMING PLAN, SECOND FLOOR FRAMING PLAN, & DETAILS

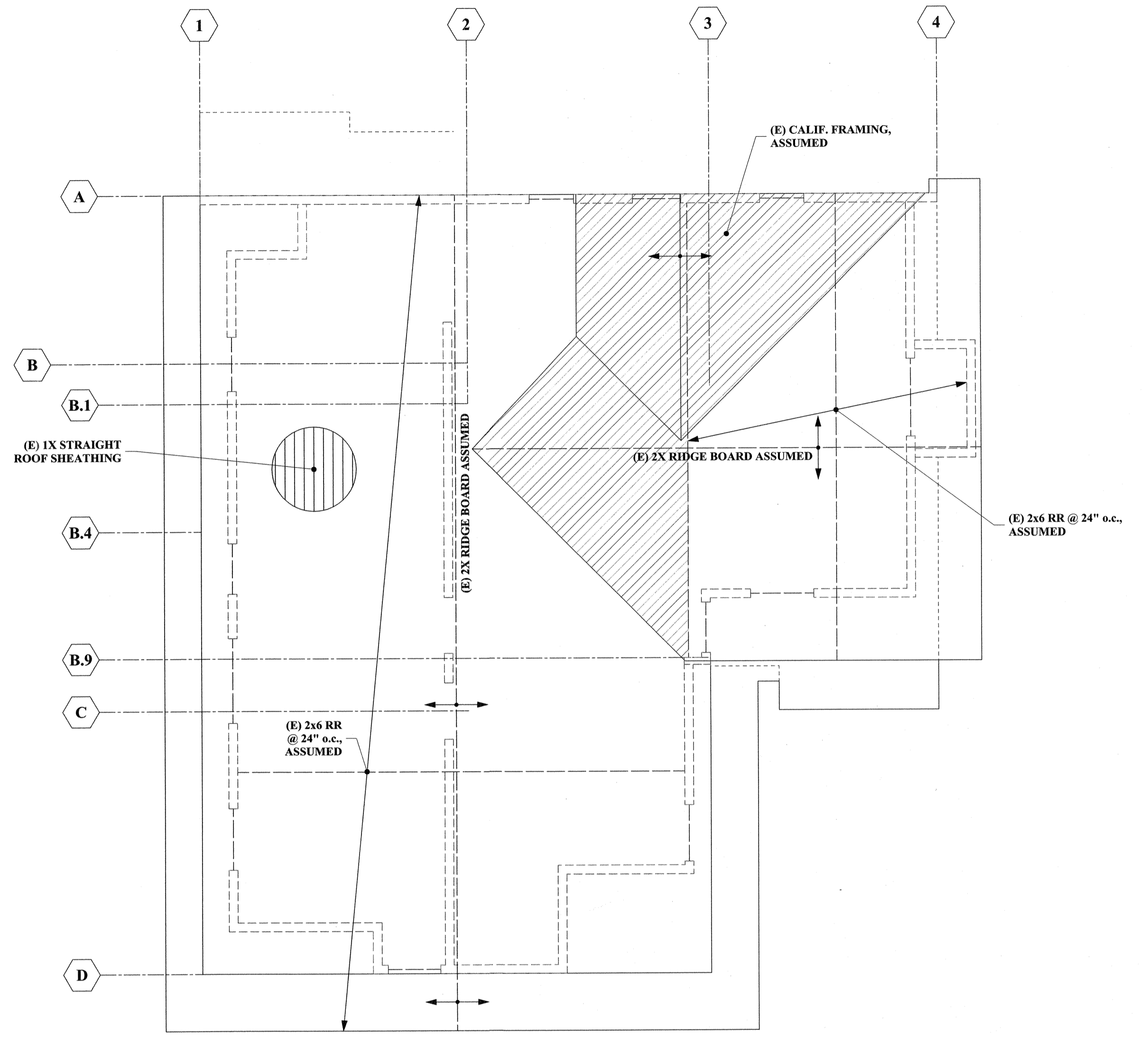
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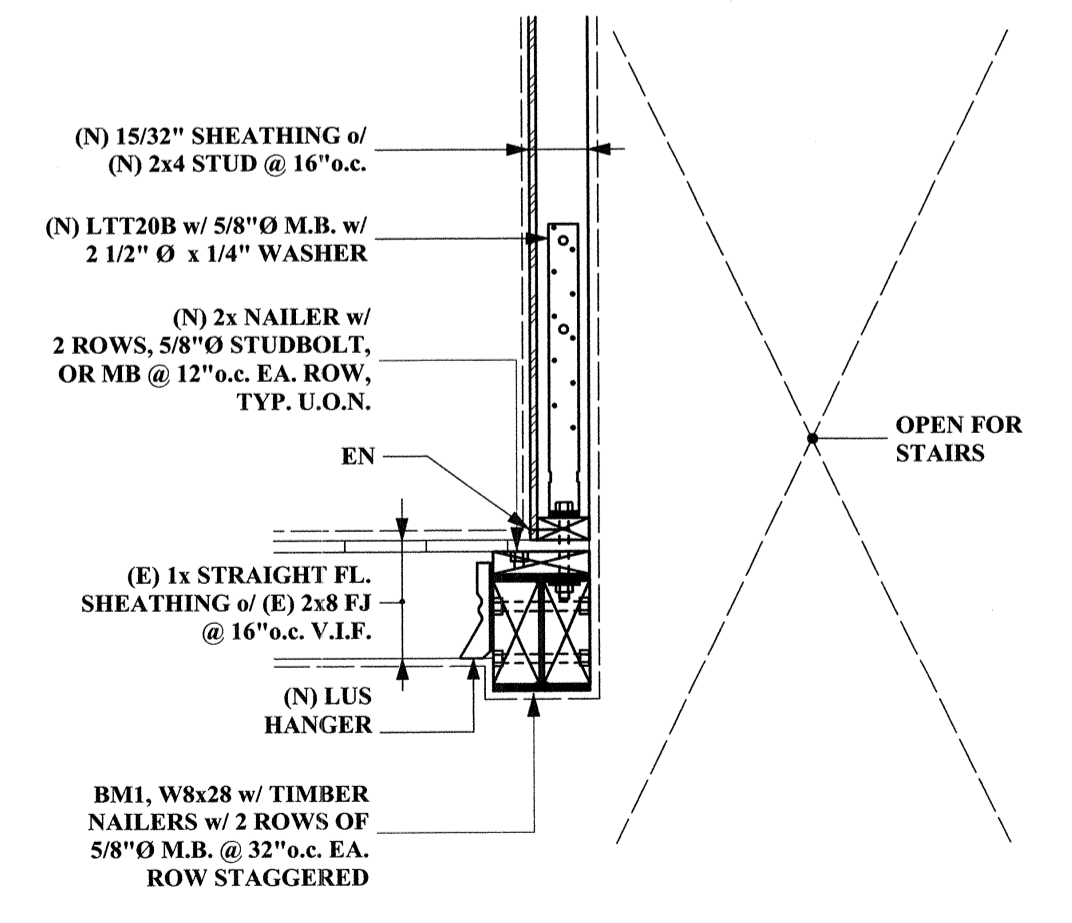


PLAN NORTH
THIRD FLOOR FRAMING PLAN
1/4" = 1'-0"

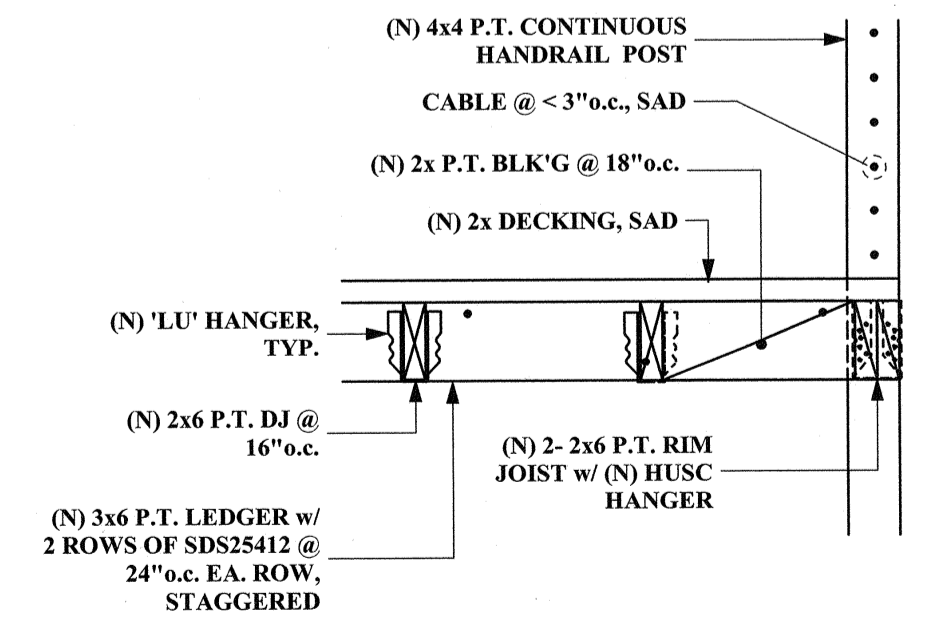


PLAN NORTH
ROOF FRAMING PLAN
1/4" = 1'-0"

LEGEND	
	(E) STRUCTURAL WALL ABOVE
	(N), OR (E), STRUCTURAL WALL BELOW
	(E) JOIST OR BEAM
	V.I.F. VERIFY IN FIELD



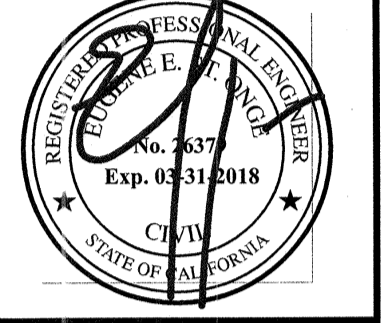
2 SECTION @ BMI, (N) W8x28, & STAIRS
1" = 1'-0"



1 TYP. (N) HANDRAIL POST
1" = 1'-0"

REVISIONS	BY

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THIRD FLOOR FRAMING PLAN, ROOF FRAMING PLAN, & DETAILS

DRAWN JAC & LBH
CHECKED GSO
DATE December 6, 2016
SCALE As Noted
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of 4 sheets

Jan December 6, 2016
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GENERAL

- APPLYING TO ALL STRUCTURAL FEATURES UNLESS OTHERWISE SHOWN OR NOTED.
- ALL WORK SHALL BE PERFORMED IN CONFORMANCE WITH THE 2013 CALIFORNIA BUILDING CODE (CBC) WITH CITY OF BERKELEY AMENDMENTS.
 - THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS BEFORE STARTING WORK. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
 - UNLESS OTHERWISE SHOWN OR NOTED, ALL TYPICAL DETAILS SHALL BE USED WHERE APPLICABLE. ALL DETAILS SHALL BE CONSIDERED TYPICAL AT SIMILAR CONDITIONS.
 - UNLESS OTHERWISE SHOWN OR NOTED, FOLLOW MANUFACTURER'S INSTALLATION RECOMMENDATIONS FOR ALL STRUCTURAL PRODUCTS USED ON THE PROJECT.
 - THE APPROVED DRAWINGS SHALL BE KEPT ON THE JOB SITE AND SHALL BE AVAILABLE TO AUTHORIZED REPRESENTATIVES OF THE BUILDING OFFICIAL. THERE SHALL BE NO DEVIATION FROM THE STAMPED DRAWINGS WITHOUT OFFICIAL APPROVAL.
 - SAFETY MEASURES: AT ALL TIMES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF PEOPLE AND PROPERTY, AND FOR ALL NECESSARY INDEPENDENT ENGINEERING REVIEWS OF THESE CONDITIONS. SHORING AND BRACING OF THE SOIL, AND THE EXISTING STRUCTURES, SHALL BE INSTALLED WHERE NECESSARY TO ADEQUATELY SUPPORT THE IMPOSED VERTICAL AND LATERAL LOADS, AND SHALL BE MAINTAINED UNTIL THE NEW STRUCTURE CAN SUPPORT THE ANTICIPATED LOADS. UNDERPINNING AND/OR SHORING IS REQUIRED AT ALL ELEVATIONS ADJACENT TO, AND TO ELEVATIONS BELOW, EXISTING FOUNDATIONS, AND WHERE PARTIAL REMOVAL OF EXISTING FOUNDATIONS IS CALLED FOR ON THE DRAWINGS. THE ENGINEER'S JOB SITE VISITS ARE NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES. ALL SAFETY-RELATED MEASURES SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF CAL-OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION DIVISION OF DEPT. OF INDUSTRIAL SAFETY, STATE OF CALIFORNIA).
 - ANY OPENING, HOLES, CUTS OR DISCONTINUITIES NOT SHOWN ON THE STRUCTURAL DRAWINGS AND EXTENDING INTO OR THROUGH STRUCTURAL MEMBERS REQUIRE THE PRIOR APPROVAL OF THE ENGINEER, AND MAY REQUIRE SPECIAL STRUCTURAL DETAILING.
 - CONTRACTORS SHALL SCHEDULE WORK TO MINIMIZE INTERRUPTION AND INCONVENIENCE TO THE ACTIVITIES OF THE ADJACENT TENANTS.
 - CONTRACTOR SHALL MAINTAIN A CLEAN AND SAFE WORKING AREA.
 - CONTRACTOR SHALL COMPLY WITH CITY OF BERKELEY, CA, REQUIREMENTS FOR THE PROTECTION OF PUBLIC RIGHT-OF-WAY (SIDEWALKS).
 - THE LOCATION OF UTILITY LINES IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL ENDEAVOR TO MAINTAIN IN SERVICE ALL UTILITIES TO THE TENANTS FOR THE DURATION OF THE PROJECT.
 - INTENT: IF CERTAIN FEATURES ARE NOT FULLY SHOWN OR CALLED FOR ON THE DRAWINGS OR SPECIFICATIONS, THEIR CONSTRUCTION SHALL BE OF THE SAME CHARACTER AS FOR SIMILAR CONDITIONS THAT ARE SHOWN OR SPECIFIED.
 - REFERENCE TO OTHER DRAWINGS:
 - SEE DRAWINGS OTHER THAN STRUCTURAL FOR KINDS OF FLOOR FINISH AND THEIR LOCATION, FOR DEPRESSIONS IN FLOOR SLABS, FOR OPENINGS IN WALLS AND FLOORS REQUIRED BY ARCHITECTURAL AND MECHANICAL FEATURES, FOR DRIVEWAY PAVING, WALKS, RAMPS, STAIRS, CURBS, ETC.
 - HOLES AND OPENINGS THROUGH WALLS AND FLOORS FOR DUCTS, PIPING AND VENTILATION SHALL BE CHECKED BY THE CONTRACTOR WHO SHALL VERIFY SIZES AND LOCATION OF SUCH HOLES OR OPENINGS WITH THE PLUMBING, HEATING, VENTILATING AND ELECTRICAL DRAWINGS AND SUB-CONTRACTORS.

DESIGN DATA

- CODE: 2013 CBC
- DESIGN VERTICAL LOADS:

	DL	LL
ROOF	12 PSF	20 PSF
FLOOR	10 PSF	40 PSF
EXT. WALL	10 PSF	---
INT. WALL	7 PSF	---
- SEISMIC:
 - V=0.17W (ASD) [SS=2.35, S1=0.98, SITE CLASS D, R=6.5, I=1.0, SITE DES. CAT. E, SD1=0.98, SDS=1.57]
 - H=12.8 PSF (ASD)

TESTS & SPECIAL INSPECTIONS

- PROVIDE TESTS AND INSPECTIONS FOR ALL ITEMS AS REQUIRED BY THE 2013 CALIFORNIA BUILDING CODE (CBC).
- THE OWNER SHALL RETAIN AN INDEPENDENT TESTING LAB TO PERFORM ALL REQUIRED TESTING AND INSPECTIONS.
- THE CONTRACTOR SHALL PROVIDE THE TESTING LAB WITH CONSTRUCTION SCHEDULES TO ENSURE PROPER COORDINATION OF TESTING.
- THE FOLLOWING SPECIFIC ITEMS SHALL BE INSPECTED BY A PROJECT ENGINEER, CITY'S INSPECTOR OR TESTED BY THE TESTING LAB:
 - PLACEMENT OF REINFORCEMENT STEEL (WITH ADEQUATE LEAD TIME TO MAKE ANY REQUIRED CORRECTIONS).
 - EPOXY INSTALLED ANCHORS.

FOUNDATIONS

- CBC SITE CLASS 5 IS ASSUMED FOR FOUNDATION DESIGN.
- ALLOWABLE SOIL BEARING PRESSURE: 1500 PSF FOR DEAD PLUS LIVE LOADS, 2000 PSF FOR ALL LOADS INCLUDING WIND OR SEISMIC
- EXCEPT WHERE OTHERWISE SHOWN, EXCAVATIONS SHALL BE MADE AS NEAR AS POSSIBLE TO THE NEAT LINES REQUIRED BY THE SIZE AND SHAPE OF THE STRUCTURE. ALL FOUNDATIONS SHALL BE PLACED WITHOUT THE USE OF SIDE FORMS WHEREVER POSSIBLE. IF THE TRENCHES CANNOT STAND, FULLY FORM SIDES TO DIMENSIONS SHOWN.
- DO NOT ALLOW WATER TO STAND IN TRENCHES. IF BOTTOMS OF TRENCHES BECOME SOFTENED DUE TO RAIN OR OTHER WATER BEFORE CONCRETE IS CAST, EXCAVATE SOFTENED MATERIAL AND REPLACE WITH PROPERLY COMPACTED BACKFILL OR CONCRETE AT NO COST TO THE OWNER.
- ALL EXCAVATIONS, FORMS AND REINFORCING ARE TO BE INSPECTED BY THE LOCAL BUILDING INSPECTOR PRIOR TO PLACING CONCRETE.
- CLAYEY SOIL SHOULD BE MOISTURE CONDITIONED TO AT LEAST 3 PERCENT OVER OPTIMUM WATER CONTENT AND COMPACTED TO AT LEAST 90 PERCENT RELATIVE COMPACTION. SANDY SOILS SHOULD BE MOISTURE CONDITIONED TO NEAR OPTIMUM WATER CONTENT AND COMPACTED TO AT LEAST 95 PERCENT RELATIVE COMPACTION.

CONCRETE

- CONCRETE CEMENT SHALL CONFORM TO 2013 CBC STND. NO. 19-1, AND SHALL BE TYPE II. TYPE I CEMENT MAY BE USED IN AREAS NOT IN CONTACT WITH EARTH. AGGREGATE SHALL BE HARDROCK, CONFORMING TO ASTM C33, AND FREE OF ALKALI REACTIVITY. WATER/CEMENT RATIO SHALL NOT EXCEED 55%. ACID SOLUBLE CHLORIDE CONTENT SHALL NOT EXCEED 0.2 PERCENT OF CEMENT WEIGHT. CHLORIDE-FREE ADMIXTURES AND PLASTICIZERS FOR WORKABILITY MAY BE USED IF APPROVED BY THE TESTING LABORATORY AND ENGINEER. BECAUSE EXCESS WATER REDUCES CONCRETE STRENGTH, ADDING WATER AT THE SITE IS DISCOURAGED AND SHALL NOT EXCEED ONE GALLON PER CUBIC YARD.
- INSTALL ALL INSERTS, BOLTS, ANCHORS, AND REINFORCING BARS AND SECURELY PRIOR TO PLACING CONCRETE.
- CONCRETE SHALL ATTAIN A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS.
- CONCRETE SHALL BE PLACED IN A CONTINUOUS OPERATION BETWEEN PRECAST CONSTRUCTION JOINTS.
- CONCRETE SHALL BE CONTINUOUSLY CURED FOR 5 DAYS AFTER PLACEMENT IN ANY APPROVED MANNER.
- THE LOCATION AND PROTECTION OF EXISTING UTILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF UTILITY PIPES RUN THROUGH, OR WITHIN 24" BELOW, ANY NEW CONCRETE CONSTRUCTION.
- PIPE OR DUCTS EXCEEDING ONE-THIRD THE SLAB OR WALL THICKNESS SHALL NOT BE PLACED IN STRUCTURAL CONCRETE UNLESS SPECIFICALLY DETAILED.
- PIPES MAY PASS THROUGH STRUCTURAL CONCRETE IN SLEEVES, BUT SHALL NOT BE EMBEDDED THEREIN.
- CONCRETE SHALL NOT BE ALLOWED TO CURE IN TEMPERATURES LESS THAN 40° FAHRENHEIT FOR THE FIRST THREE DAYS.
- MAXIMUM SLUMP: 4 INCHES.

REINFORCING STEEL

- USE ASTM A615 REINFORCEMENT FOR ALL BARS, GRADE 60.
- ALL REINFORCEMENT SHALL BE CONTINUOUS. STAGGER SPLICES WHERE POSSIBLE. LAPS FOR SPLICES SHALL BE AS PER THE LAP SPLICE SCHEDULE SHOWN IN THESE DRAWINGS.
- HOLD REINFORCEMENT IN ITS TRUE HORIZONTAL AND VERTICAL POSITION WITH DEVICES SUFFICIENTLY NUMEROUS TO PREVENT DISPLACEMENT.

ROUGH CARPENTRY

- FOR SCHEDULE OF MINIMUM NAILING SEE TABLE 2304.9.1, 2013 CBC. UNLESS OTHERWISE NOTED, ALL NAILS SHALL BE COMMON NAILS.
- PLACE JOINTS WITH CROWN UP.
- ADD ONE ADDITIONAL JOIST UNDER ALL PARALLEL PARTITIONS.
- BLOCK ALL JOISTS AT SUPPORTS AND UNDER ALL PARTITIONS WITH MINIMUM 2X SOLID BLOCKING.
- METAL FRAMING DEVICES: PROVIDE TYPICAL CONNECTORS FOR WOOD FRAMING BY SIMPSON CO. OR EQUAL. ALL CONNECTIONS SHALL BE 16 GA. GALVANIZED SHEET METAL OR THICKER, U.O.N., FULLY NAILED IN ALL PUNCHED HOLES WITH NAILS OF SIZE AND LENGTH SPECIFIED AND/OR PROVIDED BY MANUFACTURER. IF CONNECTORS ARE AVAILABLE IN DIFFERENT SIZES, THE SIZE USED SHALL BE AS SHOWN IN DETAILS OR ELSE THE LARGEST SIZE MADE FOR THE DEPTH OF MEMBER BEING FRAMED. COMPARABLE FASTENERS BY OTHER MANUFACTURERS MAY BE USED IF APPROVED IN ADVANCE BY THE DESIGN ENGINEER. UNLESS OTHERWISE NOTED, PROVIDE THE FOLLOWING FRAMING CONNECTIONS:
 - SAWN LUMBER JOIST-TO-BEAM: SIMPSON U
 - BEAM-TO-POST: SIMPSON CC OR ECC
 - POST-TO-BEAM: SIMPSON BC
 - POST-TO-FOUNDATION: SIMPSON CBSQ
- ALL FRAMING LUMBER SHALL BE GRADE STAMPED S-DRY (19% MOISTURE CONTENT AT TIME OF INSTALLATION)
- SAWN LUMBER: U.O.N. ALL SAWN LUMBER SHALL BE DOUGLAS FIR LARCH (COAST REGION), GRADED AND MARKED IN ACCORDANCE WITH THE STANDARD GRADING RULES NUMBER 16 OF THE WEST COAST LUMBER INSPECTION BUREAU.
 - POSTS, JOISTS, RAFTERS & BEAMS: NO. 1 GRADE
 - STUDS: STUD GRADE
- STRUCTURAL STUD WALLS:
 - USE SINGLE BOTTOM PLATE AND DOUBLE TOP PLATE UNLESS OTHERWISE NOTED OR SHOWN. STAGGER JOINTS IN UPPER AND LOWER MEMBERS OF TOP PLATES NOT LESS THAN 4'-0".
 - BOLT SILL PLATE TO CONCRETE AS PER ANCHOR BOLT SCHEDULE. ONE BOLT SHALL BE WITHIN 9" OF EACH END OF EACH PIECE OF PLATE. PROVIDE 2 BOLTS MINIMUM PER PIECE.
 - PROVIDE SIMPSON ANGLE A35 CLIP @ 16" O.C. BETWEEN DBL. TOP PLATES AND BLOCKING AND RIM JOIST TYPICAL, U.O.N. PER PLAN OR SHEARWALL SCHEDULE.

- BOLTS:
 - BOLTS SHALL BE PER ASTM A307, U.O.N.
 - BOLT HOLES 1/16" OVERSIZE. THREADS SHALL NOT BEAR ON WOOD OR STEEL.
 - USE STANDARD MALLEABLE IRON WASHERS AGAINST WOOD. 2-3/4" ØX 5/16" THICK FOR 5/8" BOLTS. 3" ØX 7/16" THICK FOR 3/4" BOLTS
 - ALL BOLTS EXPOSED TO WEATHER OR PROLONGED DAMPNESS SHALL BE HOT-DIPPED GALVANIZED.
- SCREWS:
 - WOOD OR LAG SCREWS SHALL BE SCREWED AND NOT DRIVEN INTO PLACE.
 - IN SPACING SCREWS, THE HOLES SHALL BE BORED TO THE SAME DIAMETER AND DEPTH OF THE SCREW SHANK. THE HOLES FOR THE THREE-EDGED PORTION OF THE SCREWS SHALL BE BORED WITH A BIT NOT LARGER THAN THE DIAMETER OF THE BASE OF THE THREAD.
- WOOD PRESERVATIVE: ALL WOOD FRAMING IN CONTACT WITH CONCRETE AND/OR EXPOSED TO WEATHER OR PROLONGED DAMPNESS SHALL BE TREATED WITH "CELOX" AT THE RATE OF 0.23 POUNDS PER CUBIC FOOT IN ACCORDANCE WITH AWA SPECIFICATIONS, OR SHALL BE WOOD OF NATURAL RESISTANCE TO DECAY.

SHEATHING

- U.O.N. USE DOUGLAS FIR APA EXTERIOR, EXPOSURE 1, RATED SHEATHING IN CONFORMANCE WITH THE U.S. COMMERCIAL STANDARDS PS1-95, PS2-92, OR NER-108 (PRP-108). INSTALL WITH FACE GRAIN PERPENDICULAR TO JOISTS.
- FLOOR SHEATHING SHALL BE 3/4" T&G w/ EDGES LOCATED OVER BLOCKING AND NAILED w/ 10d @ 8" O.C. EDGE NAILING & 12" O.C. FIELD NAILING, U.O.N. SPAN RATING 4824 UNBLOCKED. GLUE TO FLOOR JOISTS, U.O.N.

STRUCTURAL STEEL

- MATERIALS:
 - STRUCTURAL STEEL SECTIONS: ASTM A36
 - PLATES & SHAPES: ASTM A36

ALL BOLTS SHALL CONFORM TO ASTM A307 AND SHALL BE INSTALLED TO A "SNUG-TIGHT" CONDITION.

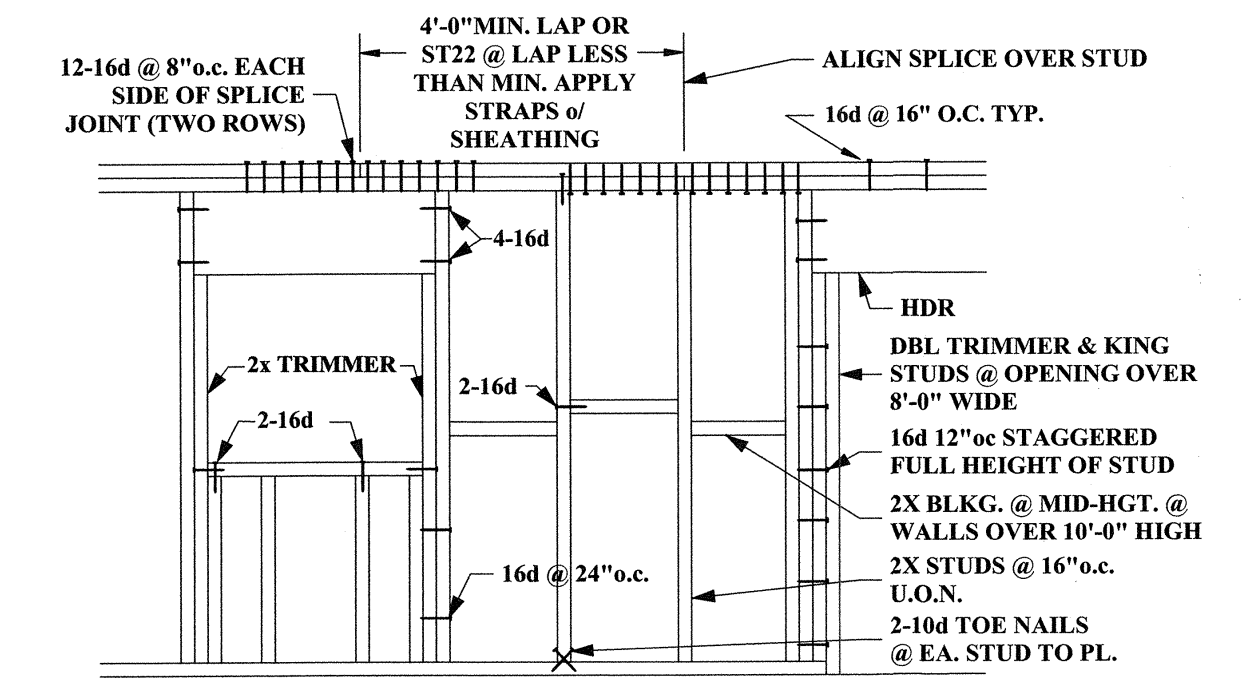
ALL EXPOSED METAL SHALL BE GALVANIZED OR PAINTED AND PROTECTED USING AN EXTERIOR METAL PRIME PAINT AND A FINISH COAT.

FABRICATION AND ERECTION

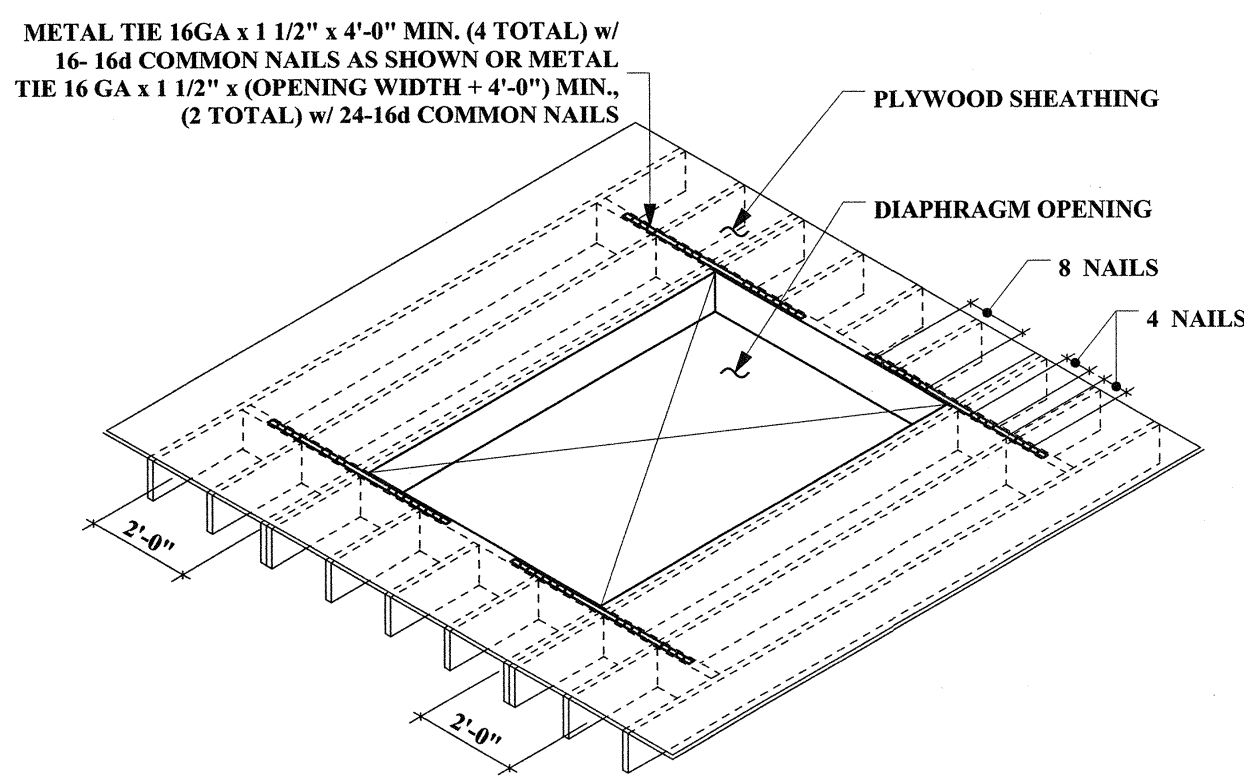
- COMPLY WITH AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATIONS FOR DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", CURRENT EDITION
- WELDING: COMPLY WITH AMERICAN WELDING SOCIETY "STRUCTURAL WELDING CODE-STEEL" ANS/AWS D11, CURRENT EDITION, AND "STRUCTURAL WELDING CODE - SHEET STEEL" AWS D1.3, CURRENT EDITION. USE "E70" OR EQUAL ELECTRODES. ALL WELDING TO BE BY CERTIFIED WELDERS.
- THE STRUCTURAL STEEL FABRICATOR'S SHOP DRAWINGS SHALL BE SUBMITTED TO THE PROJECT ENGINEER-OF-RECORD FOR REVIEW PRIOR TO SUBMITTAL TO THE BUILDING DEPARTMENT

EPOXY ANCHORS

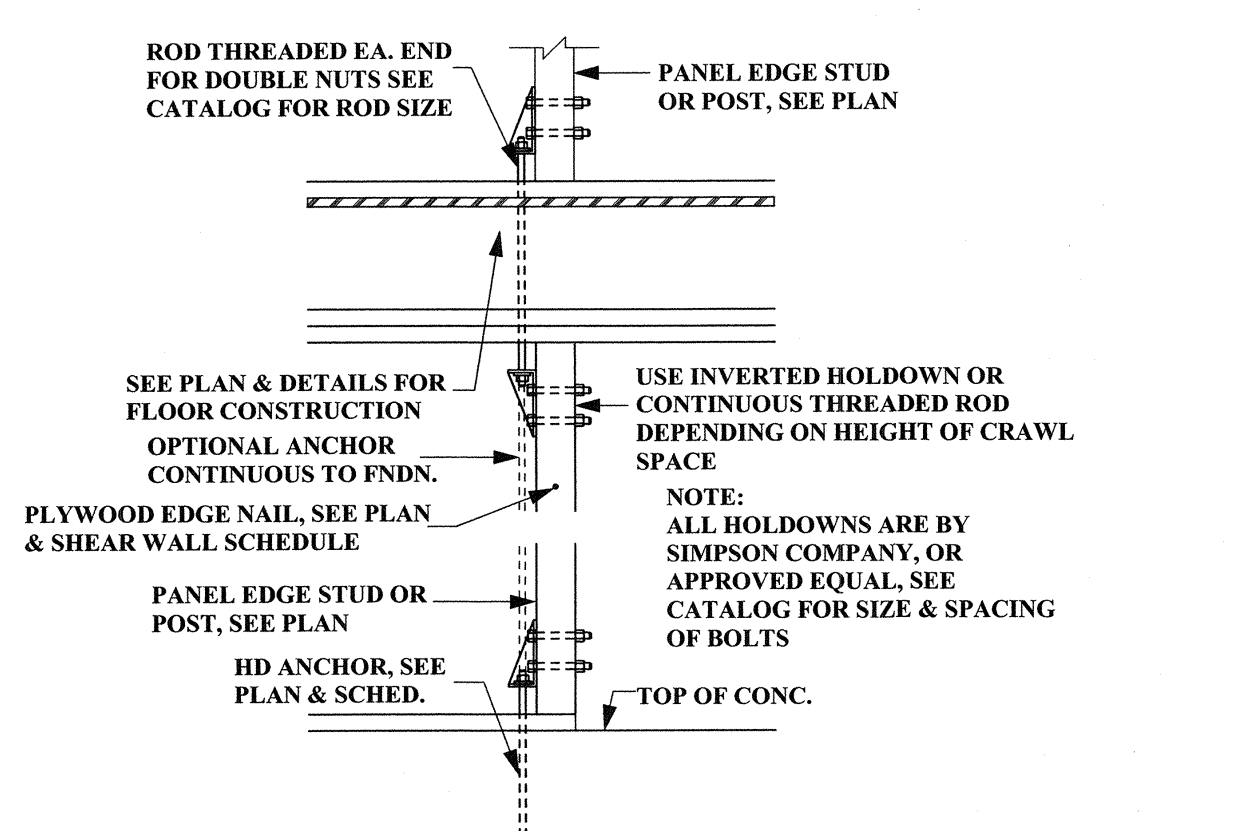
- WHERE EPOXY ANCHORS (REINFORCING BARS OR ALL-THREADED RODS) ARE CALLED FOR IN THE STRUCTURAL DRAWINGS, THE EPOXY USED SHALL BE THE SIMPSON (SE-XP) ANCHORING ADHESIVE, OR EQUAL. SUBMIT MANUFACTURER'S LITERATURE FOR SUBSTITUTE SYSTEM(S) TO ENGINEER FOR REVIEW AND APPROVAL. PRE-MEASURED EPOXIES IN DISPOSABLE, TWO-PART CARTRIDGES DISPENSED THROUGH PROPRIETARY MIXING NOZZLES ARE ACCEPTABLE. POLYESTER RESINS SHALL NOT BE SUBSTITUTED FOR EPOXY. INSTALL DOWELS IN EXISTING CONCRETE PER MANUFACTURER'S RECOMMENDATIONS.
- TESTING:
 - ANCHORS IN CONCRETE
 - EPOXY ANCHORS IN CONCRETE SHALL BE INSPECTED AND TENSION TESTED BASED ON THE REQUIRED TEST VALUES AS FOLLOWS:
 - 1.58" Ø BOLT - 2.500# [BASED ON 1.5 TIMES DESIGN LOAD OF 1.667#] FOR HOLD-DOWNS LTT20B'S.
 - AGE OF CONCRETE FOR INSTALLATION PER ACI 318-2011 (SECTION B.2.2) ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE HAVING A MINIMUM AGE OF 21 DAYS AT TIME OF ANCHOR INSTALLATION. FOR INSTALLATIONS SOONER THAN 21 DAYS CONSULT ADHESIVE MANUFACTURER.



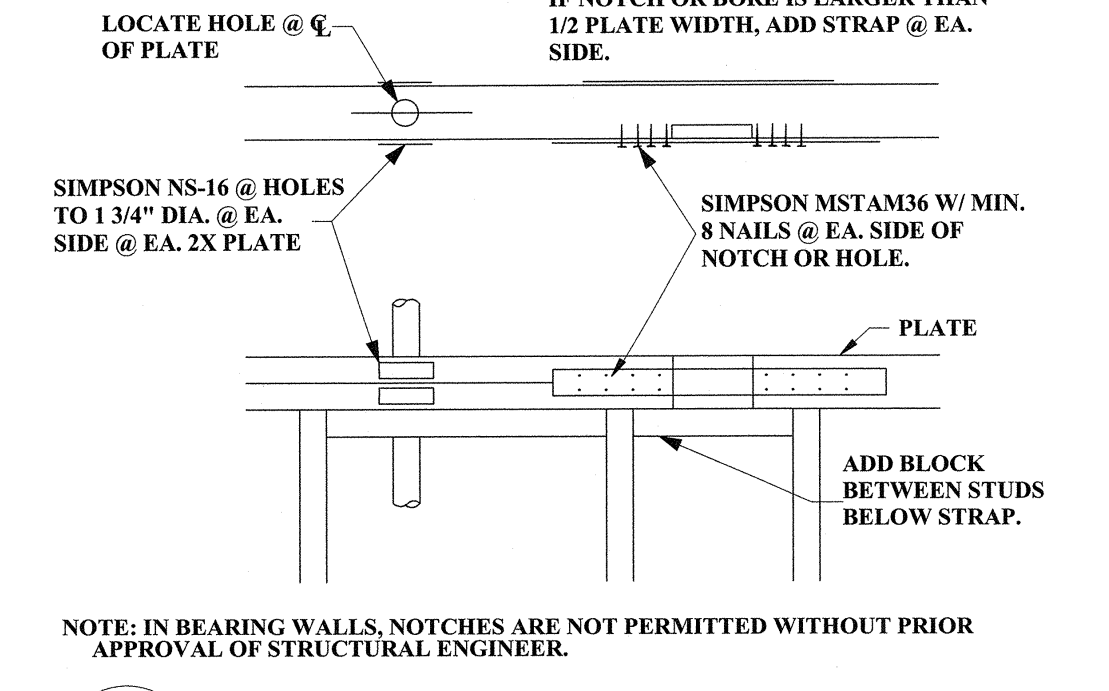
5 TYPICAL STUDWALL DETAIL (INCLUDING BEARING & SHEAR WALLS)
NOT TO SCALE



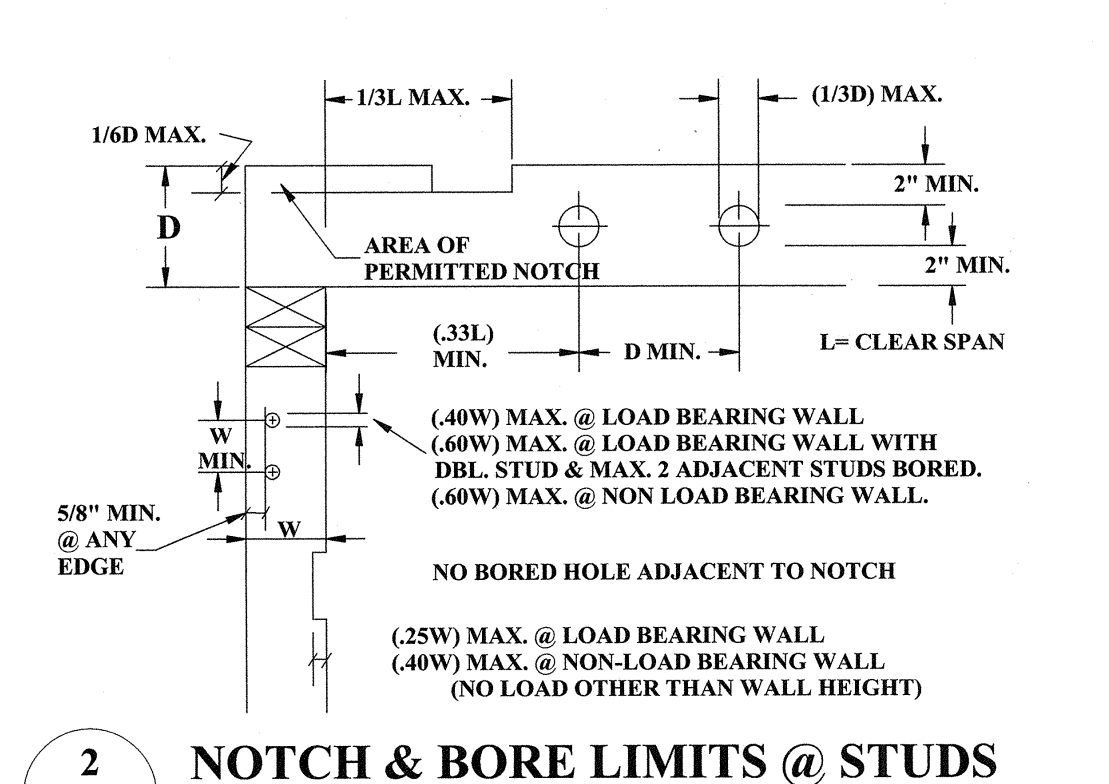
6 REINFORCEMENT @ OPENING IN FLOOR DIAPHRAGM
NTS



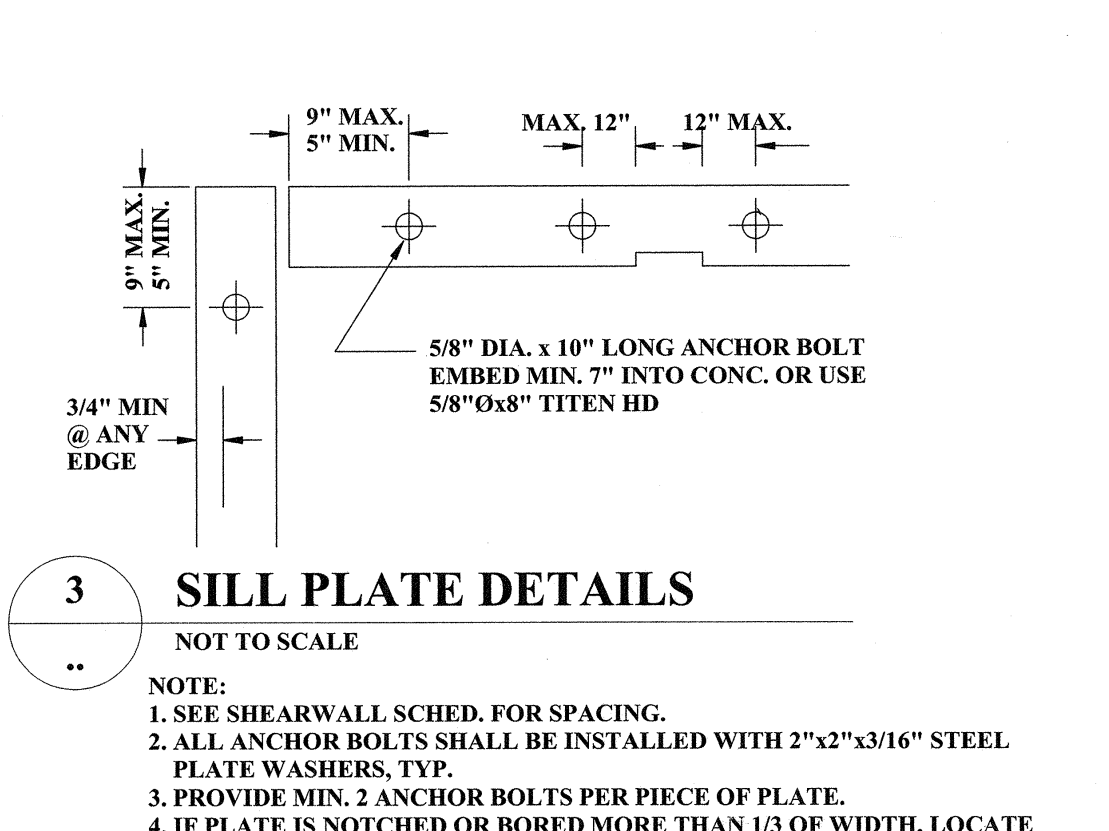
7 TYPICAL HOLDOWN DETAIL
NTS



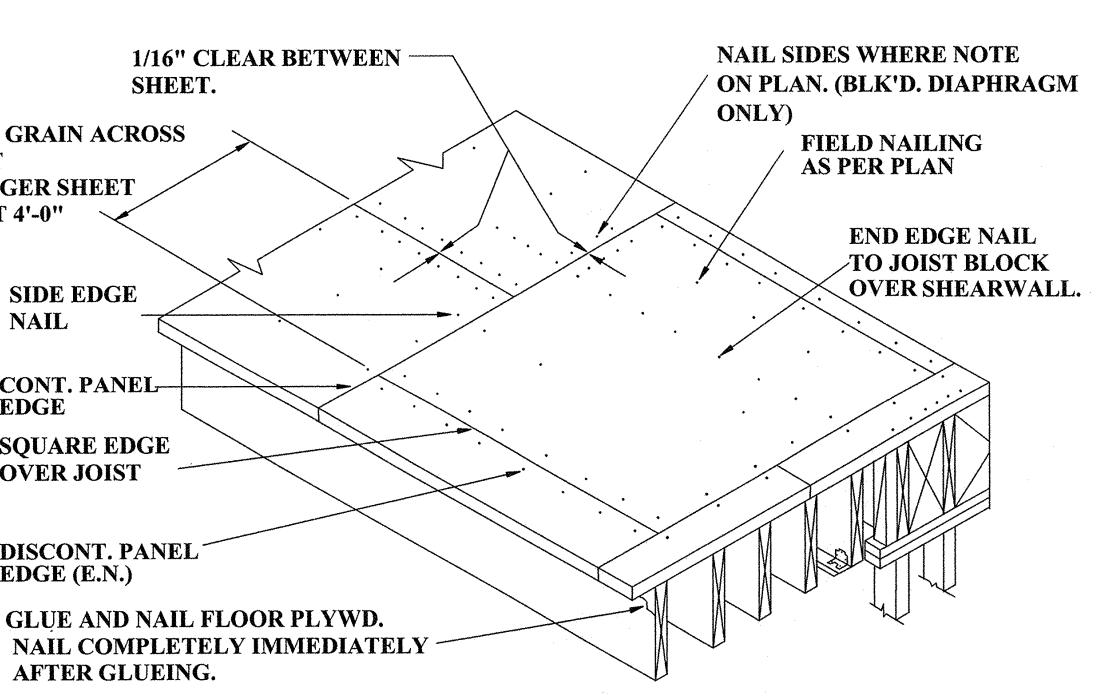
1 NOTCH OR BORE @ TOP PLATE
NOT TO SCALE



2 NOTCH & BORE LIMITS @ STUDS & JOISTS
NOT TO SCALE



3 SILL PLATE DETAILS
NOT TO SCALE



4 TYP. FLOOR NAILING DETAIL
NOT TO SCALE

TYP. FOR BLOCKED AND UNBLOCKED DIAPHRAGM SEE GENERAL NOTES @ LEFT FOR SHEARPLY & NAILING SPEC'S

REVISIONS	BY

Engineer:
ST. ONGE & ASSOCIATES
CIVIL / STRUCTURAL ENGINEERING
1934 Park Boulevard, Oakland, CA. 94606. Ph: (510) 444.1450 Fax: 510.444.1738 gsoeng@aol.com www.stongeassociates.com



Architect:
William Coburn Architects
c/o Stefan Menzi, Architect AIA
1224 Center Street Oakland, CA 94607 phone (510) 893-8826 fax (510) 465-2637 wpcoburn@pacbell.net smenzi@pacbell.net

Client:
L B Reddy
Everest Properties
2278 Shattuck Ave. Berkeley, CA 94704

New Basement Remodel
2234 Haste Street
Berkeley, CA 94704

GENERAL NOTES & DETAILS

DRAWN	JAC & LBH
CHECKED	GSO
DATE	December 6, 2016
SCALE	As Noted
JOB	1685
SHEET	

S4
of 4 sheets

Date: December 6, 2016
 Time: 11:50:32 AM
 Project: 1685 - 17-2134 Haste St Berkeley road

FINDINGS AND CONDITIONS

2234 Haste Street - Brower Houses and David Brower Redwood Tree

Structural Alteration Permit #LMSAP2016-0002

To replace the building foundation, to introduce new windows and light wells at the basement level, and to modify an existing, projecting deck on an upper story of a multi-unit residential City Landmark building.

CEQA FINDINGS

1. The project is categorically exempt from the provisions of the California Environmental Quality Act (CEQA, Public Resources Code §21000, et seq. and California Code of Regulations, §15000, et seq.) pursuant to Section 15331 of the CEQA Guidelines (“Historic Resource Restoration/Rehabilitation”). Furthermore, none of the exceptions in CEQA Guidelines Section 15300.2 apply, as follows: (a) the site is not located in an environmentally sensitive area, (b) there are no cumulative impacts, (c) there are no significant effects, (d) the project is not located near a scenic highway, (e) the project site is not located on a hazardous waste site pursuant to Government Code Section 65962.5, and (f) the project will not affect any historical resource.

SECRETARY OF THE INTERIOR’S STANDARDS FINDINGS

Regarding the Secretary of the Interior’s Standards for Rehabilitation, the Landmarks Preservation Commission of the City of Berkeley makes the following findings:

1. The subject property will continue its residential use with this proposed rehabilitation project.
2. The project does not include removal or alteration of distinctive materials, character-defining features or those “to-be-preserved,” as identified in the 2008 City Landmarks designation for this site.
3. The proposed rehabilitation project for the rear building at this City Landmark site would render it -- as well as the front building -- primarily intact and able to convey their unique identities as physical records of time. No introduction of conjectural features has been proposed.
4. No changes to this property that have acquired historic significance in their own right are the subject of this proposal.
5. Distinctive features, such as the building’s wood shingles, will be preserved with this proposal. Shingles which have deteriorated will be replaced in kind. No other

distinctive materials, finished or construction techniques, or examples of craftsmanship, would be removed or affected by this project.

6. Deteriorated historic features will be repaired rather than replaced, as conditioned herein. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials are prohibited, as conditioned herein.
8. Archeological resources are not known to exist at this site. However, as conditioned herein, procedures and measures for protection will be undertaken if resources are unexpectedly discovered.
9. None of the aspects of this proposal are expected to result in the destruction of historic materials, features and spatial relationships that characterize this City Landmark property. New work, such as basement-level windows and guardrails, will be compatible with and yet differentiated in style from the Victorian-era construction.
10. The proposed new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

LANDMARK PRESERVATION ORDINANCE FINDINGS

1. As required by Section 3.24.260 of the Landmarks Preservation Ordinance, the Commission finds that proposed work is appropriate for and consistent with the purposes of the Ordinance, and will preserve and enhance the characteristics and features specified in the designation for this property. Specifically:
 - The proposed project includes a limited scope of work that will result in exterior changes, and none of these changes are expected to permanently or significantly impair the integrity, or alter the character-defining features, of this Victorian-era building.

STANDARD CONDITIONS

The following conditions, as well as all other applicable provisions of the Landmarks Preservation Ordinance, apply to this Permit:

1. Conditions Shall be Printed on Plans

The conditions of this Permit shall be printed on the *second* sheet of each plan set submitted for a building permit pursuant to this Permit, under the title 'Structural Alteration Permit Conditions'. *Additional sheets* may also be used if the *second* sheet is not of sufficient size to list all of the conditions. The sheet(s) containing the conditions shall be of the same size as those sheets containing the construction drawings; 8-1/2" by 11" sheets are not acceptable.

2. Plans and Representations Become Conditions

Except as specified herein, the site plan, floor plans, building elevations and/or any additional information or representations, whether oral or written, indicating the proposed structure or manner of operation submitted with an application or during the approval process are deemed conditions of approval.

3. Subject to All Applicable Laws and Regulations

The approved use and/or construction is subject to, and shall comply with, all applicable City Ordinances and laws and regulations of other governmental agencies. Prior to construction, the applicant shall identify and secure all applicable permits from the Building and Safety Division, Public Works Department and other affected City divisions and departments.

4. Exercise and Lapse of Permits (Section 23B.56.100)

- B. A permit for the construction of a building or structure is deemed exercised when a valid City building permit, if required, is issued, and construction has lawfully commenced.
- A. A permit may be declared lapsed and of no further force and effect if it is not exercised within one year of its issuance, except that permits for construction or alteration of structures or buildings may not be declared lapsed if the permittee has:
 - (1) applied for a building permit; or, (2) made substantial good faith efforts to obtain a building permit and begin construction, even if a building permit has not been issued and/or construction has not begun.

5. Indemnification Agreement

The applicant shall hold the City of Berkeley and its officers harmless in the event of any legal action related to the granting of this Permit, shall cooperate with the City in defense of such action, and shall indemnify the City for any award of damages or attorneys fees that may result.

ADDITIONAL CONDITIONS

The following additional conditions are attached to this Permit:

6. **Halt Work/Unanticipated Discovery of Tribal Cultural Resources.** In the event that cultural resources of Native American origin are identified during construction, all work within 50 feet of the discovery shall be redirected. The project applicant and project construction contractor shall notify the City Planning Department within 24 hours. The City will again contact any tribes who have requested consultation under AB 52, as well as contact a qualified archaeologist, to evaluate the resources and situation and provide recommendations. If it is determined that the resource is a tribal cultural resource and thus significant under CEQA, a mitigation plan shall be prepared and implemented in accordance with State guidelines and in consultation with Native American groups. If the resource cannot be avoided, additional measures to avoid or reduce impacts to the resource and to address tribal concerns may be required.
7. **Archaeological Resources** (*Ongoing throughout demolition, grading, and/or construction*). Pursuant to CEQA Guidelines section 15064.5(f), "provisions for historical or unique archaeological resources accidentally discovered during construction" should be instituted. Therefore:
 - A. In the event that any prehistoric or historic subsurface cultural resources are discovered during ground disturbing activities, all work within 50 feet of the resources shall be halted and the project applicant and/or lead agency shall consult with a qualified archaeologist, historian or paleontologist to assess the significance of the find.
 - B. If any find is determined to be significant, representatives of the project proponent and/or lead agency and the qualified professional would meet to determine the appropriate avoidance measures or other appropriate measure, with the ultimate determination to be made by the City of Berkeley. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and/or a report prepared by the qualified professional according to current professional standards.
 - C. In considering any suggested measure proposed by the qualified professional, the project applicant shall determine whether avoidance is necessary or feasible in light of factors such as the uniqueness of the find, project design, costs, and other considerations.
 - D. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while mitigation measures for cultural resources is carried out.
 - E. If significant materials are recovered, the qualified professional shall prepare a report on the findings for submittal to the Northwest Information Center.
8. **Human Remains** (*Ongoing throughout demolition, grading, and/or construction*). In the event that human skeletal remains are uncovered at the project site during ground-disturbing activities, all work shall immediately halt and the Alameda County Coroner shall be contacted to evaluate the remains, and following the procedures and protocols pursuant to Section 15064.5 (e)(1) of the CEQA Guidelines. If the County Coroner determines that the remains are Native American, the City shall contact the California Native American Heritage Commission (NAHC), pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, and all excavation and site preparation activities

shall cease within a 50-foot radius of the find until appropriate arrangements are made. If the agencies determine that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and timeframe required to resume construction activities. Monitoring, data recovery, determination of significance and avoidance measures (if applicable) shall be completed expeditiously.

9. **Paleontological Resources** (*Ongoing throughout demolition, grading, and/or construction*). In the event of an unanticipated discovery of a paleontological resource during construction, excavations within 50 feet of the find shall be temporarily halted or diverted until the discovery is examined by a qualified paleontologist (per Society of Vertebrate Paleontology standards [SVP 1995,1996]). The qualified paleontologist shall document the discovery as needed, evaluate the potential resource, and assess the significance of the find. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. If the City determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of the project on the qualities that make the resource important, and such plan shall be implemented. The plan shall be submitted to the City for review and approval.
10. **Repair and replacement of character-defining features.** Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old or historic feature in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence, to the satisfaction of City staff.
11. **Chemical Treatments.** Any chemical treatments needed as construction progresses will be undertaken using the gentlest means possible.
12. **Clear glass.** All glass is assumed to be clear glass. Any proposed glass that is not clear glass shall be indicated on all drawings, and shall be reviewed for approval by historic preservation staff, prior to approval of any building permit for this project.
13. **Exterior Lighting.** Exterior lighting, including for signage, shall be downcast and not cause glare on the public right-of-way and adjacent parcels.
14. **Colors & Materials.** Prior to staff sign-off of the building permit set of drawings, the applicant shall submit color and materials information for review and approval by staff.
15. **Window Detail.** Prior to staff sign-off of the building permit set of drawings, the applicant shall submit section drawings with details to provide dimensional relief and articulation for all new windows on basement level, for review and approval by staff.
16. **Certified arborist report.** Prior to submittal of any building permit for this project, the applicant shall obtain a certified arborist report with recommendation on the assessment and protection of the Brower redwood tree during project construction. The building permit plans for this project shall incorporate the recommendations of this report.

17. **Plaque.** Prior to submittal of any building permit for this project, the applicant shall indicate on the building permit plans, the location and design of a plaque with information about the historic significance of this Landmark site.

18. Upon completion of this project, the property owner shall remove or relocate (and screen, subject to BMC Chapter 23) the dumpster currently stored in the driveway/parking area. The applicant shall consult with the City's Zero Waste Division for guidance on improving and maintaining adequate collection and storage of debris and recycling for this site.

GENERAL NOTES:

1. SCOPE OF WORK: DEVELOPING CASEMENT IN AREA ALLOWABLE INTO ONE BEDROOMS GAMBROUN & BATH, CONNECTING NEW SPACE TO EXISTING UNIT 1 WITH AN INTERIOR STAIR. ALL NEW WINDOWS WOOD, NEW DOOR WOOD.
NOTICE ELEVATION SHINGLES ON MAIN MOUSE GABLE TO BE REPLACED WITH CEDAR SHINGLES, STAINED DARK BROWN TO GIVE CHARACTER OF REDWOOD SHINGLES. ALL OTHER SHINGLES TO BE PAINTED DARK BROWN TO MATCH.
TRIM, WINDOWS & DOORS ON EXT. TO BE PAINTED AS NOTED ON ELEV SHEET
LIGHT WELLS TO BE PROVIDED AS SHOWN ON ELEVATIONS

2234 Haste St Berkeley CA GENERAL NOTES:

Scope of work: New foundation, expand Unit 1 into casement, no change to other units except chimney removal and patching after removal of chimney.

1. BUILDING CODES:

ALL WORK SHALL CONFORM TO ALL APPLICABLE CODES INCLUDING CBC, CBC, CEC, CMC, AND 2013 CALIFORNIA ENERGY CODE AND CITY ORDINANCES APPLICABLE TO THIS PROJECT. ALL WORK TO CONFORM WITH CITY OF OAKLAND CODES, ORDINANCES AND REQUIREMENTS.

2. SITE CONDITIONS:

CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH ALL EXISTING LIMITATIONS. ALL FEATURES OF CONSTRUCTION NOT FULLY SHOWN SHALL BE OF SAME TYPE AND CHARACTER AS THAT SHOWN FOR SIMILAR CONDITIONS. IF DISCREPANCIES ARE DISCOVERED, NOTIFY THE ARCHITECT BEFORE THE PROCEEDING WITH THE WORK.

3. DIMENSIONS:

CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD. DIMENSIONS ARE TO THE ROUGH FRAME UNLESS OTHERWISE NOTED. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND/OR SPECIFICATIONS MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.

4. DEMOLITION:

CONTRACTOR SHALL EXECUTE DEMOLITION WORK TO ENSURE THE SAFETY OF PERSONS AND ADJACENT PROPERTY FROM DAMAGE OF ANY KIND IN CONNECTION WITH THIS WORK. WHERE EXISTING CONSTRUCTION IS CUT, DAMAGED OR REMODELED, PATCH OR REPLACE WITH MATERIALS WHICH MATCH THE KIND, QUALITY AND PERFORMANCE OF ADJACENT SURFACES.

5. SCHEDULE:

THE CONTRACTOR SHALL INFORM THE OWNER AND ARCHITECT OF THE CONSTRUCTION SCHEDULE PRIOR TO STARTING WORK. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO MINIMIZE DISRUPTION TO OCCUPANTS AND NEIGHBORS DURING CONSTRUCTION.

6. CHANGE ORDERS:

ALL CHANGE ORDERS SHALL BE AGREED TO AND IN WRITING PRIOR TO EXECUTION OF WORK.

7. CLEANUP:

THE CONTRACTOR SHALL REMOVE THE CONSTRUCTION DEBRIS AT THE END OF THE JOB AND DISPOSE OF IT LEGALLY. CLEAN ALL NEW WINDOWS AND LEAVE THE JOB BROOM CLEAN.

ARCHITECTURAL NOTES:

- A1 SCOPE OF THE PROPOSED WORK IS TO PROVIDE A NEW FOUNDATION AND EXPAND UNIT ONE INTO BASEMENT.
- A2 CER TILE ON 1/2" CEMENTITIOUS BACKER BOARD OVER (2) LAYERS 1/2" FELT PAPER ON WALLS AT TUBS & SHOWERS TO 6"-8" HEIGHT MIN. ABOVE FLOOR AND PER MIN. CBC 807.1 REQUIREMENTS.
- A3 PROVIDE TEMPERED SLIDING CLASS SHOWER DOORS TO MIN. 70"HT. ABOVE DRAIN INLET.
- A4 DIMENSIONS ARE TO FACE OF STUD, U.O.N.
- A5 IF ANY DISCREPANCIES, ERRORS OR OMISSIONS ARE FOUND IN THE DRAWINGS, NOTIFY THE ARCHITECT, PRIOR TO PROCEEDING WITH ANY WORK.
- A6 ALL 2X FRAMING MEMBERS TO BE #2 DF OR BETTER
ALL 4X FRAMING MEMBERS TO BE #1DF OR BETTER
- A7 ALL NAILING AND BRACING AS PER CODE.
- A8 NEW VINYL WINDOWS TO MEET TITLE 24 REQUIREMENTS FOR THERMAL TRANSMISSION AND ALL OTHER REQUIRED CONDITIONS.
- A9 IN ALL EXISTING WALLS TO REMAIN, FILL CAVITY WITH MIN R-13 BATT INSUL. PRIOR TO COVERING UP OPENING. FOR ANY CEILING AREA, INSTALL R-30 PROVIDE REQUIRED INSULATION IN NEW FRAMED WALLS IN BASEMENT
- A10 Provide one hour fire rated assembly in the ceiling of the expanded unit ceiling.
- A-11 WITHIN U PART OF 4/5/22 T-24

ELECTRICAL NOTES:

- E1. ALL KITCHEN OUTLETS TO BE 42 INCHES ABOVE FIN FLOOR GFCI PROTECTED
- E2. PROVIDE MIN. TWO 20 AMP CIRCUITS FOR KITCHEN APPLIANCES.
- E3. ANY CLOSET LIGHT FIXTURE CLEARANCES (IF USED) SHALL CONFORM TO CEC 410.8.
- E4. ALL 120 VOLT, SINGLE PHASE, 15 AND 20 AMP BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN UNIT FAMILY ROOMS, DINING, LIVING, PARLORS AND LIBRARIES, DENS, BEDROOMS AND SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS AND SIMILAR SPACES SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER. 9CEC ART. 210.12
- E5. PROVIDE ONE 20 AMP CIRCUIT FOR ALL BATHROOM OUTLETS PER CEC 210-11 (C) (3) IN NEW BATHROOMS.
- E6. VENT BATH FAN TO EXTERIOR WALL OR ROOF W/ RAIN CAP FAN CAPABLE OF PROVIDING MIN 5 AIR CHANGES/HOUR AS PER CBC 1203.4.2 HUMIDISTATS T BE PROVIDED ACCORDING TO CGBS 4.506.1
- E7. PROVIDE MANUAL-ON MOTION SENSOR FOR INCANDESCENT LIGHTS IN BATHROOMS AS INDICATED.
- E8. PROVIDE MIN. 24" HORIZ. SEPARATION BETWEEN ELECT. BOXES ON OPPOSITE SIDE OF WALLS BETWEEN UNITS.
- E9. MINIMUM OF 50% OF WATTAGE IN KITCHEN TO BE HIGH EFFICIENCY LIGHTS MANUAL-ON MOTION SENSORS OR DIMMER SWITCHES TO BE USED.
- E10. IN ALL OTHER ROOMS & AREAS (I.E. LIVING, BEDROOMS, AND HALLWAYS) PROVIDE HIGH EFFICACY LIGHTS, MANUAL-ON MOTION SENSORS, OR DIMMER SWITCHES AS SHOWN.
- E11. LIGHT FIXTURES IN TUB / SHOWER ENCLOSURES SHALL BE LABELED "SUITABLE FOR DAMP LOCATIONS".
- E12 ALL SMOKE DETECTORS SHALL BE COMBINATION UNITS WITH CARBON MONOXIDE DETECTORS TO MEET CODE REQUIREMENTS.
- E13 ALL 125 VOLT 15 AND 20 AMP RECEPTACLES SHALL BE LISTED TAMPERPROOF RECEPTACLES (CEC ART. 406.12)

MECHANICAL / PLUMBING NOTES:

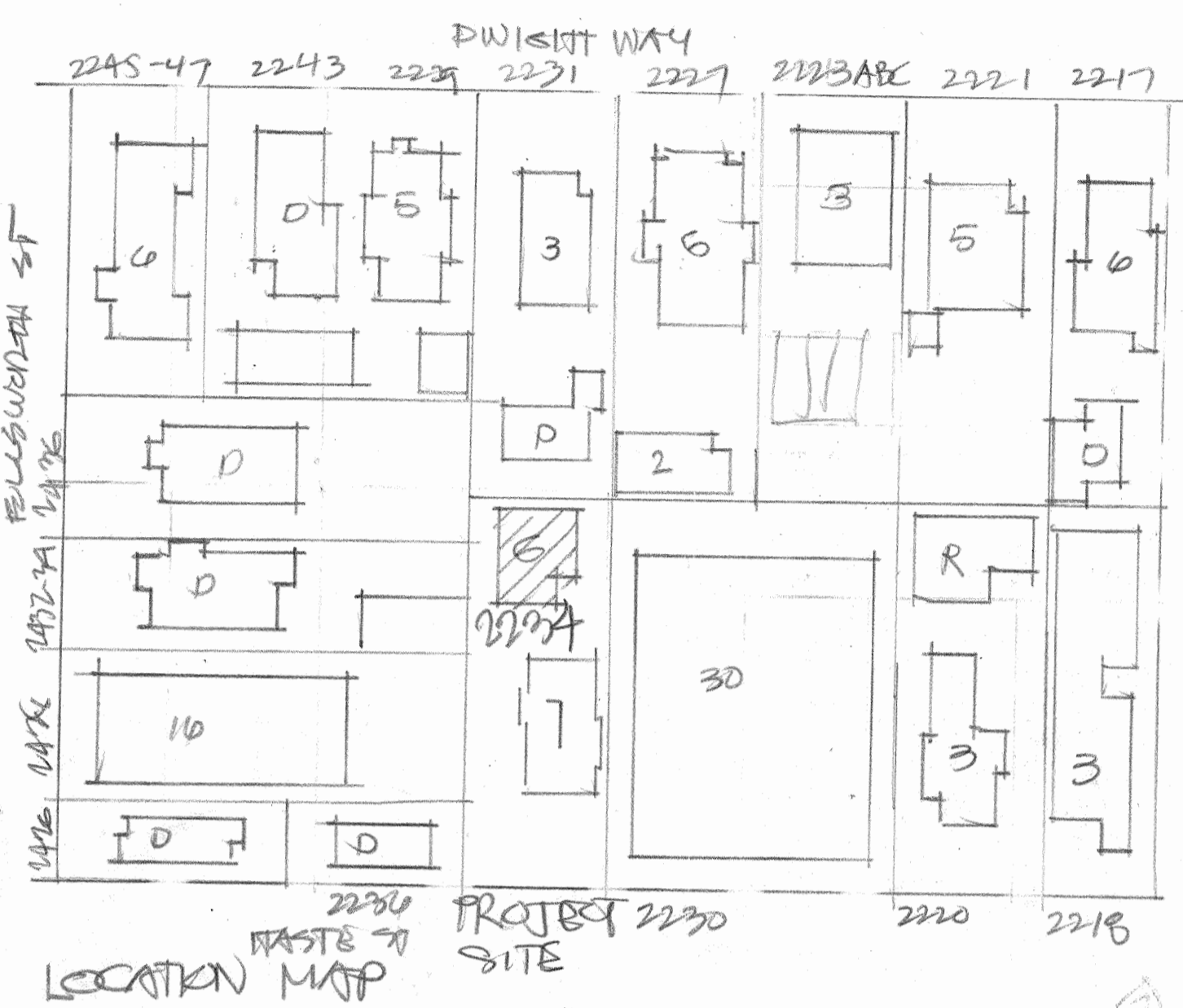
- M1. NEW TOILET TO BE MAX. 1.28 GAL/FLUSH.
- M2. NEW TANK WATER HEATER TO BE INSTALLED AS PER MFR RECOMMENDATIONS.
- M3. BATH COMBINATION SHOWER/TUB CONTROLS (INDIVIDUAL HOT/ COLD PRESSURE BALANCE OR THERMOSTATIC MIXING VALVE) SHALL CONFORM TO CPC 420.0.
- M4. PROVIDE LOW FLOW FAUCET DEVICES OF FIXTURES WITH MAXIMUM FLOW RATE OF 1.8 GAL/MINUTE MEASURED AT 60 PSI (CPC 403.6) BATHROOM LAVATORY FAUCET MAX 1.5 GAL/MIN.

AT 60PSI AND NOT LESS THAN .8GAL/MIN. AT 20PSI 9CPC403.70 SHOWER HEADS MAX FLOW 2.0 GAL/MIN. (MEASURED AT 80 PSI) 9CPC SEC. 408.2

M.5 PROVIDE AUTOMATIC GAS SHUT OFF VALVE ON DOWNSTREAM SIDE OF GAS UTILITY METER

M.6 PLUMBING MAX FLOW RATES OF KIT FAUCET SHALL NOT EXCEED 1.8 GAL/MIN AT 60 PSI. KIT FAUCET MAY TEMPORARILY INCREASE THE FLOW RATE BUT NOT EXCEED 2.2 GAL/MIN. AT 60 PSI. AND MUST DEFAULT TO A MAX FLOW RATE OF 1.5 GAL/MIN GOE.

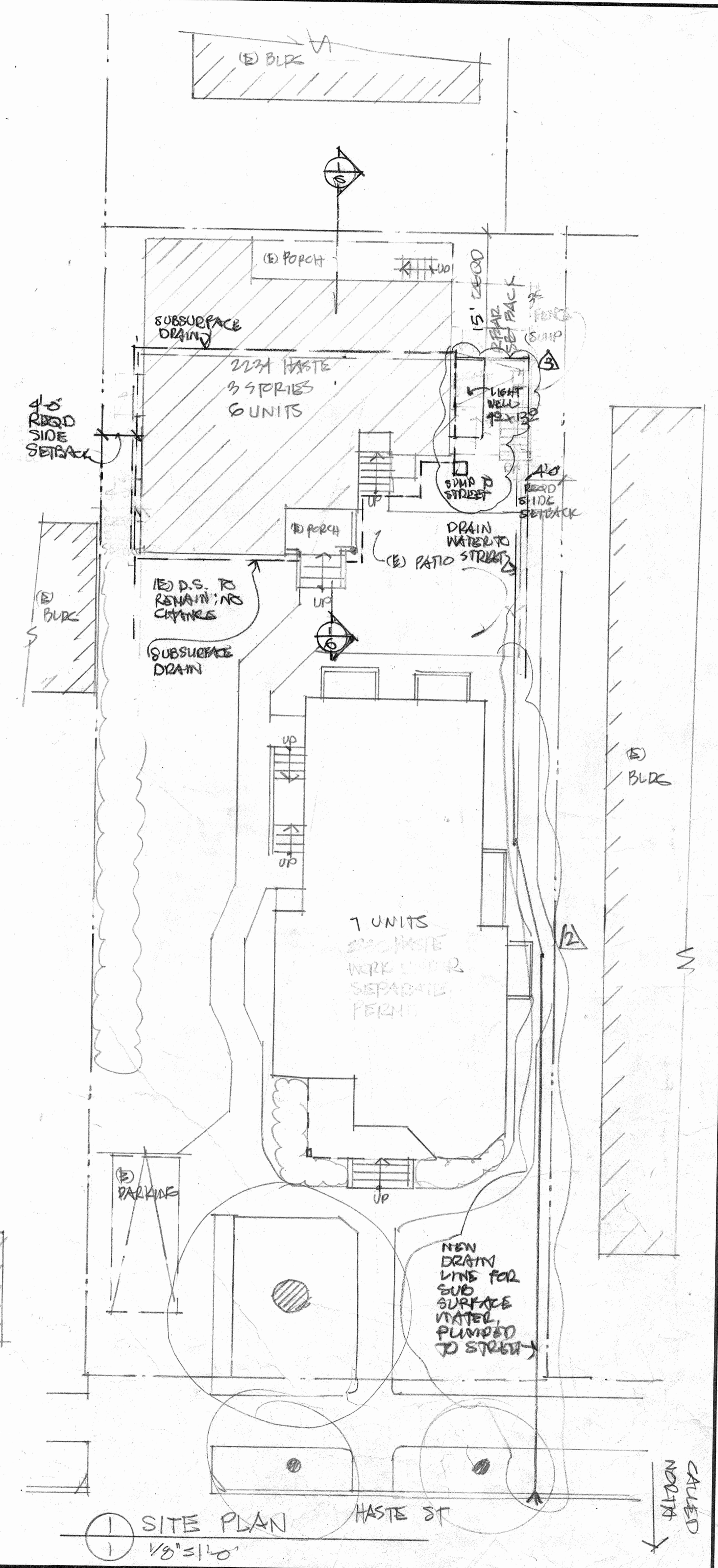
M.7. FOR DRAIN LINES, APPROVED PIPING MATERIALS TO BE USED: POLYVINYL CHLORIDE SDR 20 MIN. POLYETHYLENE SDR 26 MIN. CAST IRON CUPPER LATERAL ONLY, DUCTILE IRON, VITRIFIED CLAY EXTRA STRENGTH, BELL & SPST. FOR PIPE LINE BEYOND THE ROADWAY, CITY OF BERKELEY WILL REQUIRE PVC OR PE, SDR 21 MIN. RCP IS PERMITTED FOR SPM DRAINS,



DEFERRED SUBMITTALS: ANY DEFERRED SUBMITTAL TO BE REVIEWED & APPROVED BY ARCHITECT OR ENGINEER PRIOR TO BEING SUBMITTED TO THE CITY OF BERKELEY FOR REVIEW & APPROVAL. APPROVAL BY ARCHITECT OR ENGINEER TO BE INDICATED ON SUBMITTAL P CTY
DEFERRED:
1) LADDER AT LIGHT WELL
2) NON TANKLESS WH. FOR OTHER UNITS SEPARATE PERMIT
3) 3 GAS METERS MOVED, SEPARATE PERMIT
4) A SEPARATE ENGINEERING PERMIT IS REQUIRED FOR CONSTRUCTION SIGNING, CONSTRUCTION PARKING, SIDEWALK OR SEWER WORK IN THE PUBLIC RIGHT OF WAY, TO BE ISSUED AFTER THE APPROVAL AND ISSUANCE OF THE BUILDING PERMIT.

DRAWING SCHEDULE

NO	TITLE
1	SITE PLAN
2	EXIST FLOOR 1 & 2 PLAN
3	EXIST FLOOR 3 & ROOF PLAN
4	EXIST & NEW BASEMENT FLOOR PLAN
5	ELEVATIONS
6	SECTION & SCHEDULES
7	DETAILS
8	TITLE 24-1
9	TITLE 24-2
S-1	BASEMENT/PDN PLAN PER
S-2	FRAMING PLATE & DETS
S-3	DETS
S-4	DETS
10	FOR REFERENCE - EXIST & PROPOSED UNIT 1 PLANS
11	CAL GREEN
12	BEST MANAGEMENT PLAN



REVISIONS

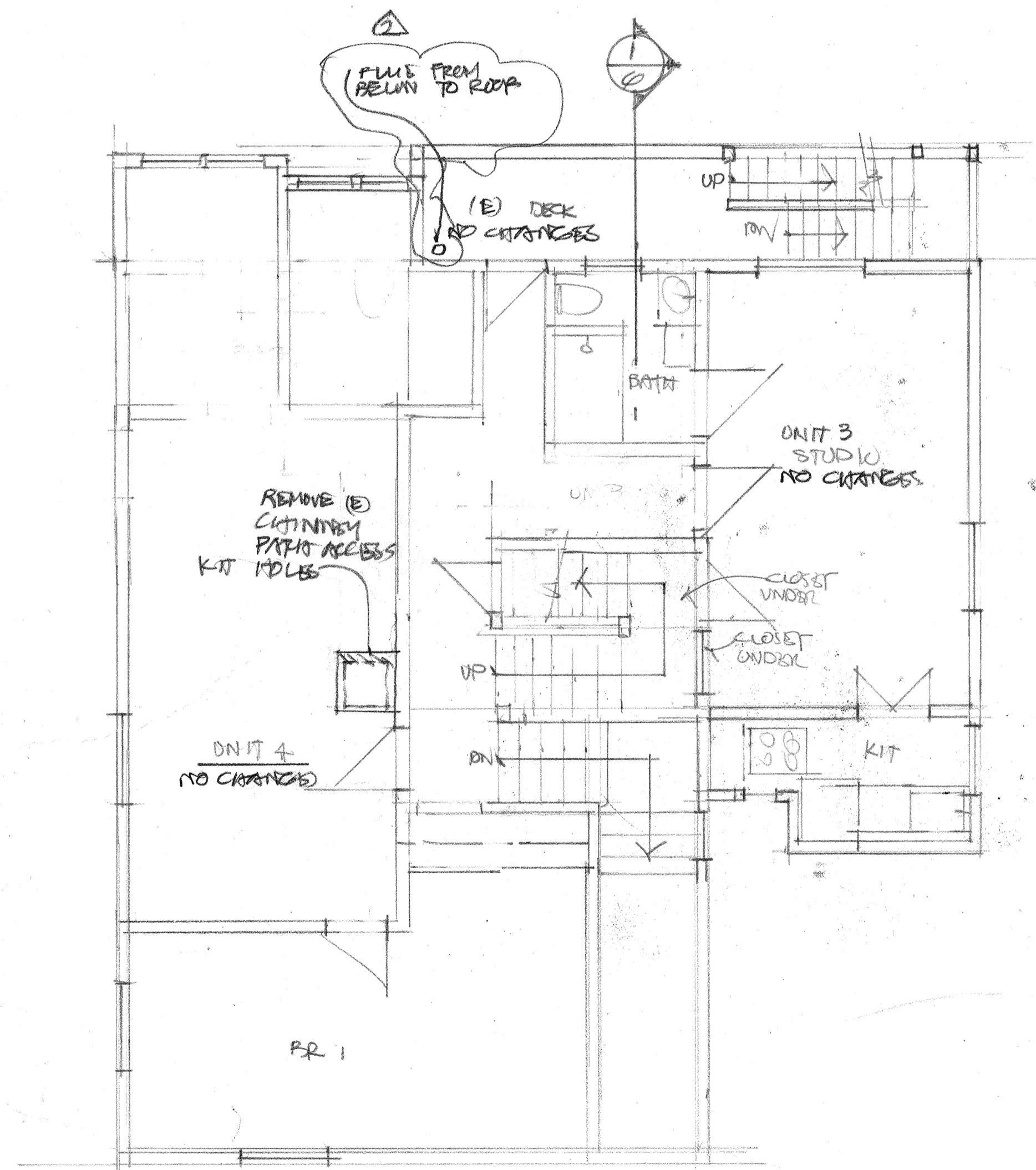
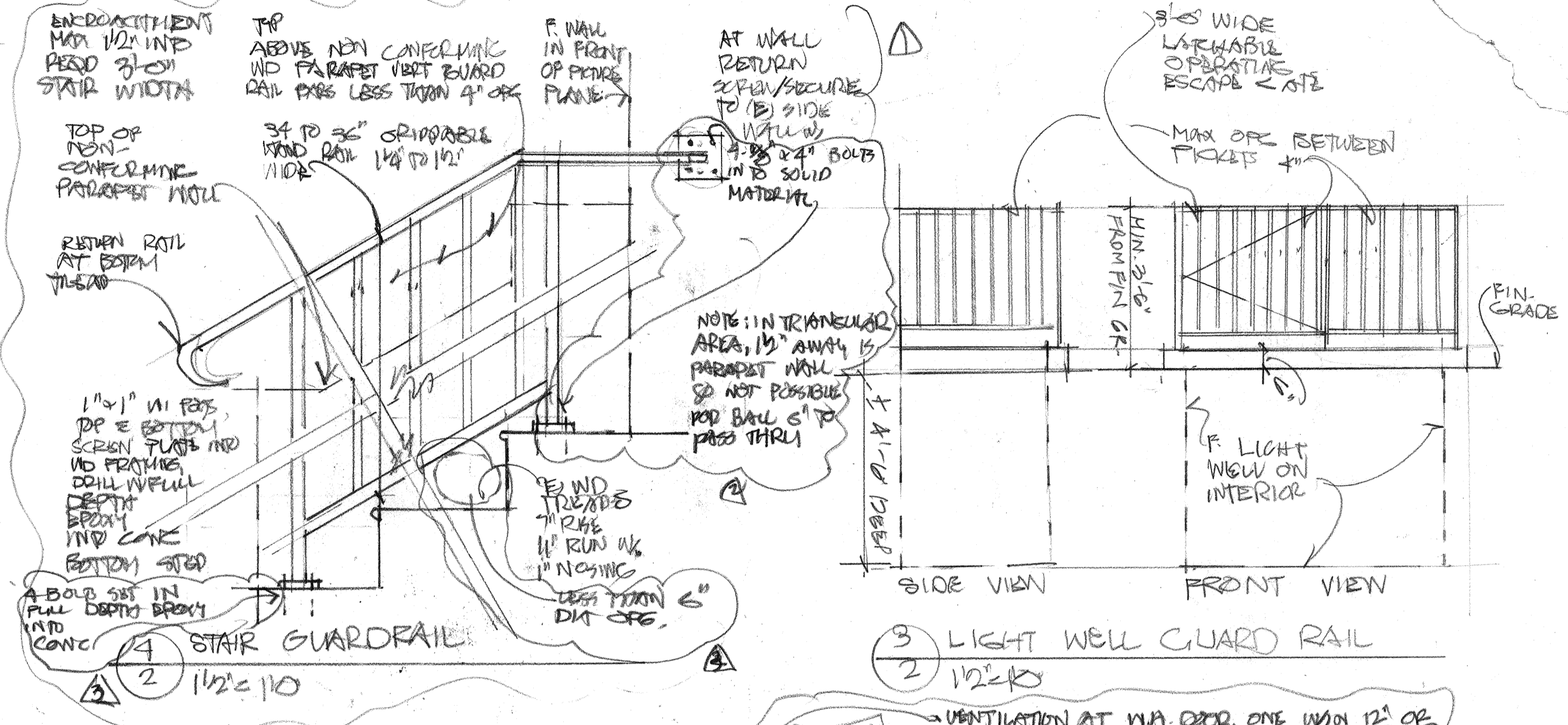
2.7.18.19	
2.7.16.19	

WILLIAM F. CASHAN ARCHITECTS
510-873-8526
510-510-4655
510-510-2537
1224 CENTER ST
OAKLAND CA 94607
CELL 510-157-4085
wfcashan@pacbell.net

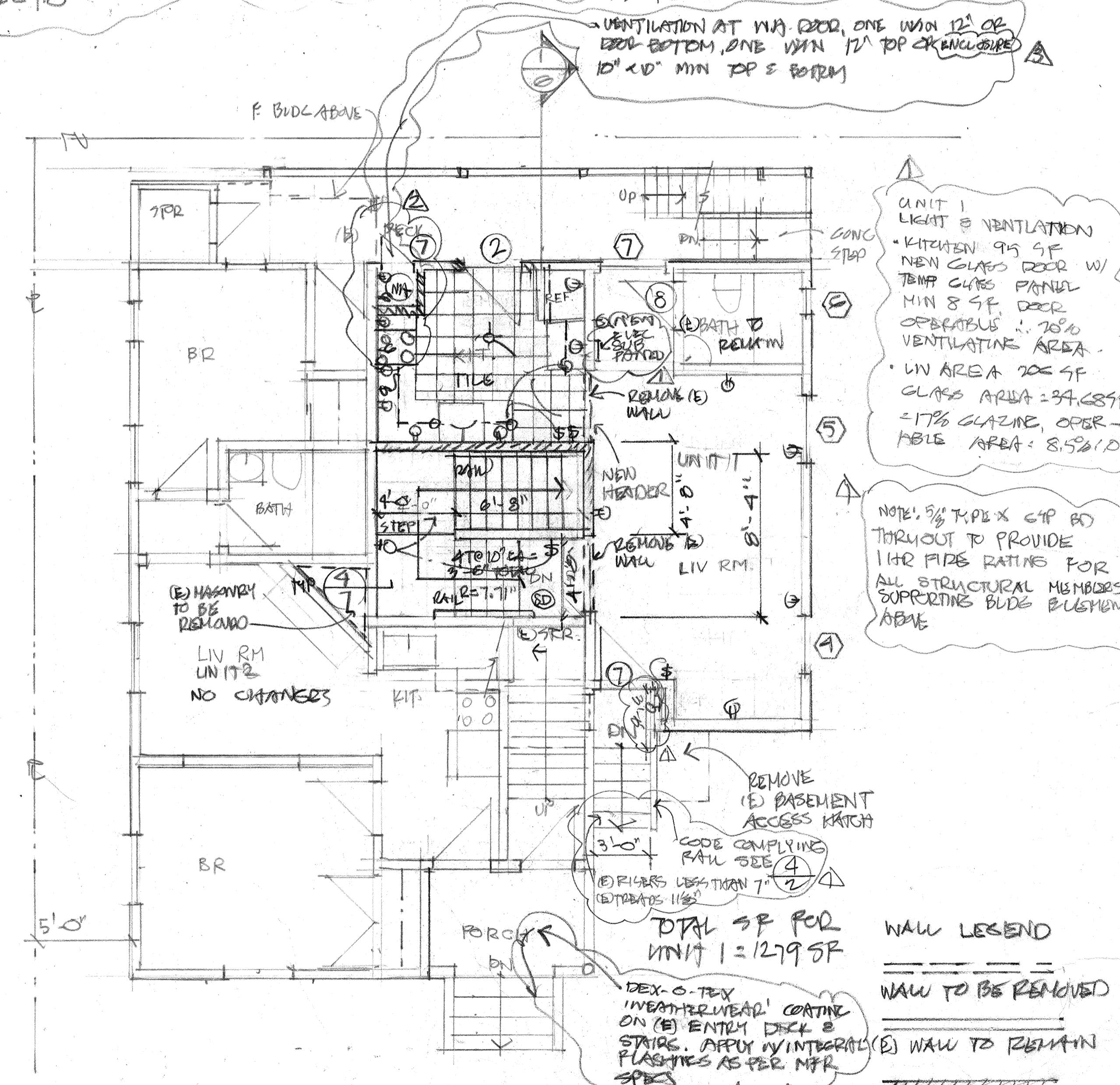
REGISTERED ARCHITECT
STATE OF CALIFORNIA
No. 82117

NEW FOUNDATION & UNIT 1 RECONFIGURATION AT:
2234 HASTE ST
BERKELEY CA
PERMITS: 2023-000000000000000000
2023-000000000000000000
2023-000000000000000000

Date: 12-21-16
Scale:
Drawn:
Job:
Sheet:
Of 16 Sheets



2 SECOND FLOOR
2 1/4"=1'0"



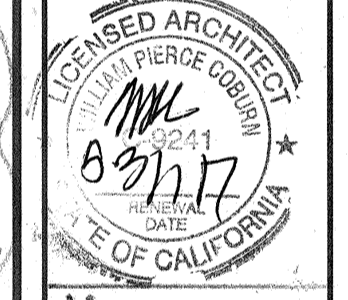
1 FLOOR ONE (483 SF FOR UNIT 1)
2 1/4"=1'0"

WALL LEGEND

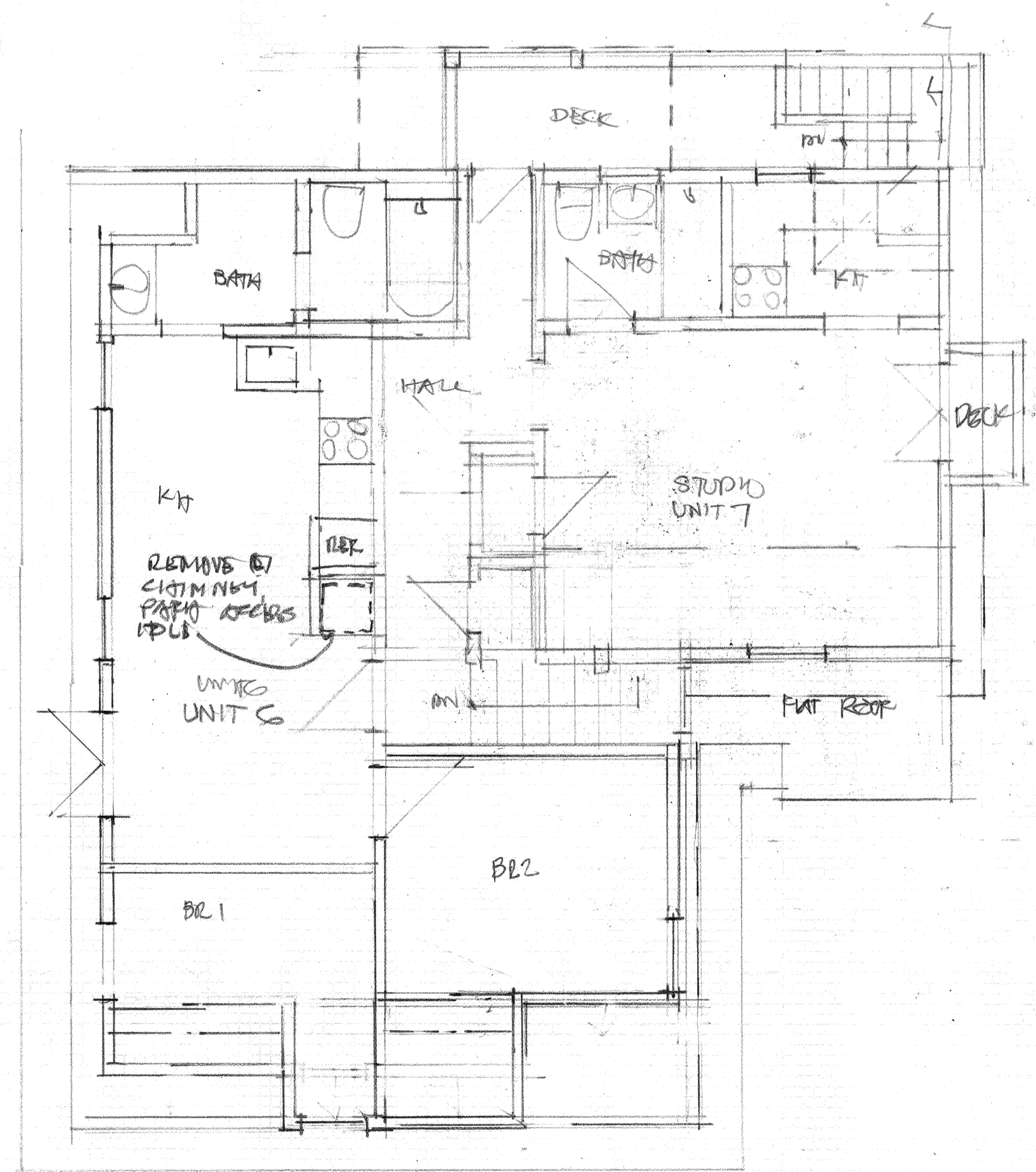
---	WALL TO BE REMOVED
---	(E) WALL TO REMAIN
	NEW WALL

REVISIONS	BY
1	12-12-17
2	2-18-19
3	4-16-19

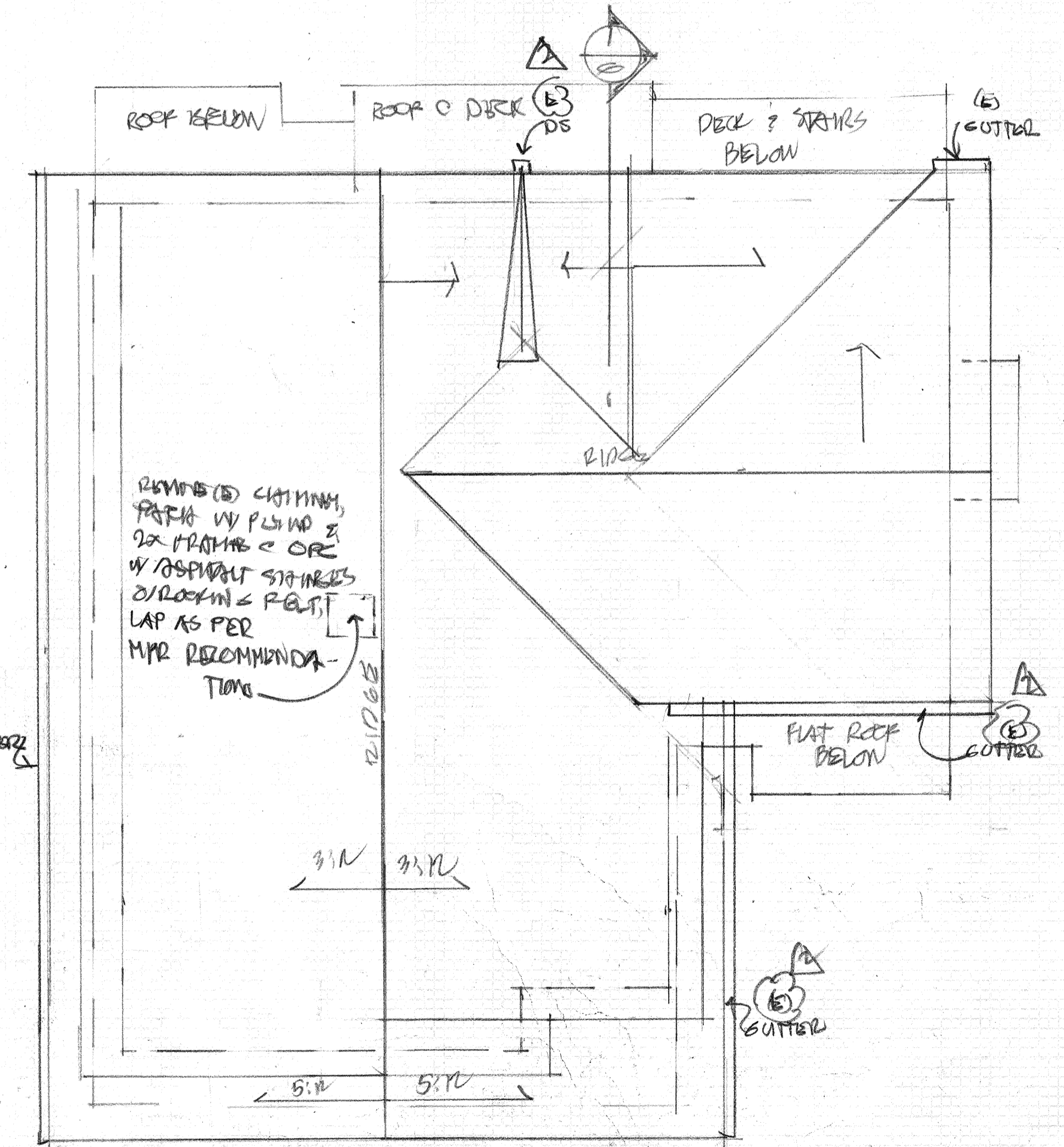
WILLIAM P. COBURN ARCHITECTS
510 893 8806
1224 CENTER ST
OAKLAND CA 94607
FAX 510 455 2597
CEU 510 151 4085
wpcoburn@pacbell.net



NEW UNITIZATION & UNIT 1 RECONFIGURATION AT:
1054 MARBLE ST
BERKELEY CA
PK: EVERETT PROPERTIES
2078 SHATTUCK AVE
BERKELEY CA 94704
Date: 12/16
Scale:
Drawn:
Job:
Sheet:
Of 2 Sheets



④ THIRD FLOOR PLAN
1/2" = 1'-0"



⑤ ROOF PLAN
1/4" = 1'-0"

2.18.19

WILLIAM F. COBURN ARCHITECT
1001 CENTER ST
OAKLAND CA 94607
906.878.8826
FAX 906.465.2537
CELL 510.151.4085
wpcoburn@pacbell.net



NEW FOUNDATION = UNIT 1 RECONFIGURATION AT:
2024 LARK ST
FERRYLAND CA
FOR EVERETT PROPERTIES
5278 SHATTUCK AVE
BERKELEY CA 94704

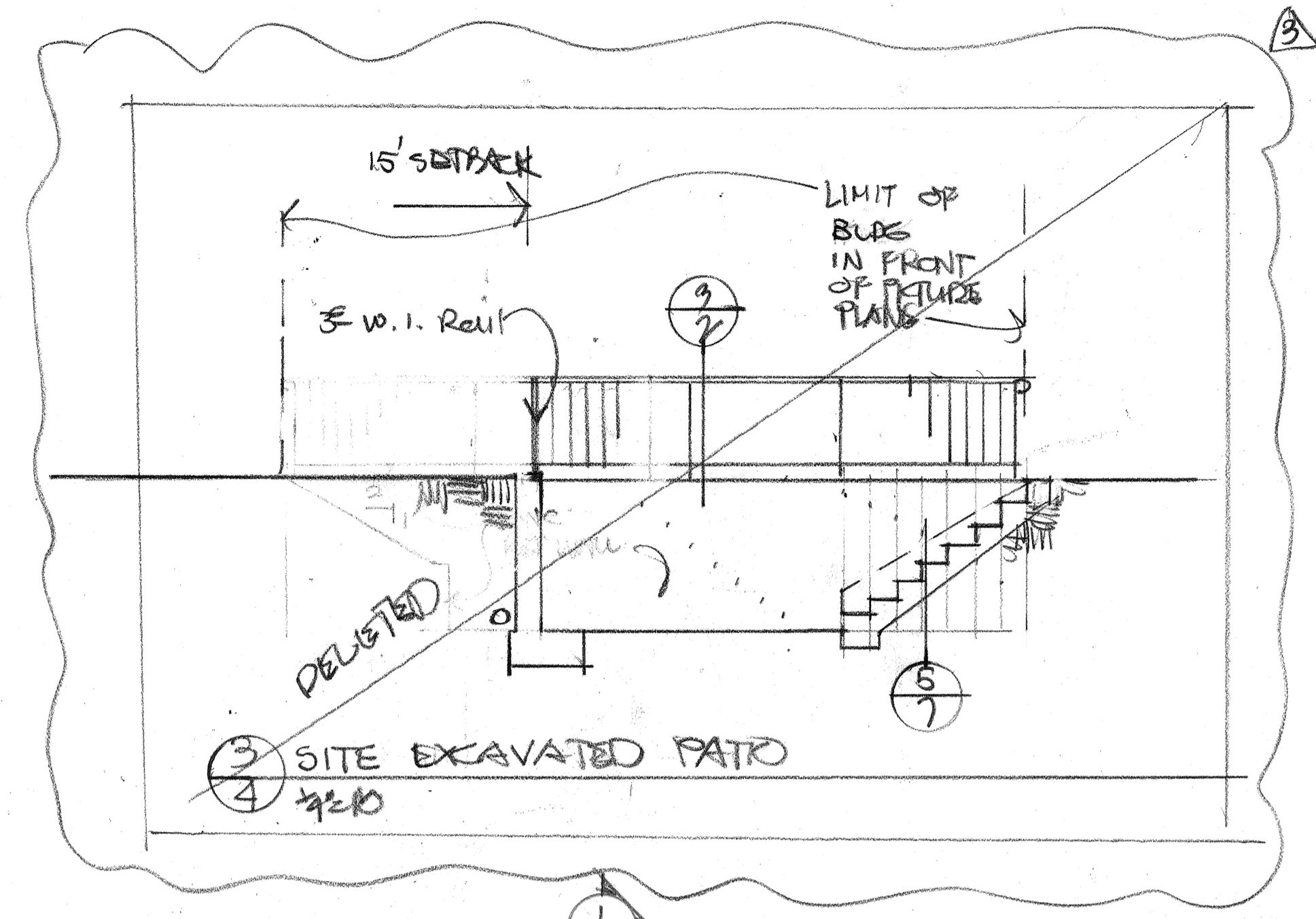
12.21.16

16 3

04/10/00

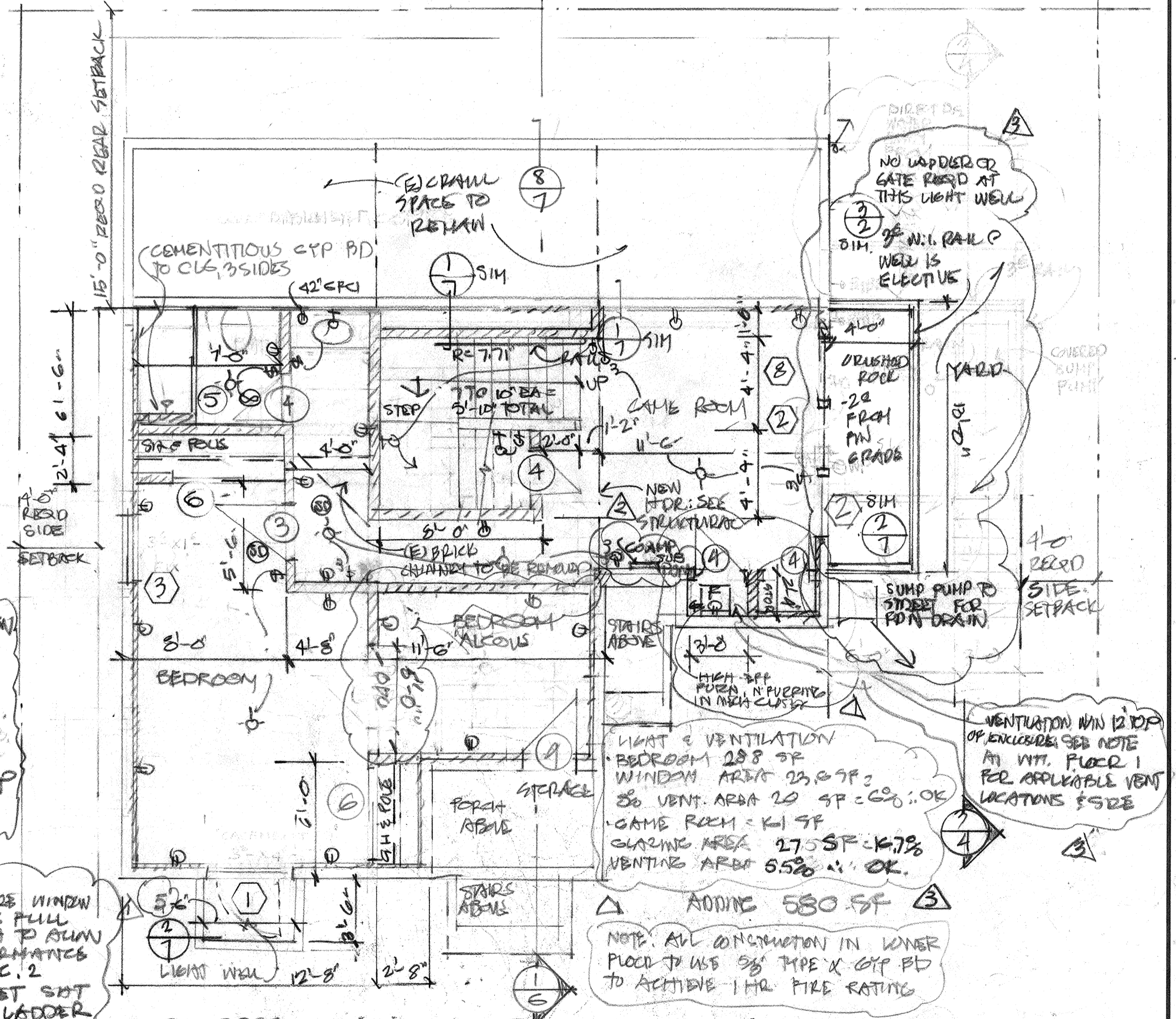
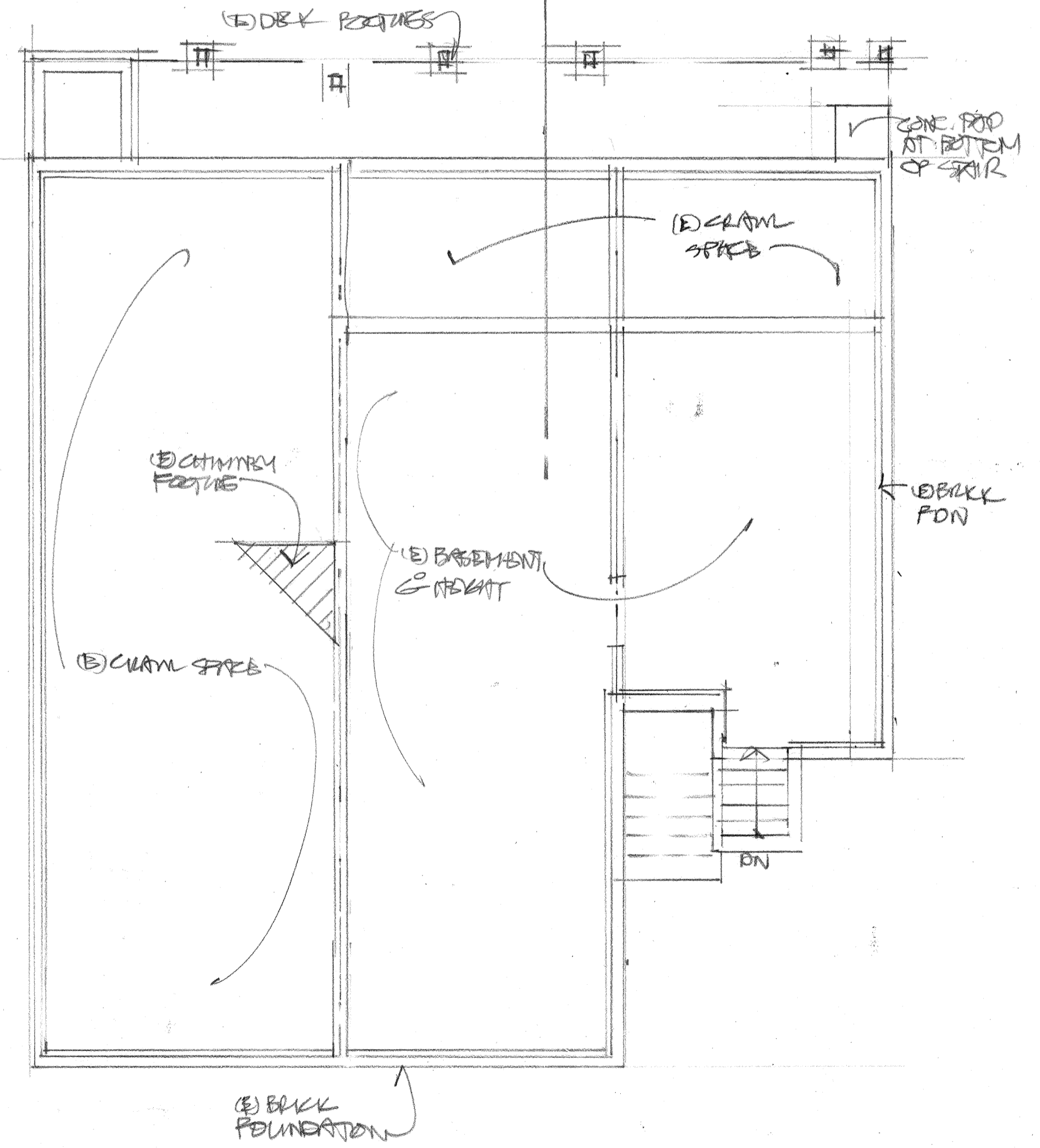
DOOR SCHEDULE					
NO	SIZE	MATL	THICK	THRESH	REMARKS
1	6' x 6'	VINYL	1 3/4"	ALUM	TEMP GL
2	2' x 6'	SC WD/CLAD	1 3/4"	ALUM	TEMP GL
3	2' x 6'	SC WD	1 3/8"		
4	2' x 6'	"	"		
5	12' x 6'	TEMP GLASS			C TUBY SHOWER
6	12' x 6'	SC WD	1 3/8"		B1-POLD
7	2' x 6'	"	"		(E) TO REMAIN
8	2' x 6'	"	"		(W) TO REMAIN
9	3' x 6'	SC WD	1 3/4"	ALUM	*

WINDOW SCHEDULE					
NO	SIZE	TYPE	GLAZING	MATERIAL	REMARKS
1	3' x 4'	CASE	OBL	WD/CLAD	EXIST
2	3' x 9'	FIXED	OBL	WD/CLAD	EXIST
3	3' x 12'	FIX	OBL	"	"
4	2' x 4'	GH	"	"	*
5	"	"	"	"	*
6	10' x 15'	"	"	"	*
7	3' x 4'	"	"	"	TEMP GLASS
8	3' x 2'	CASE	"	"	"



VENTING LOUVERS AS REQ'D BY GAS MIT

* NO FRAMING CHANGE, VIF WINDOW SIZE, REPLACE IN LIKE KIND
 ** WINDOW MIN CLEAR WIDTH 26". AREA OF WINDOW EXCEEDS 9' SO SEE DET SPTS FOR LIGHT WELL LADDER REETS IF WELL EXCEEDS 4' IN DEPTH.



NOTE: SLAB CONSTRUCTION REFER TO STRUCTURAL DRAWINGS. PROPOSED CONC. SLAB W/ #4 BARR. MIN. 6" B.A. 0/2" SAND O/ 6" MIL WD MEMB W/ NO LESS THAN 2" LAP O/ 1/4" CRUSHED ROCK

ENCLOSE WINDOW OPENING FULL WIDTH TO SLAB COMPLIANCE W/ IBC 2
 SEE DET SPT 6 FOR LADDER REQ'D IF WELL DEPTH GREATER THAN 4'

WHAT'S VENTILATION
 BEDROOM 288 SF WINDOW AREA 25.8 SF = 8% VENT. AREA 20 SF = 6.9% OK
 GAME ROOM 161 SF GLAZING AREA 27.5 SF = 17% VENTING AREA 55% 1' OK

VENTILATION MIN 12" DP OF EXCURSION SEE NOTE IN WH. FLOOR 1 FOR APPLICABLE VENT LOCATIONS & SIZE

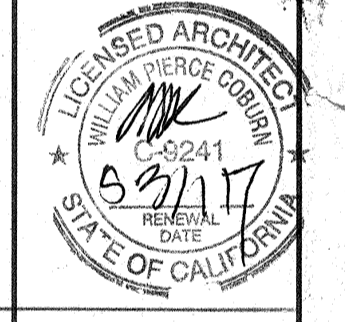
NOTE: ALL CONSTRUCTION IN LOWER FLOOR TO USE 5/8" TYPE X CYP PD TO ACHIEVE 1-HR. FIRE RATING

EXIST FIN PLAN
 1/4" = 1'-0"

PROPOSED BASEMENT PLAN 796 SF
 1/4" = 1'-0"

REVISIONS	BY
1	12.12.17
2	11.18.19
3	11.27.19

WILLIAM P. COBURN ARCHITECT
 1224 CENTER ST
 OAKLAND CA 94607
 510-893-8076
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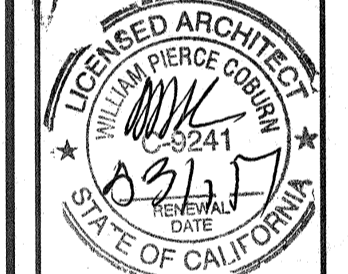


NEW FOUNDATION & UNIT RECONFIGURATION AT:	
Date	12/1/16
Scale	
Drawn	
Job	
Sheet	164
Of	Sheets

REVISIONS	BY
1	12.17
2	2.28.19
3	7.26.19

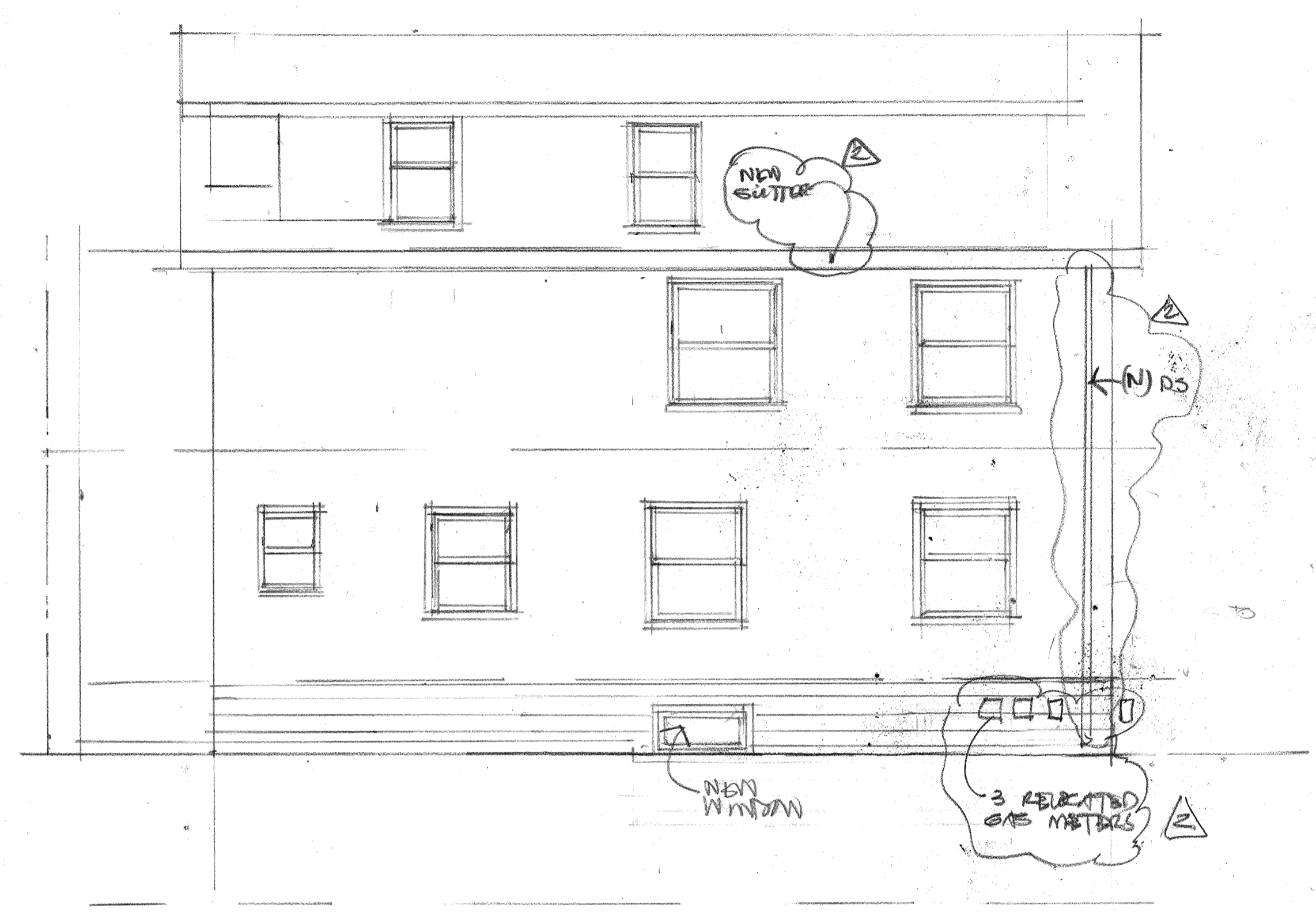
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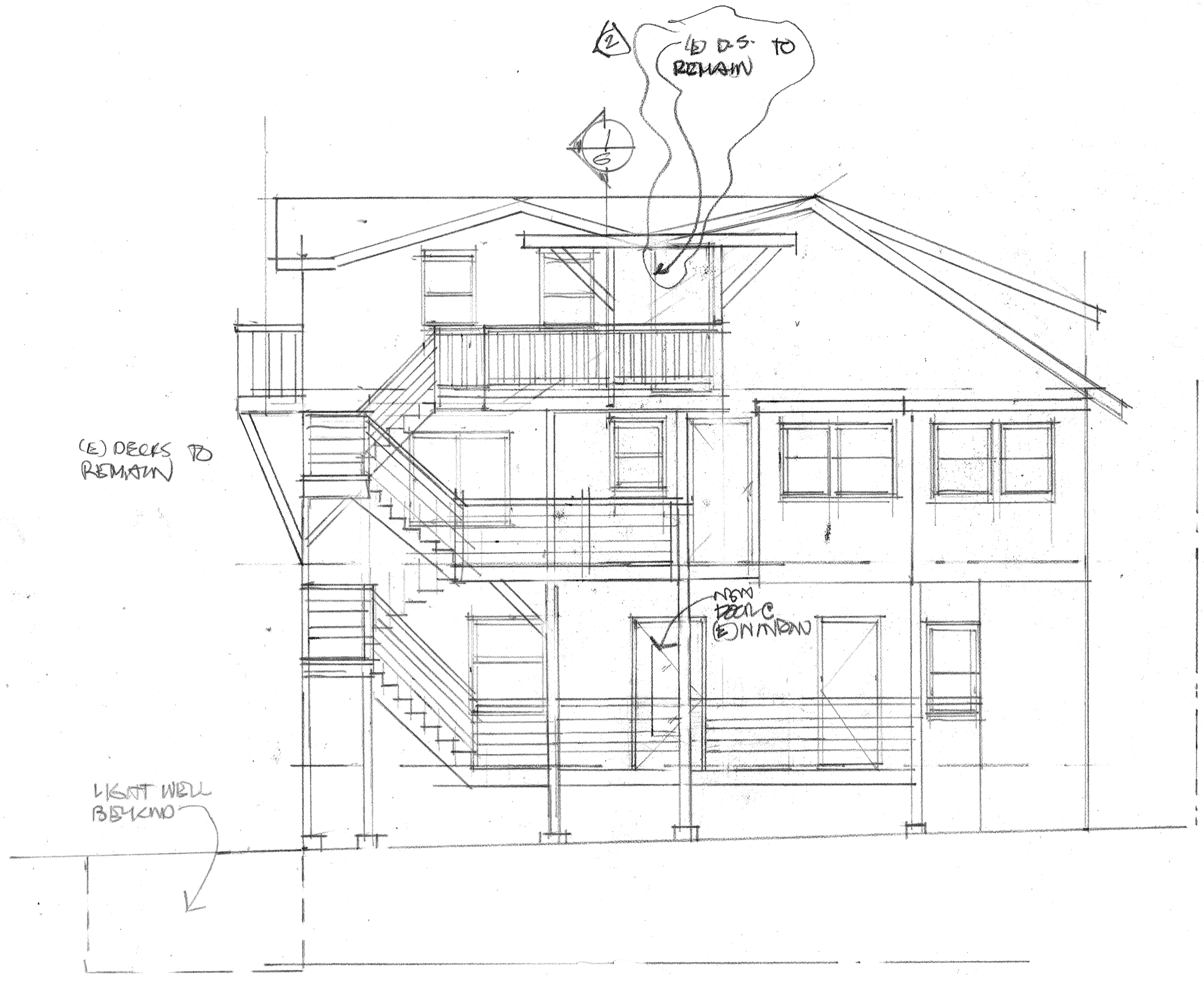


NEW FOUNDATION S UNIT 1 RECONSTRUCTION AT:
2224 PEARCE ST
BERKELEY CA
FOR: EVEREST PROPERTIES
2278 SHATTUCK ST
BERKELEY CA 94704

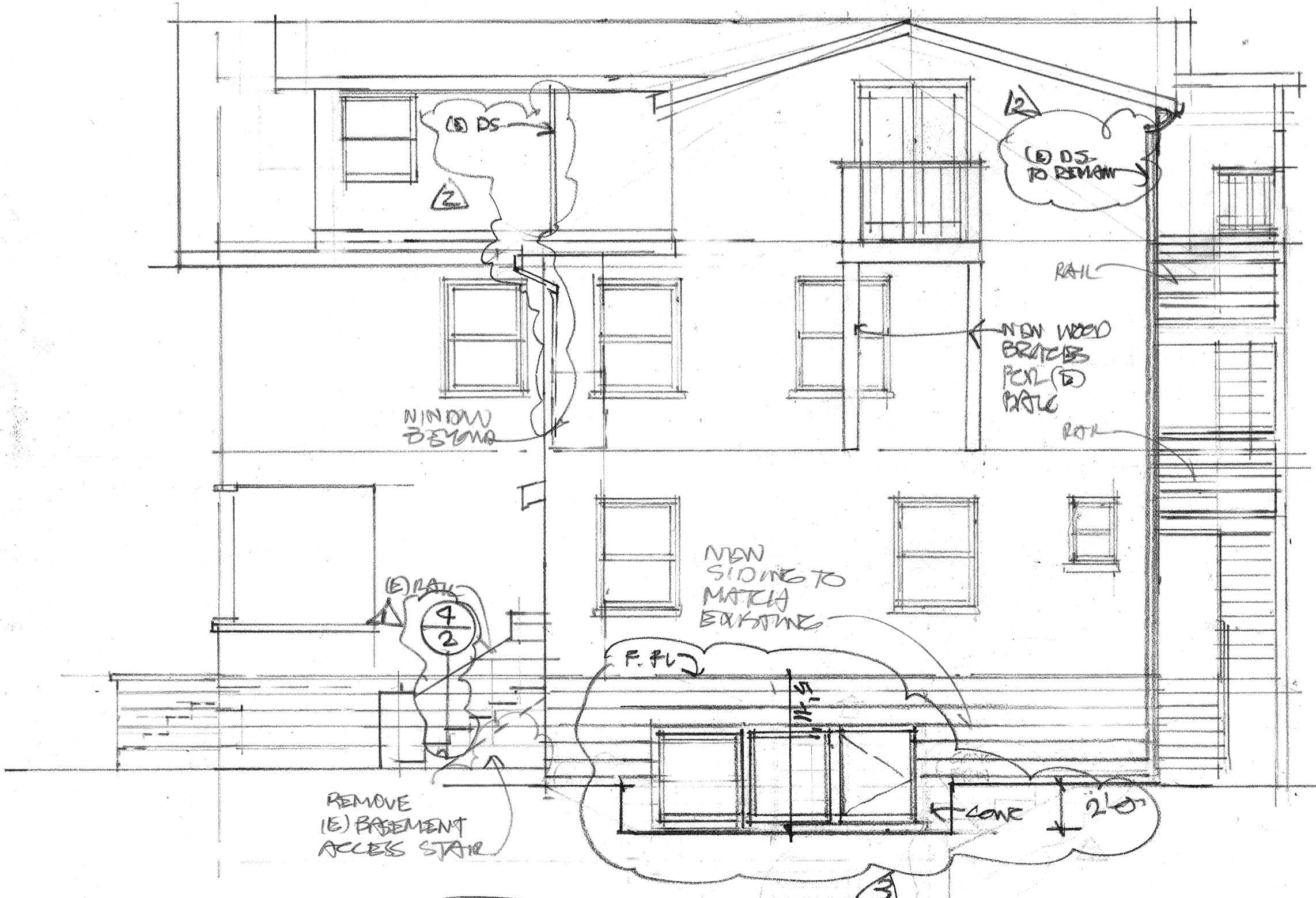
Date	12/16
Scale	
Drawn	
Job	
Sheet	5
Of	16



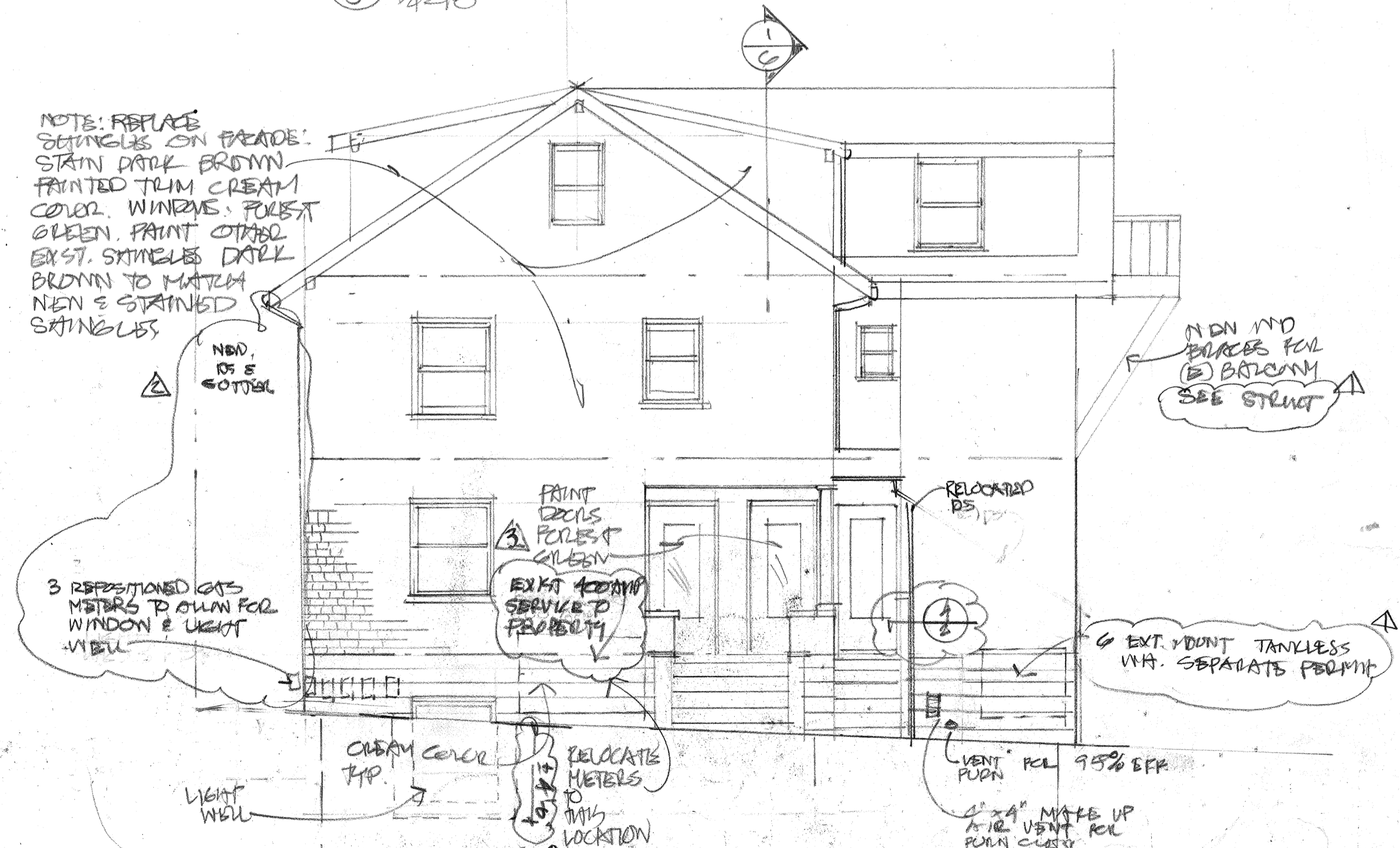
4 EAST SIDE ELEVATION
5 1/4"=1'-0"



3 REAR/SOUTH ELEVATION
5 1/4"=1'-0"



2 WEST SIDE ELEVATION
5 1/4"=1'-0"



1 FRONT/NORTH ELEVATION
5 1/4"=1'-0"

NOTE: REPLACE SHINGLES ON BRIDGE: STAIN DARK BROWN. PAINTED TUM CREAM COLOR. WINDERS, FURST GREEN. PAINT OTHER EXST. SHINGLES DARK BROWN TO MATCH NEW & STAINED SHINGLES.

NON WD BRACES FOR (E) BALCONY SEE STRUCT

EXT. MOUNT TANKLESS WH. SEPARATE PERMIT

RELOCATED PS
PRINT DECALS FOR BEST GREEN
EXIT READING SERVICE TO PROPERTY

VENT PUMP REL 95% EFF
4" DIA MAKE UP AIR VENT REL PUMP CREST

CREAM CERAMIC T.P.
RELOCATE METERS TO THIS LOCATION

3 REPOSITIONED LGS METERS DOWN FOR WINDOW & LIGHT WELL

LIGHT WELL

REMOVE (E) BASEMENT ACCESS STAIR

NEW STONE TO MATCH EXISTING

WINDOW BEYOND

NEW WOOD BRACES FOR (E) PORCH

(E) DS TO REMAIN

NEW SUTTER

3 RELOCATED GAS METERS

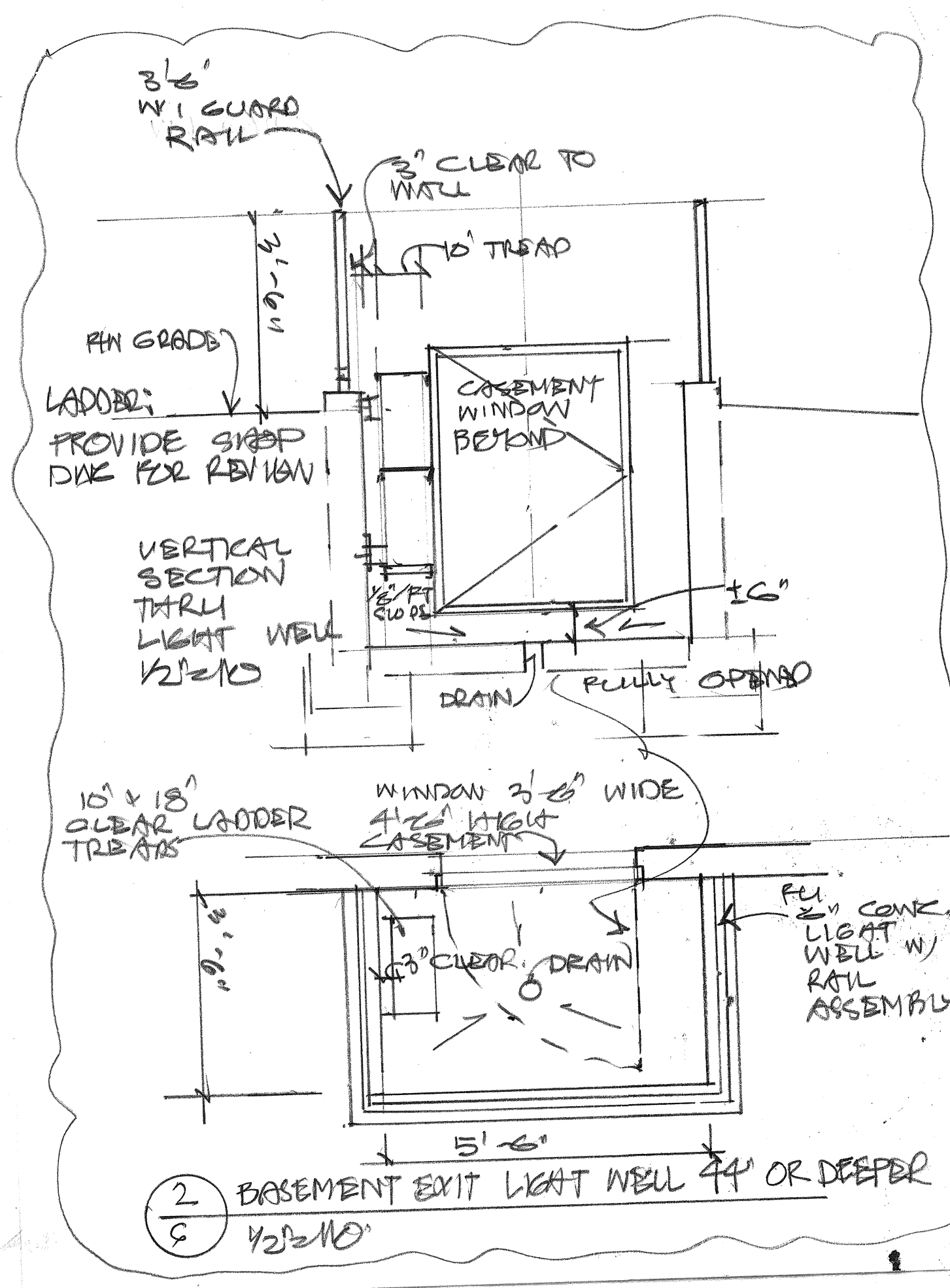
(E) DECKS TO REMAIN

(E) DS TO REMAIN

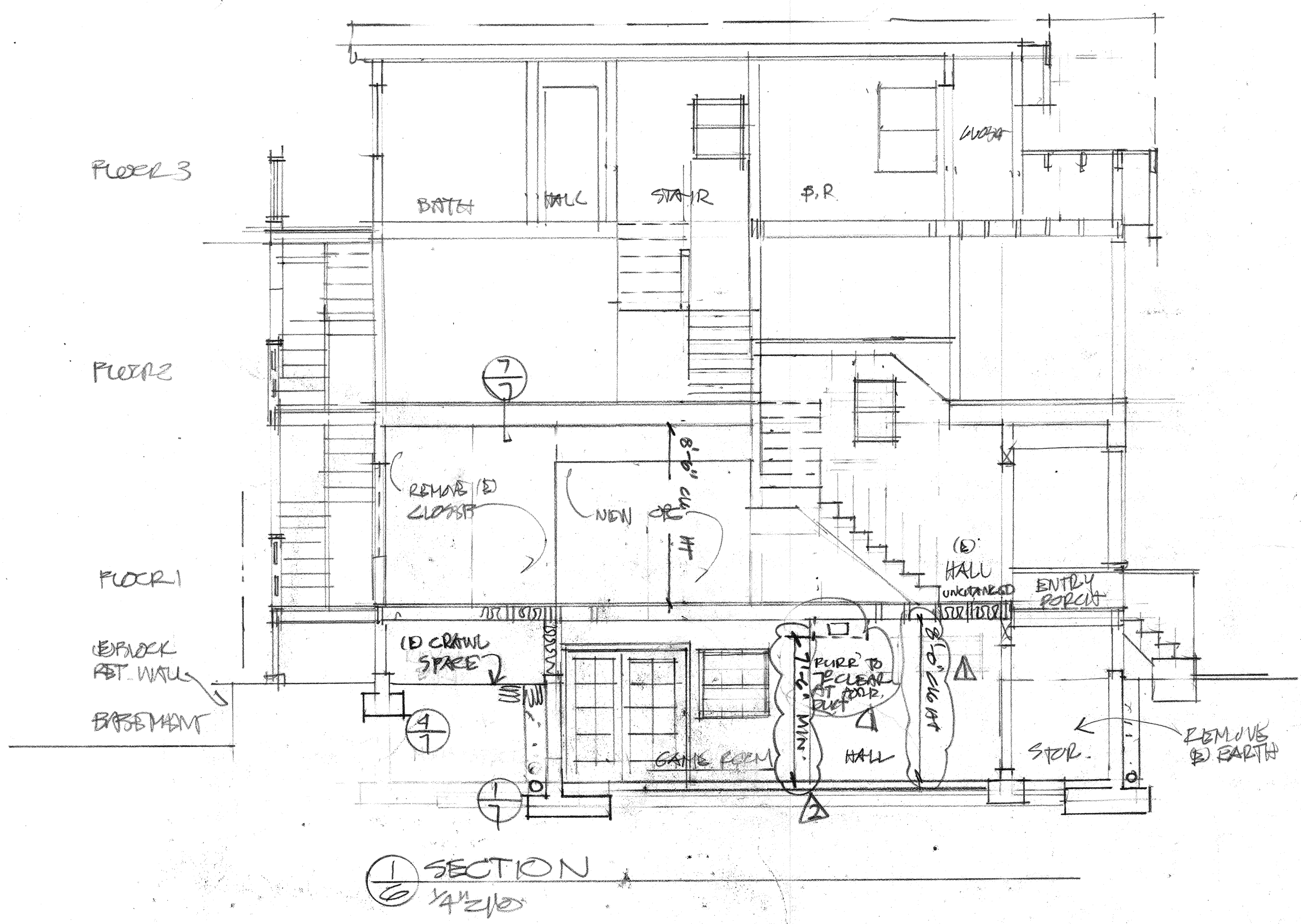
NEW BRICK (E) WINDOW

NEW WINDOW

LIGHT WELL BEYOND

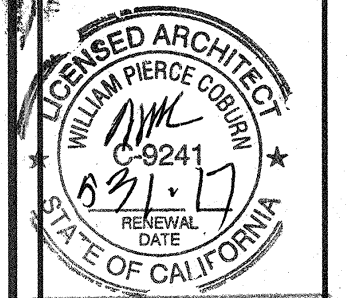


CEILING HEIGHT NOTE: UPPER EXIT FLOOR 8'-6", LOWER FLOOR 8'-0" ALL ROOMS TO ACHIEVE THIS HEIGHT.



REVISIONS	BY
1	
2	2/28/19

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NEW FOUNDATION E UNIT RECONFIGURATION AT:
 2234 MARSH ST
 BERKELEY CA
 PROJ: EQUEST PROPERTIES
 0078 SUGARTUCK AVE
 BERKELEY CA 94704

Date	12/20/16
Scale	
Drawn	
Job	
Sheet	166
Of	166
Sheets	

2013 Low-Rise Residential Mandatory Measures Summary

Table with 2 columns: Measure ID and Description. Includes measures for lighting, HVAC, and energy efficiency.

2013 Low-Rise Residential Mandatory Measures Summary

Table with 2 columns: Measure ID and Description. Includes measures for ducts and fans, fireplaces, and water heating.

2013 Low-Rise Residential Mandatory Measures Summary

Table with 2 columns: Measure ID and Description. Includes measures for building envelope, fenestration, and HVAC systems.

RESIDENTIAL MEASURES SUMMARY

Summary table for residential measures including project name, location, and various energy metrics.

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Table with project details: Unit 1 Addition Remodel, Title 24 Analysis, and compliance information.

Table with energy design rating: Reference Energy Use (95.30), Energy Design Rating (64.39), Margin (0.91), and Percent Improvement (1.0%).

Table with building features information: Project Name, Conditioned Floor Area, Number of Dwelling Units, etc.

Table with zone information: Zone Name, Zone Type, HVAC System Name, etc.

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Table with project details: Unit 1 Addition Remodel, Title 24 Analysis, and compliance information.

Table with energy use summary: Energy Use (kWh/yr), Standard Design, Proposed Design, Compliance Margin, and Percent Improvement.

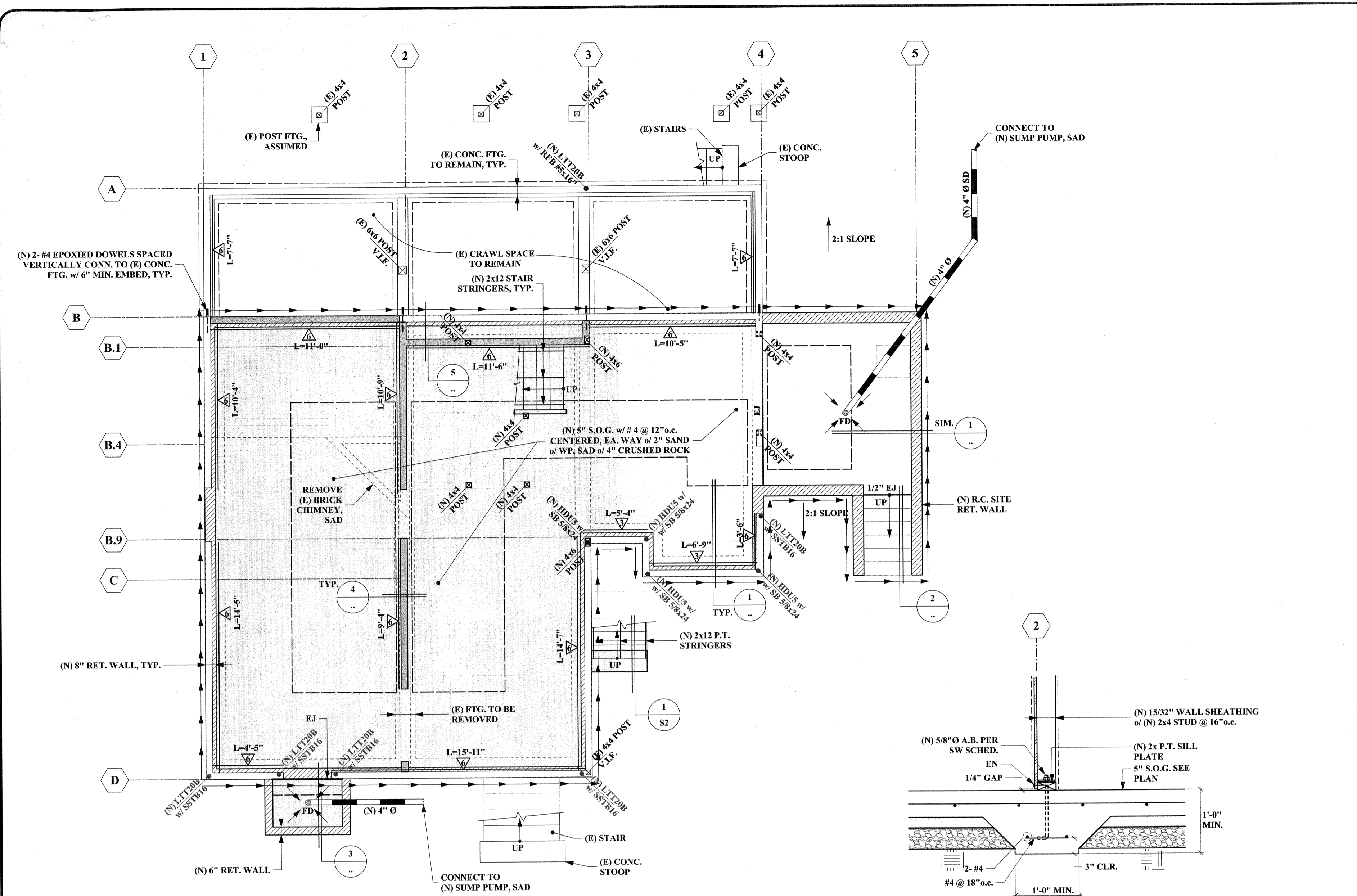
Table with building features information: Project Name, Conditioned Floor Area, Number of Dwelling Units, etc.

Table with zone information: Zone Name, Zone Type, HVAC System Name, etc.

2013 Low-Rise Residential Mandatory Measures Summary

Table with project details and compliance information for Unit 1 Addition Remodel.

REVISIONS BY table and vertical notes on the right side of the page.



BASEMENT & FOUNDATION PLAN
1/4" = 1'-0" NOTE: 5/8" Ø RFB ANCHORS, LTT20B, SHALL BE TENSION TESTED TO 2500 LB.

LEGEND

- (N) CONC. AREA
- (N) 8" RET. WALL
- (N) STRUCTURAL WALL ABOVE
- (E) STRUCTURAL WALL ABOVE
- (N) SHEARPLY w/ (N) STRUCTURAL WALL ABOVE
- (N) SHEARPLY w/ (E) STRUCTURAL WALL ABOVE
- V.I.F. VERIFY IN FIELD
- GRACE HYDRODUCT COMPOSITE BACKDRAIN SYSTEM
- 4" Ø SDR 35 PVC STORM DRAIN. PROVIDE 1'-0" MIN. COVER, & INSTALL w/ 1/8" FT MIN. GRADIENT.
- FD FLOOR DRAIN

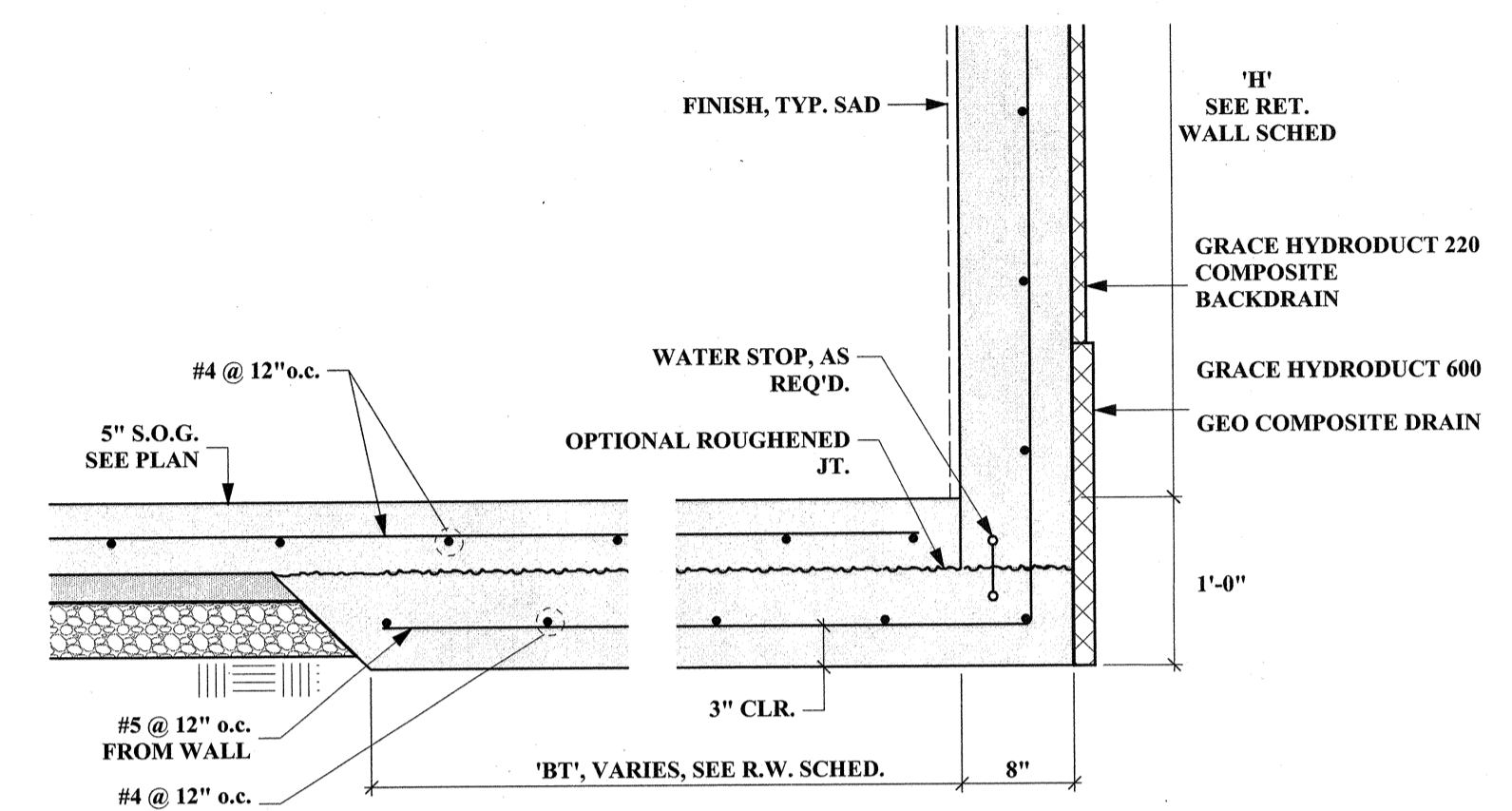
SHEAR WALL SCHEDULE

WALL MARK	ALLOWABLE SHEAR LOAD (PLF)	EDGE NAILING	SIMPSON CLIP SIZE & SPACING	SILL PLATE NAILING SIZE & SPACING	ANCHOR BOLTS SPACING (NOTE 7)
▽	310	10d @ 6" o.c.	A35 @ 16" o.c. OR LTP4 @ 24" o.c.	SDS25600 @ 12" o.c.	48" o.c.
▽	600	10d @ 3" o.c.	A35 @ 8" o.c. OR LTP4 @ 12" o.c.	SDS25600 @ 6" o.c.	30" o.c.

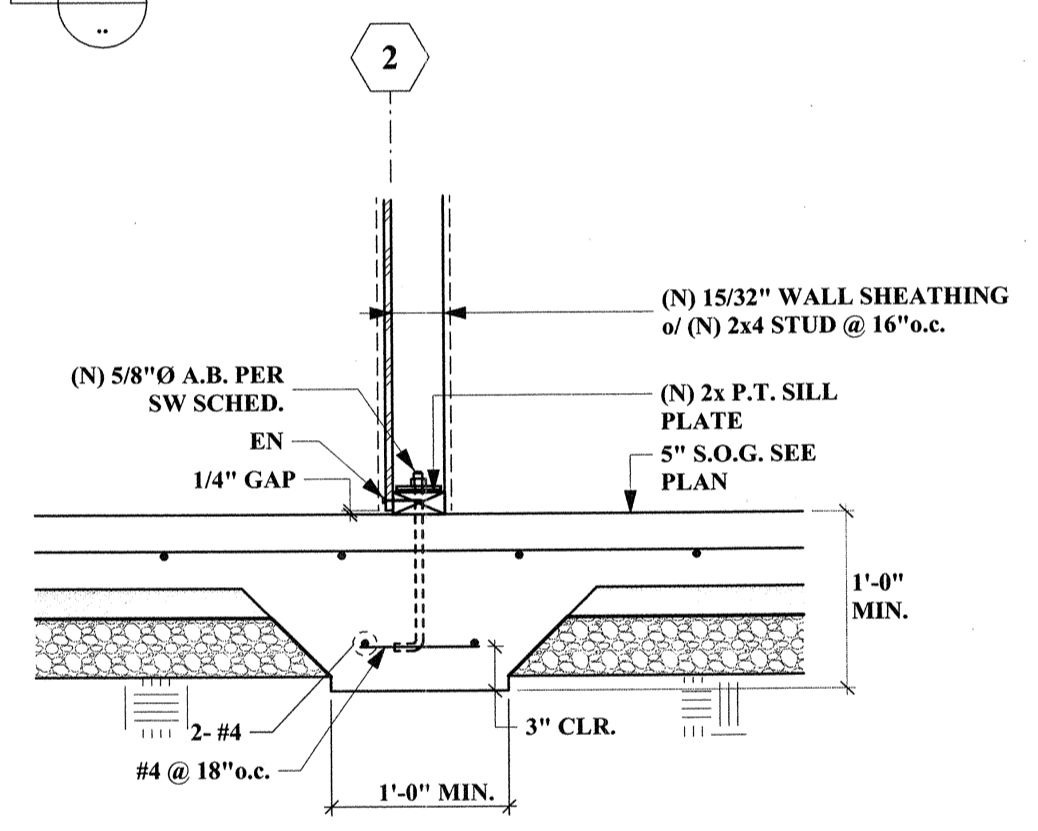
- NOTES:**
- SHEATHING: 15/32" DOUGLAS FIR APA EXTERIOR, EXPOSURE 1, RATED SHEATHING IN CONFORMANCE WITH THE U.S. COMMERCIAL STANDARDS PS-1. AT CONTRACTOR'S OPTION, SHEATHING MAY BE INSTALLED ON OPPOSITE SIDE OF WALL AS INDICATED.
 - STUDS SHALL BE AT 16" O.C. MAXIMUM
 - FIELD NAILING SHALL BE 12" O.C.
 - BLOCK & NAIL ALL SHEATHING EDGES.
 - ALL SHEATHING SHALL BE SPLICED AT CENTERLINE OF FRAMING OR BLOCKING.
 - USE 3x OR DBL 2x's MIN. AT FOUNDATION SILL PLATE AND FOR ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ABUTTING PANELS WHERE ALLOWABLE SHEAR VALUES EXCEED 350 PLF. ALL EDGE NAILING AT ADJOINING PANEL EDGES SHALL BE STAGGERED.
 - ALL WET SET ANCHOR BOLTS SHALL BE 5/8" Ø x 12" w/ 7" MIN. EMBEDMENT AT CONTRACTORS OPTION, 5/8"x8" TITEN HD MAY SUBSTITUTE FOR ANCHOR BOLTS SHOWN, PROVIDE THE SAME SPACING AS PER SCHEDULE. USE 3" SQ. x 1/4" PLATE WASHER W/ DIAGONALLY SLOTTED HOLE.
- * PROVIDE 3x OR ADDITIONAL 2x NAILER AT SILL PLATE RECEIVING EDGE NAILING WHERE PANELS ARE APPLIED ON BOTH FACES.

RET. WALL SCHEDULE

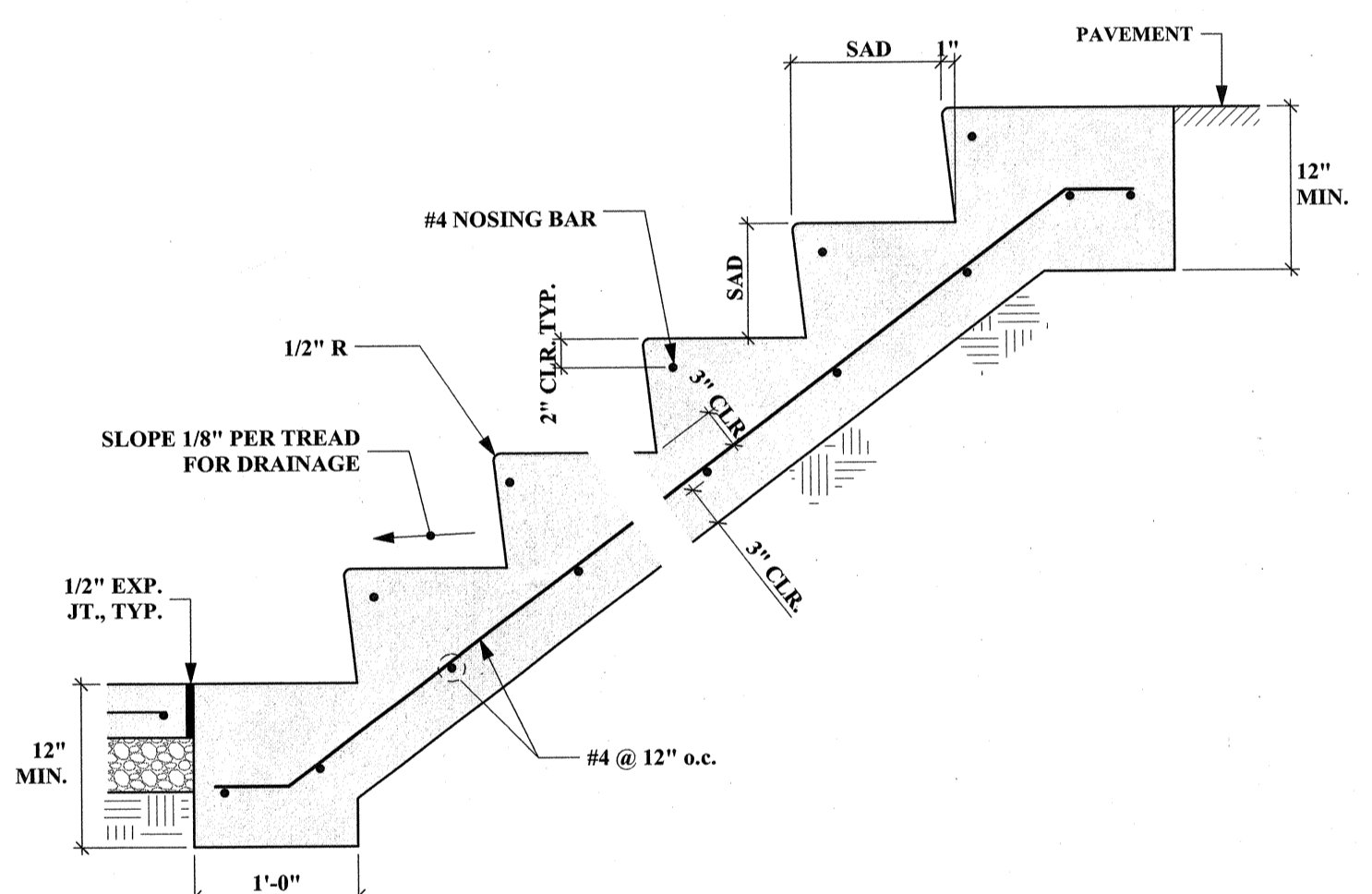
WALL LOCATION	WALL HEIGHT 'H', FT.	FTG. LENGTH 'BT', FT.
HOUSE	> 4'-6" ≤ 6'-6"	4'-9"
SITE	> 4'-0" ≤ 6'-0"	3'-9"
	> 2'-0" ≤ 4'-0"	2'-0"
	≤ 2'-0"	1'-0"



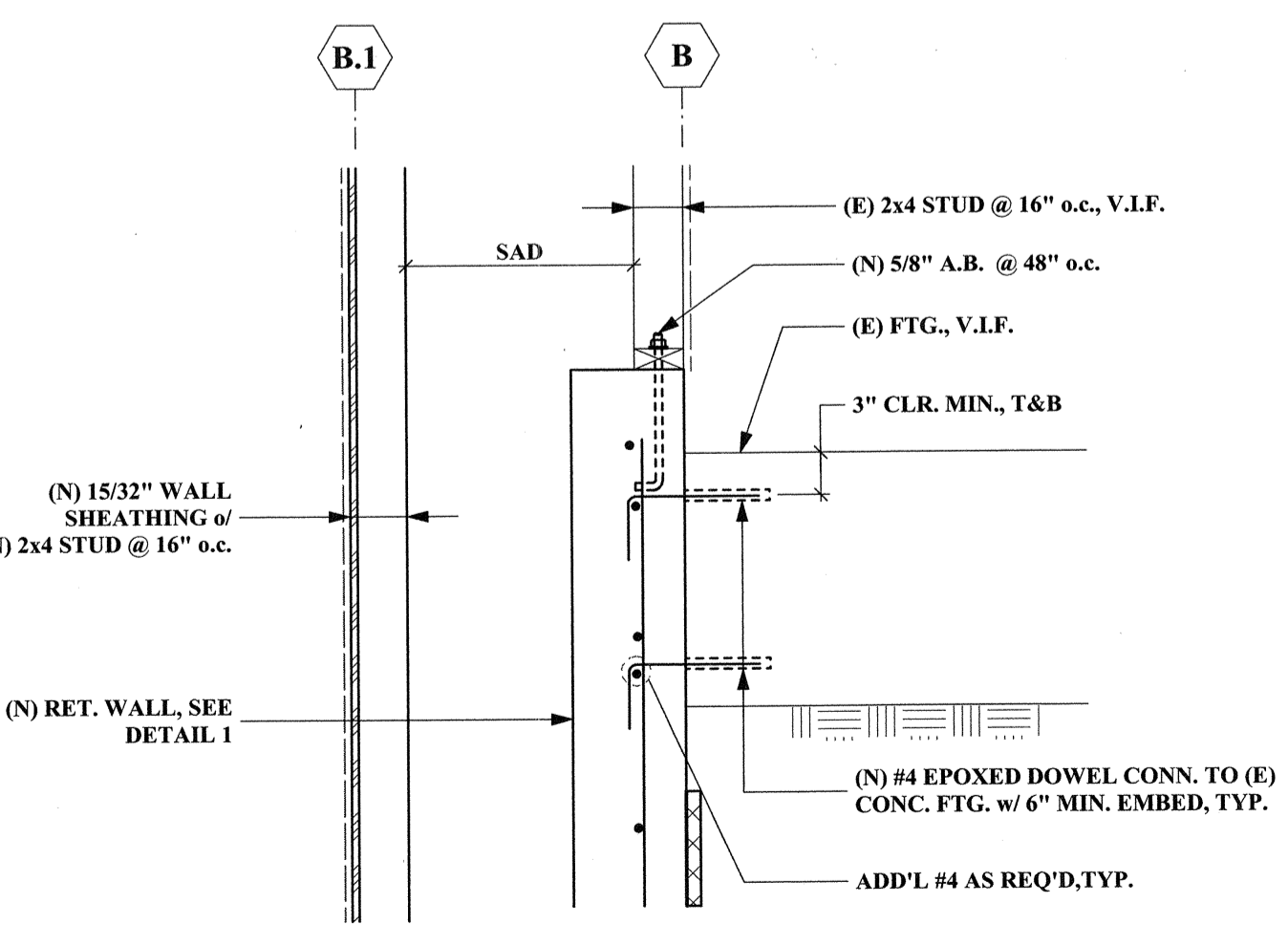
1 TYPICAL CANTILEVER RET. WALL
1" = 1'-0"



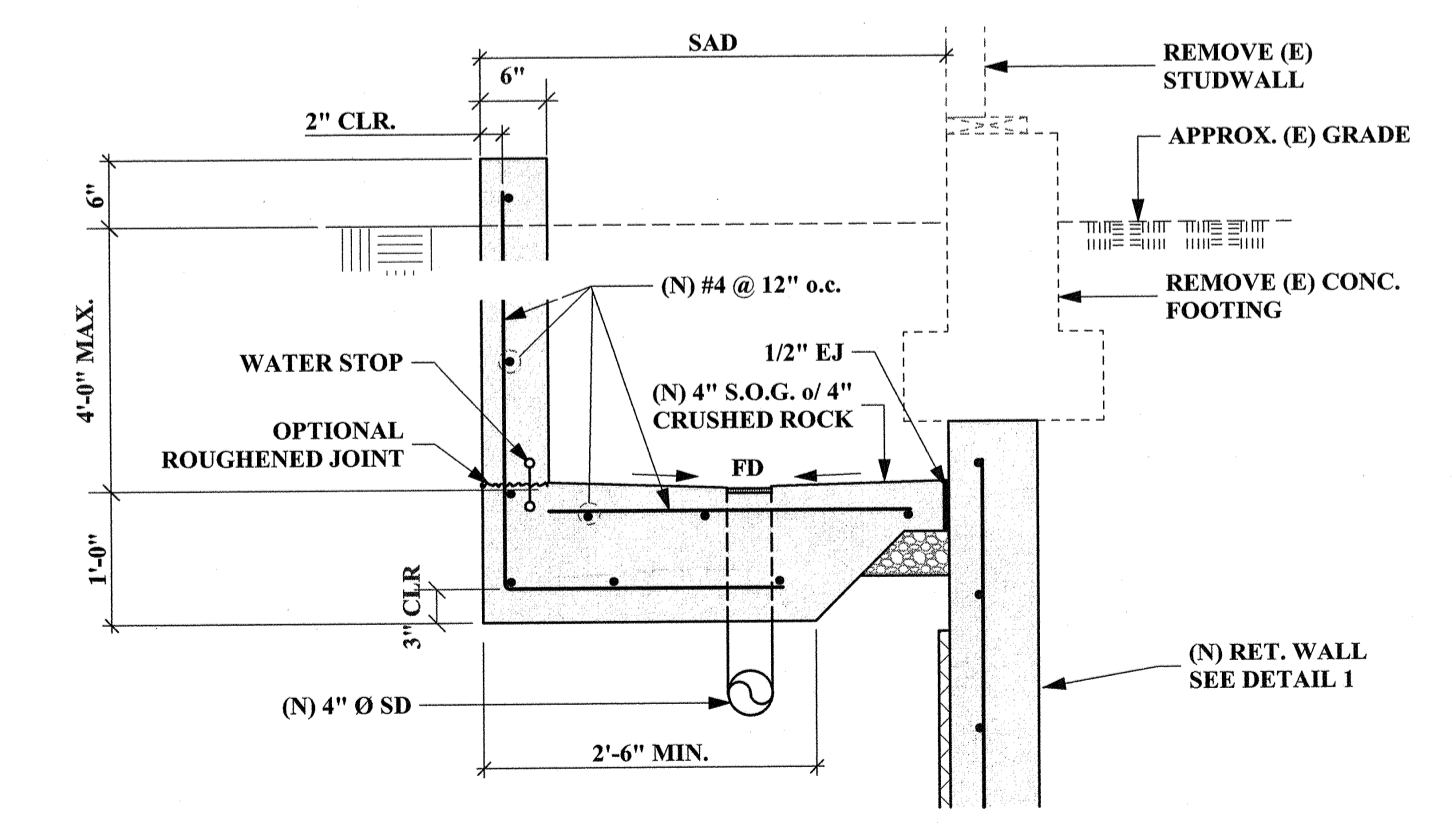
4 (N) INTERIOR WALL FTG. @ LINE 2
1" = 1'-0"



2 (N) CONC. STAIRS @ PATIO
1" = 1'-0"



5 SECTION @ (N) RET. WALL & (E) FTG. CONN. @ LINES B & B.1
1" = 1'-0"



3 SECTION @ (N) LIGHT WELL
3/4" = 1'-0"

REVISIONS

NO.	DESCRIPTION	BY

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sgoeng@aol.com www.stongeassociates.com



Architect:
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wpcoburn@pacbell.net smenzi@pacbell.net

Client:
L.B Reddy
Everest Properties
2278 Shattuck Ave.
Berkeley, CA 94704

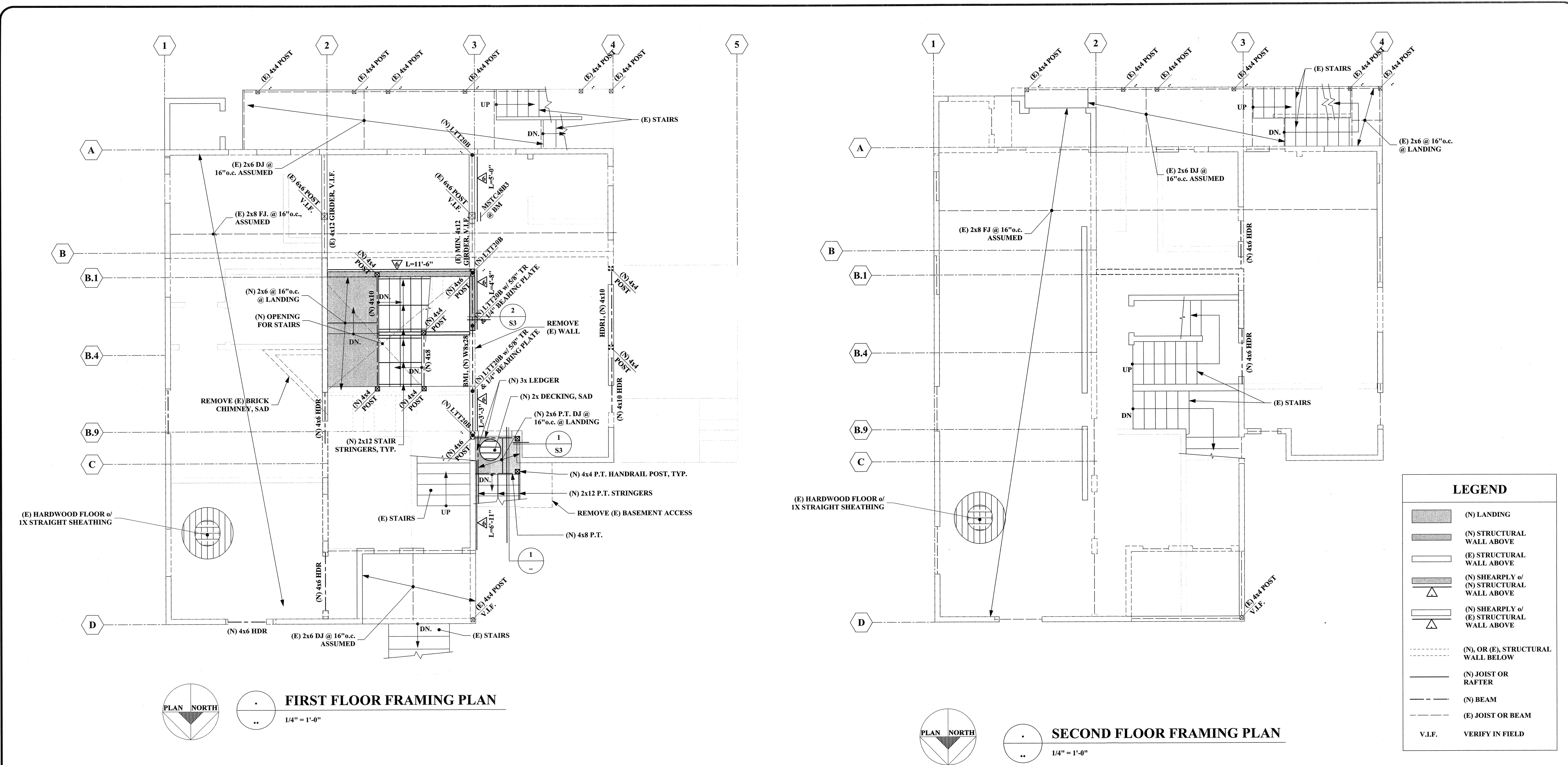
New Basement Remodel
2234 Haste Street
Berkeley, CA 94704

BASEMENT & FOUNDATION PLAN, & DETAILS

DRAWN: JAC & LBH
CHECKED: GSO
DATE: December 6, 2016
SCALE: As Noted
JOB: 1685
SHEET

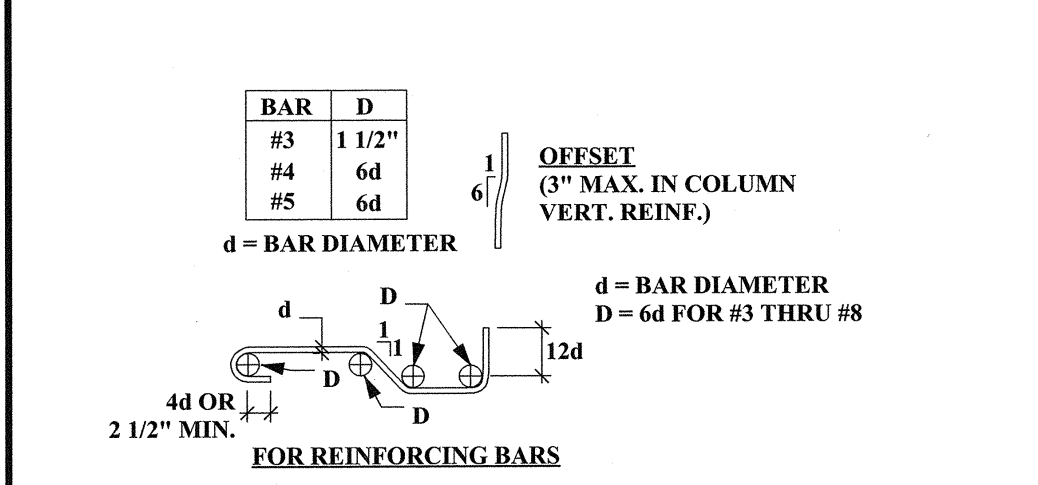
S1

of 4 sheets



WALL MARK	ALLOWABLE SHEAR LOAD (PLF)	EDGE NAILING	SIMPSON CLIP SIZE & SPACING	SILL PLATE NAILING SIZE & SPACING
▽	310	10d @ 6" o.c.	A35 @ 16" o.c. OR LTP4 @ 24" o.c.	SDS25600 @ 12" o.c.

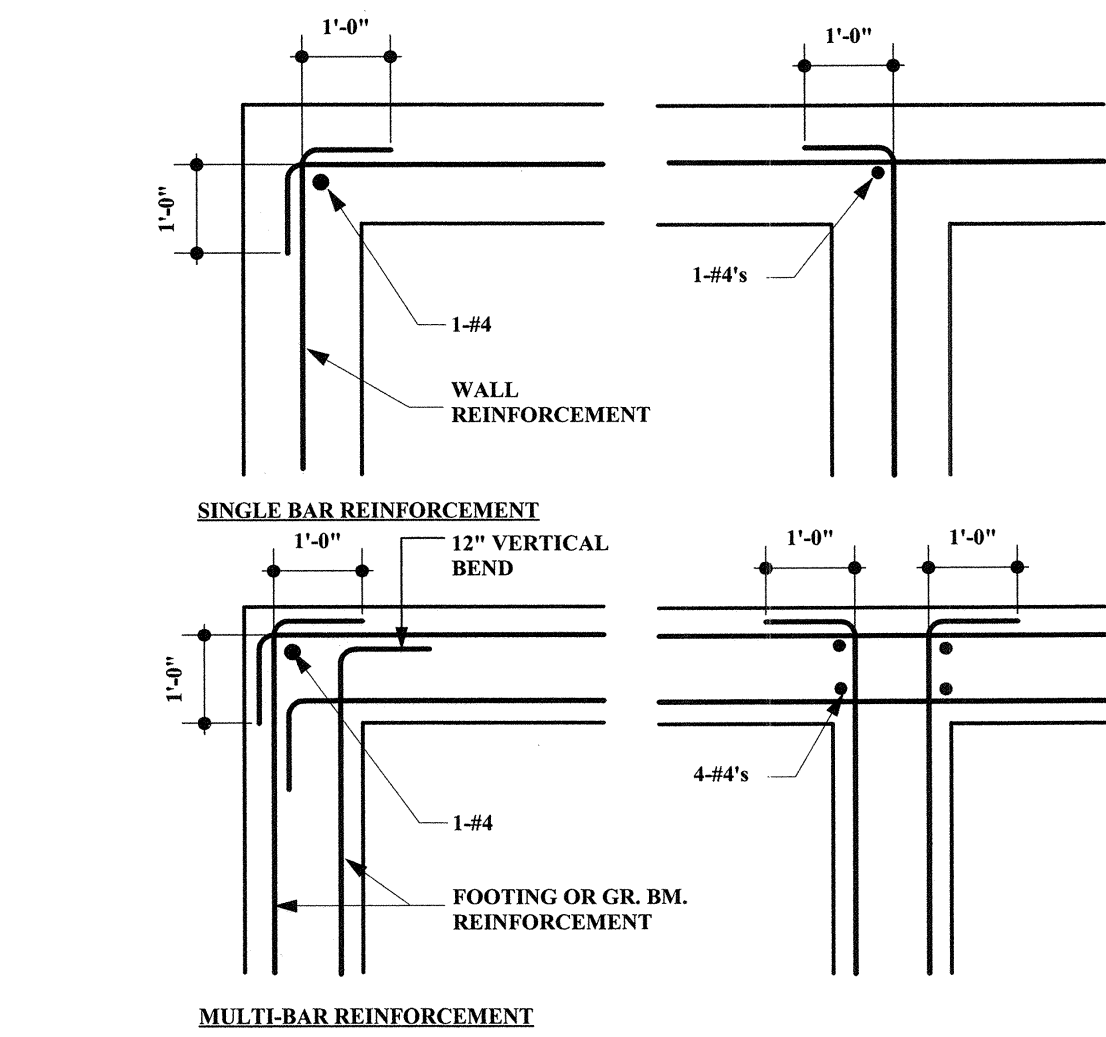
- NOTES:
1. SHEATHING: 1532" DOUGLAS FIR APA EXTERIOR, EXPOSURE 1, RATED SHEATHING IN CONFORMANCE WITH THE U.S. COMMERCIAL STANDARDS PS-1. AT CONTRACTOR'S OPTION, SHEATHING MAY BE INSTALLED ON OPPOSITE SIDE OF WALL AS INDICATED.
 2. STUDS SHALL BE AT 16" O.C. MAXIMUM
 3. FIELD NAILING SHALL BE 12" O.C.
 4. BLOCK & NAIL ALL SHEATHING EDGES.
 5. ALL SHEATHING SHALL BE SPLICED AT CENTERLINE OF FRAMING OR BLOCKING.



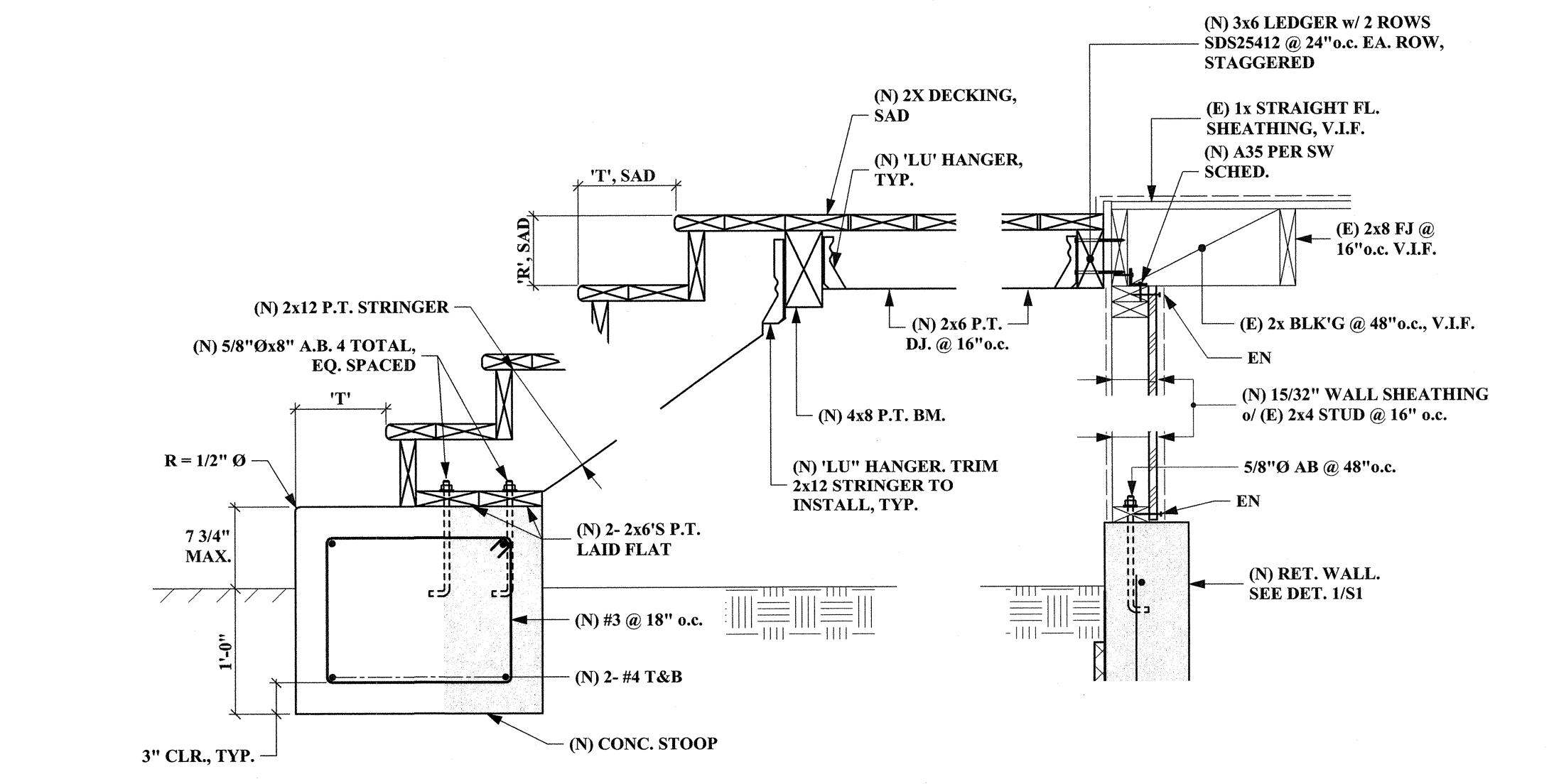
4 BAR BENDING DETAIL
NOT TO SCALE

BAR SIZE	HARDROCK CONCRETE	
	HORIZ. SLAB BARS	GRADE BEAMS
#3	25"	31"
#4	32"	41"
#5	40"	52"

3 TENSION LAP SPLICE SCHEDULE
NTS



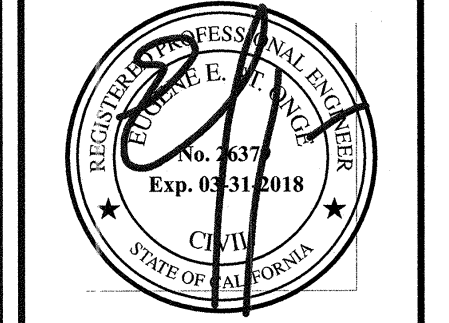
2 REINFORCING @ INTERSECTIONS & CORNERS
NOT TO SCALE



1 SECTION @ (N) EXTERIOR STAIRS
1" = 1'-0" NOTE: SAD FOR WATERPROOFING.

REVISIONS	BY

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Architect:
William Coburn Architects
c/o Stefan Menzi, Architect AIA
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fax (510) 465-2637
wpcoburn@pacbell.net
smezni@pacbell.net

Client:
L B Reddy
Everest Properties
2278 Shattuck Ave.
Berkeley, CA 94704

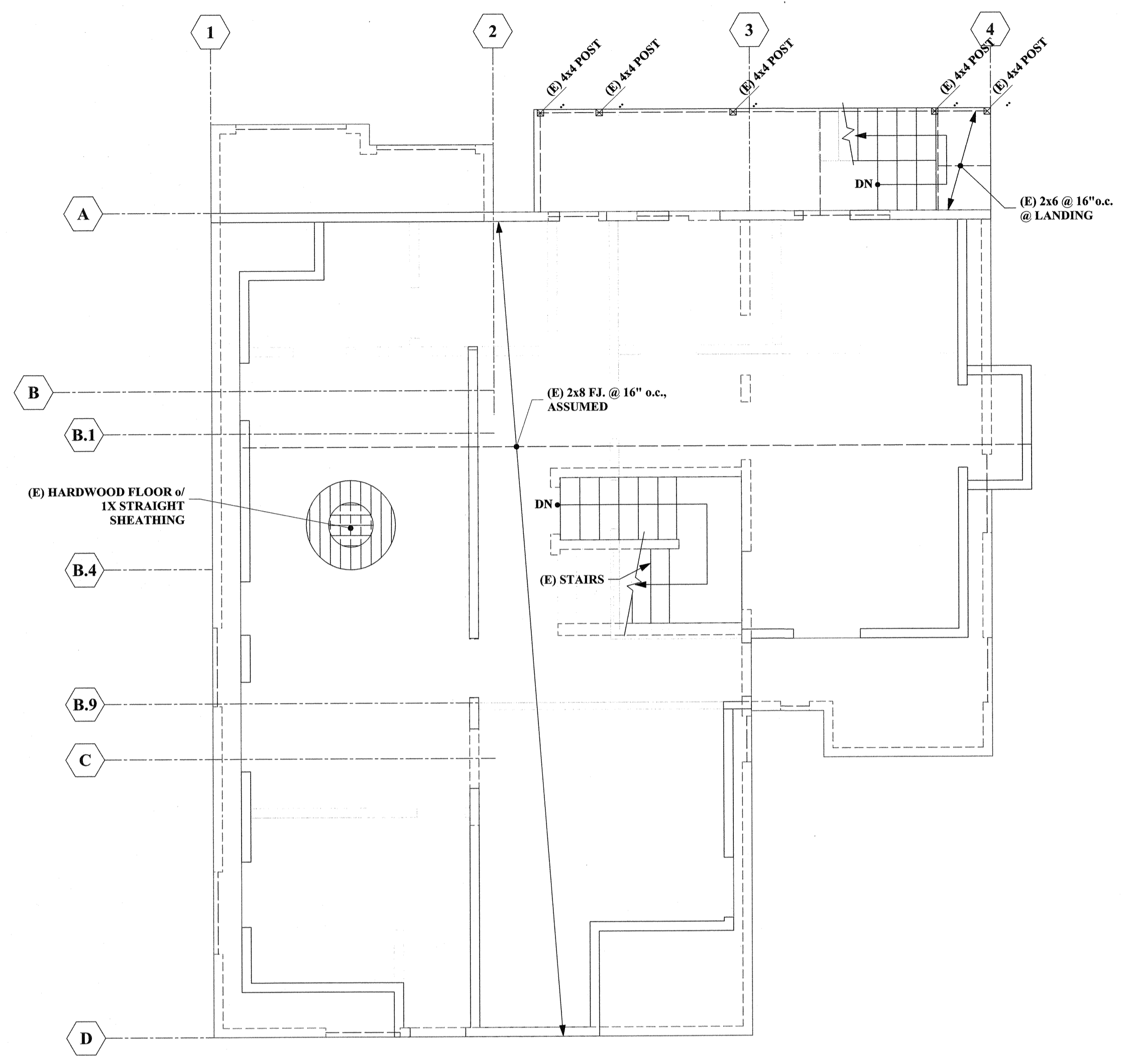
New Basement Remodel
2234 Haste Street
Berkeley, CA 94704

FIRST FLOOR FRAMING PLAN, SECOND FLOOR FRAMING PLAN, & DETAILS

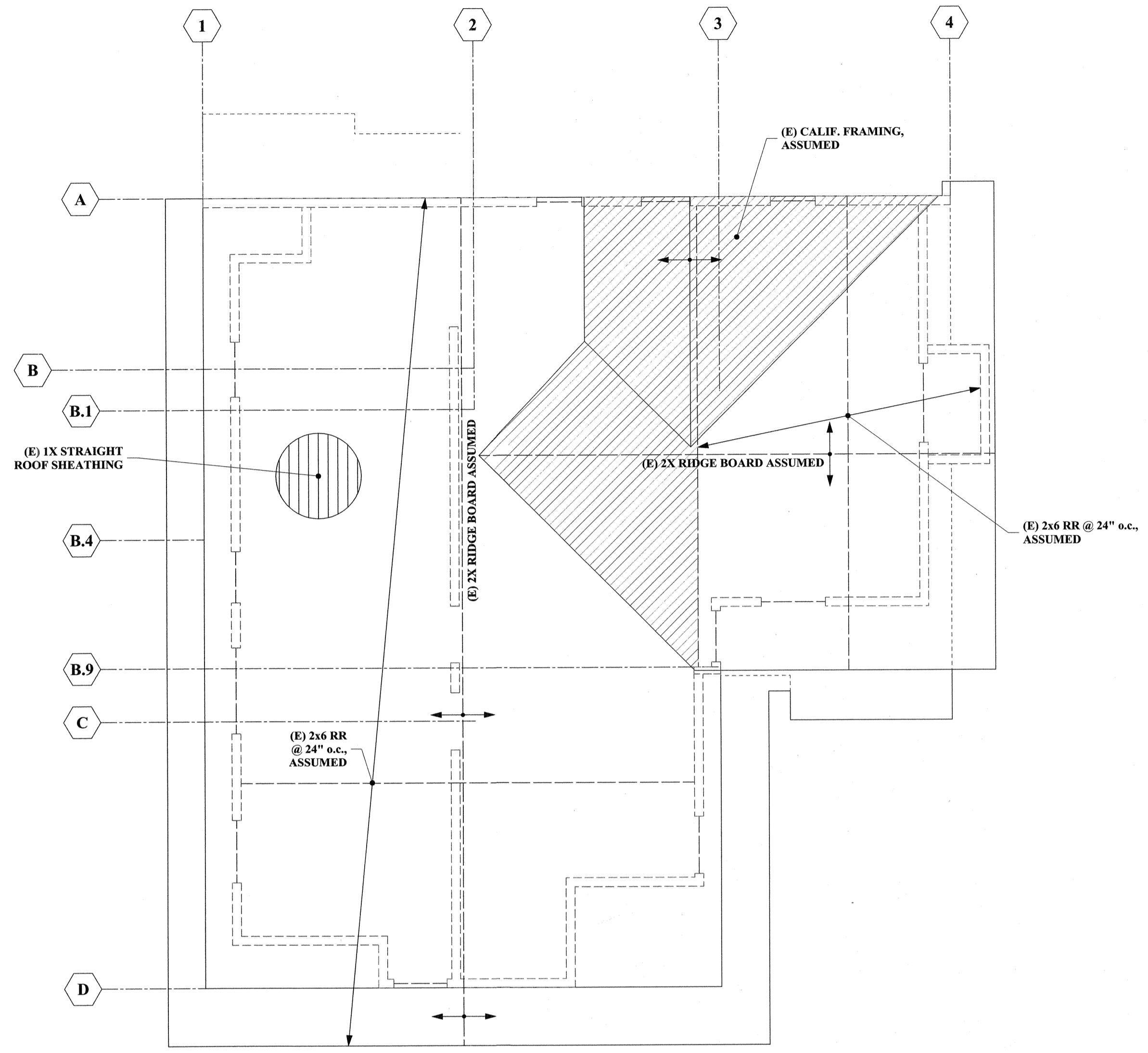
DRAWN
JAC & LBH
CHECKED
GSO
DATE
December 6, 2016
SCALE
As Noted
JOB
1685
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S2
of 4 sheets

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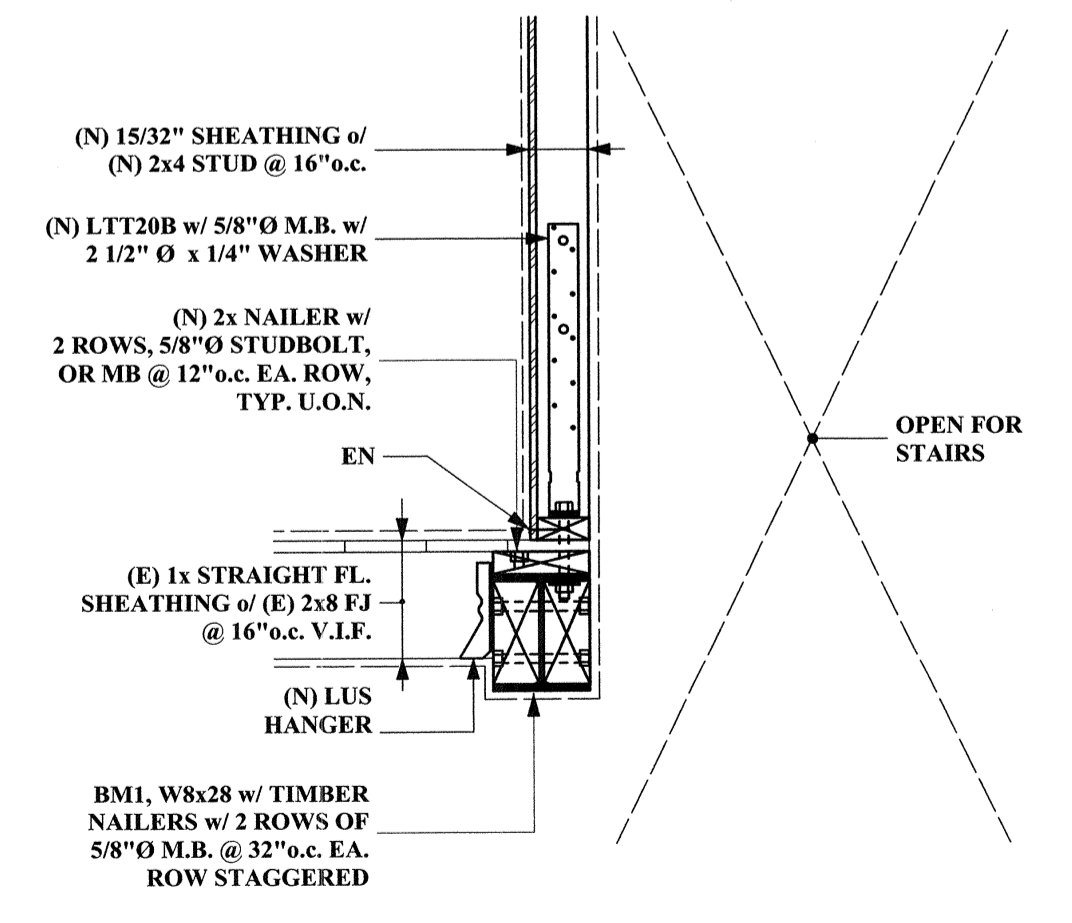


PLAN NORTH
THIRD FLOOR FRAMING PLAN
1/4" = 1'-0"

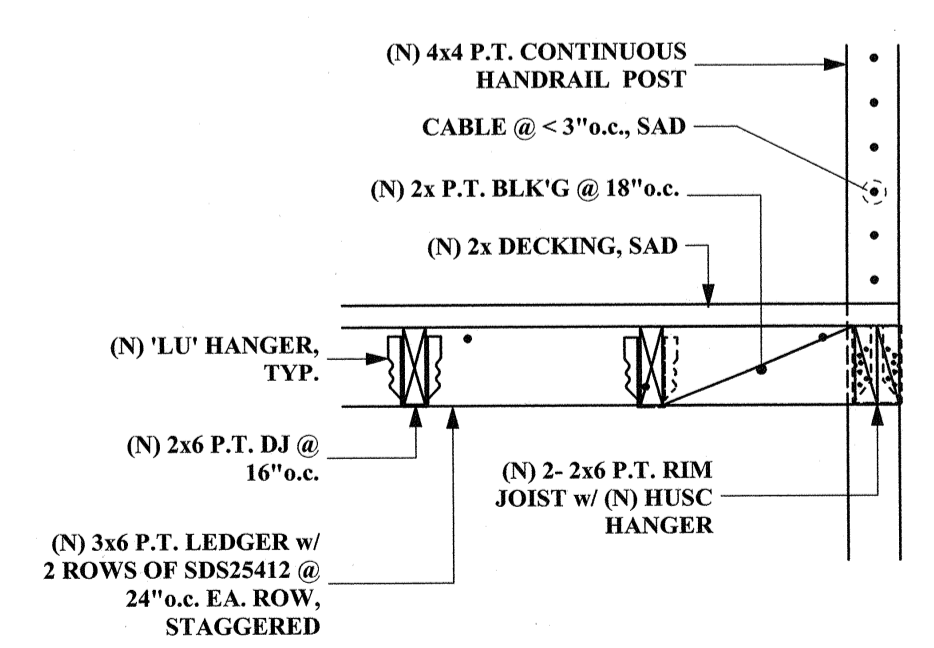


PLAN NORTH
ROOF FRAMING PLAN
1/4" = 1'-0"

LEGEND	
	(E) STRUCTURAL WALL ABOVE
	(N), OR (E), STRUCTURAL WALL BELOW
	(E) JOIST OR BEAM
	VERIFY IN FIELD



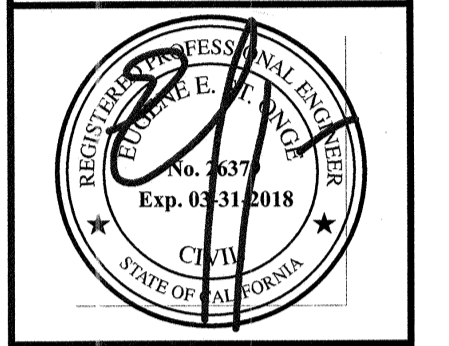
2 SECTION @ BMI, (N) W8x28, & STAIRS
1" = 1'-0"



1 TYP. (N) HANDRAIL POST
1" = 1'-0"

REVISIONS	BY

Engineer:
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Architect:
William Coburn Architects
c/o Stefan Menzi, Architect AIA
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wpcoburn@pacbell.net
smenzi@pacbell.net

Client:
I. B Reddy
Everest Properties
2278 Shattuck Ave.
Berkeley, CA 94704

New Basement Remodel
2234 Haste Street
Berkeley, CA 94704

THIRD FLOOR FRAMING PLAN, ROOF FRAMING PLAN, & DETAILS

DRAWN
JAC & LBH
CHECKED
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DATE
December 6, 2016
SCALE
As Noted
JOB
1685
SHEET

S3
of 4 sheets

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GENERAL

APPLYING TO ALL STRUCTURAL FEATURES UNLESS OTHERWISE SHOWN OR NOTED.

- ALL WORK SHALL BE PERFORMED IN CONFORMANCE WITH THE 2013 CALIFORNIA BUILDING CODE (CBC) WITH CITY OF BERKELEY AMENDMENTS.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS BEFORE STARTING WORK. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
- UNLESS OTHERWISE SHOWN OR NOTED, ALL TYPICAL DETAILS SHALL BE USED WHERE APPLICABLE. ALL DETAILS SHALL BE CONSIDERED TYPICAL AT SIMILAR CONDITIONS.
- UNLESS OTHERWISE SHOWN OR NOTED, FOLLOW MANUFACTURER'S INSTALLATION RECOMMENDATIONS FOR ALL STRUCTURAL PRODUCTS USED ON THIS PROJECT.
- THE APPROVED DRAWINGS SHALL BE KEPT ON THE JOB SITE AND SHALL BE AVAILABLE TO AUTHORIZED REPRESENTATIVES OF THE BUILDING OFFICIAL. THERE SHALL BE NO DEVIATION FROM THE STAMPED DRAWINGS WITHOUT OFFICIAL APPROVAL.
- SAFETY MEASURES:** AT ALL TIMES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF PEOPLE AND PROPERTY, AND FOR ALL NECESSARY INDEPENDENT ENGINEERING REVIEWS OF THESE CONDITIONS. SHORING AND BRACING OF THE SOIL, AND THE EXISTING STRUCTURES, SHALL BE INSTALLED WHERE NECESSARY TO ADEQUATELY SUPPORT THE IMPOSED VERTICAL AND LATERAL LOADS, AND SHALL BE MAINTAINED UNTIL THE NEW STRUCTURE CAN SUPPORT THE ANTICIPATED LOADS. UNDERPINNING AND/OR SHORING IS REQUIRED AT ALL ELEVATIONS ADJACENT TO, AND TO ELEVATIONS BELOW, EXISTING FOUNDATIONS, AND WHERE PARTIAL REMOVAL OF EXISTING FOUNDATIONS IS CALLED FOR ON THE DRAWINGS. THE ENGINEER'S JOB SITE VISITS ARE NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES. ALL SAFETY-RELATED MEASURES SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF CAL-OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION DIVISION OF DEPT. OF INDUSTRIAL SAFETY, STATE OF CALIFORNIA).
- ANY OPENING, HOLES, CUTS OR DISCONTINUITIES NOT SHOWN ON THE STRUCTURAL DRAWINGS AND EXTENDING INTO OR THROUGH STRUCTURAL MEMBERS REQUIRE THE PRIOR APPROVAL OF THE ENGINEER, AND MAY REQUIRE SPECIAL STRUCTURAL DETAILING.
- CONTRACTORS SHALL SCHEDULE WORK TO MINIMIZE INTERRUPTION AND INCONVENIENCE TO THE ACTIVITIES OF THE ADJACENT TENANTS.
- CONTRACTOR SHALL MAINTAIN A CLEAN AND SAFE WORKING AREA.
- CONTRACTOR SHALL COMPLY WITH CITY OF BERKELEY, CA, REQUIREMENTS FOR THE PROTECTION OF PUBLIC RIGHT-OF-WAY (SIDEWALKS).
- THE LOCATION OF UTILITY LINES IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL ENDEAVOR TO MAINTAIN IN SERVICE ALL UTILITIES TO THE TENANTS FOR THE DURATION OF THE PROJECT.
- INTENT:** IF CERTAIN FEATURES ARE NOT FULLY SHOWN OR CALLED FOR ON THE DRAWINGS OR SPECIFICATIONS, THEIR CONSTRUCTION SHALL BE OF THE SAME CHARACTER AS FOR SIMILAR CONDITIONS THAT ARE SHOWN OR SPECIFIED.
- REFERENCE TO OTHER DRAWINGS:
 - SEE DRAWINGS OTHER THAN STRUCTURAL FOR KINDS OF FLOOR FINISH AND THEIR LOCATION, FOR DEPRESSIONS IN FLOOR SLABS, FOR OPENINGS IN WALLS AND FLOORS REQUIRED BY ARCHITECTURAL AND MECHANICAL FEATURES, FOR DRIVEWAY PAVING, WALKS, RAMPS, STAIRS, CURBS, ETC.
 - HOLES AND OPENINGS THROUGH WALLS AND FLOORS FOR DUCTS, PIPING AND VENTILATION SHALL BE CHECKED BY THE CONTRACTOR WHO SHALL VERIFY SIZES AND LOCATION OF SUCH HOLES OR OPENINGS WITH THE PLUMBING, HEATING, VENTILATING AND ELECTRICAL DRAWINGS AND SUB-CONTRACTORS.

DESIGN DATA

- CODE: 2013 CBC
- DESIGN VERTICAL LOADS:

	DL	LL
ROOF	12 PSF	20 PSF
FLOOR	10 PSF	40 PSF
EXT. WALL	10 PSF	---
INT. WALL	7 PSF	---
- SEISMIC:

V=0.17W (ASD)	[SS=2.35, S1=0.98, SITE CLASS D, R=6.5, I=1.0, SITE DES. CAT. E, SD1=0.98, SDS=1.5]
---------------	---
- WIND:

H=12.8 PSF (ASD)

TESTS & SPECIAL INSPECTIONS

- PROVIDE TESTS AND INSPECTIONS FOR ALL ITEMS AS REQUIRED BY THE 2013 CALIFORNIA BUILDING CODE (CBC).
- THE OWNER SHALL RETAIN AN INDEPENDENT TESTING LAB TO PERFORM ALL REQUIRED TESTING AND INSPECTIONS.
- THE CONTRACTOR SHALL PROVIDE THE TESTING LAB WITH CONSTRUCTION SCHEDULES TO ENSURE PROPER COORDINATION OF TESTING.
- THE FOLLOWING SPECIFIC ITEMS SHALL BE INSPECTED BY A PROJECT ENGINEER, CITY'S INSPECTOR OR TESTED BY THE TESTING LAB:
 - PLACEMENT OF REINFORCEMENT STEEL (WITH ADEQUATE LEAD TIME TO MAKE ANY REQUIRED CORRECTIONS).
 - EPOXY INSTALLED ANCHORS.

FOUNDATIONS

- CBC SITE CLASS 5 IS ASSUMED FOR FOUNDATION DESIGN.
- ALLOWABLE SOIL BEARING PRESSURE: 1500 PSF FOR DEAD PLUS LIVE LOADS, 2000 PSF FOR ALL LOADS INCLUDING WIND OR SEISMIC
- EXCEPT WHERE OTHERWISE SHOWN, EXCAVATIONS SHALL BE MADE AS NEAR AS POSSIBLE TO THE NEAT LINES REQUIRED BY THE SIZE AND SHAPE OF THE STRUCTURE. ALL FOUNDATIONS SHALL BE PLACED WITHOUT THE USE OF SIDE FORMS WHEREVER POSSIBLE. IF THE TRENCHES CANNOT STAND, FULLY FORM SIDES TO DIMENSIONS SHOWN.
- DO NOT ALLOW WATER TO STAND IN TRENCHES. IF BOTTOMS OF TRENCHES BECOME SOFTENED DUE TO RAIN OR OTHER WATER BEFORE CONCRETE IS CAST, EXCAVATE SOFTENED MATERIAL AND REPLACE WITH PROPERLY COMPACTED BACKFILL OR CONCRETE AT NO COST TO THE OWNER.
- ALL EXCAVATIONS, FORMS AND REINFORCING ARE TO BE INSPECTED BY THE LOCAL BUILDING INSPECTOR PRIOR TO PLACING CONCRETE.
- CLAYEY SOIL SHOULD BE MOISTURE CONDITIONED TO AT LEAST 3 PERCENT OVER OPTIMUM WATER CONTENT AND COMPACTED TO AT LEAST 90 PERCENT RELATIVE COMPACTION. SANDY SOILS SHOULD BE MOISTURE CONDITIONED TO NEAR OPTIMUM WATER CONTENT AND COMPACTED TO AT LEAST 95 PERCENT RELATIVE COMPACTION.

CONCRETE

- CONCRETE CEMENT SHALL CONFORM TO 2013 CBC STND. NO. 19-1, AND SHALL BE TYPE II, TYPE I CEMENT MAY BE USED IN AREAS NOT IN CONTACT WITH EARTH. AGGREGATE SHALL BE HARDROCK, CONFORMING TO ASTM C33, AND FREE OF ALKALI REACTIVITY. WATER/CEMENT RATIO SHALL NOT EXCEED 55%. ACID SOLUBLE CHLORIDE CONTENT SHALL NOT EXCEED 0.2 PERCENT OF CEMENT WEIGHT. CHLORIDE-FREE ADMIXTURES AND PLASTICIZERS FOR WORKABILITY MAY BE USED IF APPROVED BY THE TESTING LABORATORY AND ENGINEER. BECAUSE EXCESS WATER REDUCES CONCRETE STRENGTH, ADDING WATER AT THE SITE IS DISCOURAGED AND SHALL NOT EXCEED ONE GALLON PER CUBIC YARD.
- INSTALL ALL INSERTS, BOLTS, ANCHORS, AND REINFORCING BARS AND SECURELY PRIOR TO PLACING CONCRETE.
- CONCRETE SHALL ATTAIN A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 2500 PSF AT 28 DAYS.
- CONCRETE SHALL BE PLACED IN A CONTINUOUS OPERATION BETWEEN PRECAST CONSTRUCTION JOINTS.
- CONCRETE SHALL BE CONTINUOUSLY CURED FOR 5 DAYS AFTER PLACEMENT IN ANY APPROVED MANNER.
- THE LOCATION AND PROTECTION OF EXISTING UTILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF UTILITY PIPES RUN THROUGH, OR WITHIN 24" BELOW, ANY NEW CONCRETE CONSTRUCTION.
- PIPE OR DUCTS EXCEEDING ONE-THIRD THE SLAB OR WALL THICKNESS SHALL NOT BE PLACED IN STRUCTURAL CONCRETE UNLESS SPECIFICALLY DETAILED.
- PIPES MAY PASS THROUGH STRUCTURAL CONCRETE IN SLEEVES, BUT SHALL NOT BE EMBEDDED THEREIN.
- CONCRETE SHALL NOT BE ALLOWED TO CURE IN TEMPERATURES LESS THAN 40° FAHRENHEIT FOR THE FIRST THREE DAYS.
- MAXIMUM SLUMP: 4 INCHES.

REINFORCING STEEL

- USE ASTM A615 REINFORCEMENT FOR ALL BARS, GRADE 60.
- ALL REINFORCEMENT SHALL BE CONTINUOUS. STAGGER SPLICES WHERE POSSIBLE. LAPS FOR SPLICES SHALL BE AS PER THE LAP SPLICE SCHEDULE SHOWN IN THESE DRAWINGS.
- HOLD REINFORCEMENT IN ITS TRUE HORIZONTAL AND VERTICAL POSITION WITH DEVICES SUFFICIENTLY NUMEROUS TO PREVENT DISPLACEMENT.

ROUGH CARPENTRY

- FOR SCHEDULE OF MINIMUM NAILING SEE TABLE 2304.9.1, 2013 CBC. UNLESS OTHERWISE NOTED, ALL NAILS SHALL BE COMMON NAILS.
- PLACE JOINTS WITH CROWN UP.
- ADD ONE ADDITIONAL JOIST UNDER ALL PARALLEL PARTITIONS.
- BLOCK ALL JOISTS AT SUPPORTS AND UNDER ALL PARTITIONS WITH MINIMUM 2X SOLID BLOCKING.
- METAL FRAMING DEVICES:** PROVIDE TYPICAL CONNECTORS FOR WOOD FRAMING BY SIMPSON CO. OR EQUAL. ALL CONNECTIONS SHALL BE 16 GA. GALVANIZED SHEET METAL OR THICKER, U.O.N., FULLY NAILED IN ALL PUNCHED HOLES WITH NAILS OF SIZE AND LENGTH SPECIFIED AND/OR PROVIDED BY MANUFACTURER. IF CONNECTORS ARE AVAILABLE IN DIFFERENT SIZES, THE SIZE USED SHALL BE AS SHOWN IN DETAILS OR ELSE THE LARGEST SIZE MADE FOR THE DEPTH OF MEMBER BEING FRAMED. COMPARABLE FASTENERS BY OTHER MANUFACTURERS MAY BE USED IF APPROVED IN ADVANCE BY THE DESIGN ENGINEER. UNLESS OTHERWISE NOTED, PROVIDE THE FOLLOWING FRAMING CONNECTIONS:
 - SAWN LUMBER JOIST-TO-BEAM: SIMPSON U
 - BEAM-TO-POST: SIMPSON CC OR ECC
 - POST-TO-BEAM: SIMPSON BC
 - POST-TO-FOUNDATION: SIMPSON CBSQ
- SAWN LUMBER:
 - ALL FRAMING LUMBER SHALL BE GRADE STAMPED S-DRY (19% MOISTURE CONTENT AT TIME OF INSTALLATION)
 - U.O.N. ALL SAWN LUMBER SHALL BE DOUGLAS FIR LARCH (COAST REGION), GRADED AND MARKED IN ACCORDANCE WITH THE STANDARD GRADING RULES NUMBER 16 OF THE WEST COAST LUMBER INSPECTION BUREAU.
 - POSTS, JOISTS, RAFTERS & BEAMS: NO. 1 GRADE
 - STUDS: STUD GRADE
- STRUCTURAL STUD WALLS:
 - USE SINGLE BOTTOM PLATE AND DOUBLE TOP PLATE UNLESS OTHERWISE NOTED OR SHOWN. STAGGER JOINTS IN UPPER AND LOWER MEMBERS OF TOP PLATES NOT LESS THAN 4'-0".
 - BOLT SILL PLATE TO CONCRETE AS PER ANCHOR BOLT SCHEDULE. ONE BOLT SHALL BE WITHIN 9" OF EACH END OF EACH PIECE OF PLATE. PROVIDE 2 BOLTS MINIMUM PER PIECE.
 - PROVIDE SIMPSON ANGLE A35 CLIP @ 16" O.C. BETWEEN DBL. TOP PLATES AND BLOCKING AND RIM JOIST TYPICAL, U.O.N. PER PLAN OR SHEARWALL SCHEDULE.

- BOLTS:**
 - BOLTS SHALL BE PER ASTM A307, U.O.N.
 - BOLT HOLES 1/16" OVERSIZE. THREADS SHALL NOT BEAR ON WOOD OR STEEL.
 - USE STANDARD MALLEABLE IRON WASHERS AGAINST WOOD. 2-3/4" ØX 5/16" THICK FOR 5/8" BOLTS. 3" ØX 7/16" THICK FOR 3/4" BOLTS
- SCREWS:**
 - WOOD OR LAG SCREWS SHALL BE SCREWED AND NOT DRIVEN INTO PLACE.
 - IN SPACING SCREWS, THE HOLES SHALL BE BORED TO THE SAME DIAMETER AND DEPTH OF THE SCREW SHANK. THE HOLES FOR THE THREE-EDGED PORTION OF THE SCREWS SHALL BE BORED WITH A BIT NOT LARGER THAN THE DIAMETER OF THE BASE OF THE THREAD.
- WOOD PRESERVATIVE:**
 - ALL WOOD FRAMING IN CONTACT WITH CONCRETE AND/OR EXPOSED TO WEATHER OR PROLONGED DAMPNESS SHALL BE TREATED WITH "CELLO" AT THE RATE OF 0.23 POUNDS PER CUBIC FOOT IN ACCORDANCE WITH AWA SPECIFICATIONS, OR SHALL BE WOOD OF NATURAL RESISTANCE TO DECAY.

SHEATHING

- U.O.N. USE DOUGLAS FIR APA EXTERIOR, EXPOSURE 1, RATED SHEATHING IN CONFORMANCE WITH THE U.S. COMMERCIAL STANDARDS PS1-95, PS2-92, OR NER-108 (PRP-108). INSTALL WITH FACE GRAIN PERPENDICULAR TO JOISTS.
- FLOOR SHEATHING SHALL BE 3/4" T&G W/ EDGES LOCATED OVER BLOCKING AND NAILED W/ 10d @ 8" O.C. EDGE NAILING & 12" O.C. FIELD NAILING, U.O.N. SPAN RATING 4824 UNBLOCKED. GLUE TO FLOOR JOISTS, U.O.N.

STRUCTURAL STEEL

- MATERIALS:**
 - STRUCTURAL STEEL SECTIONS: ASTM A36
 - PLATES & SHAPES: ASTM A36

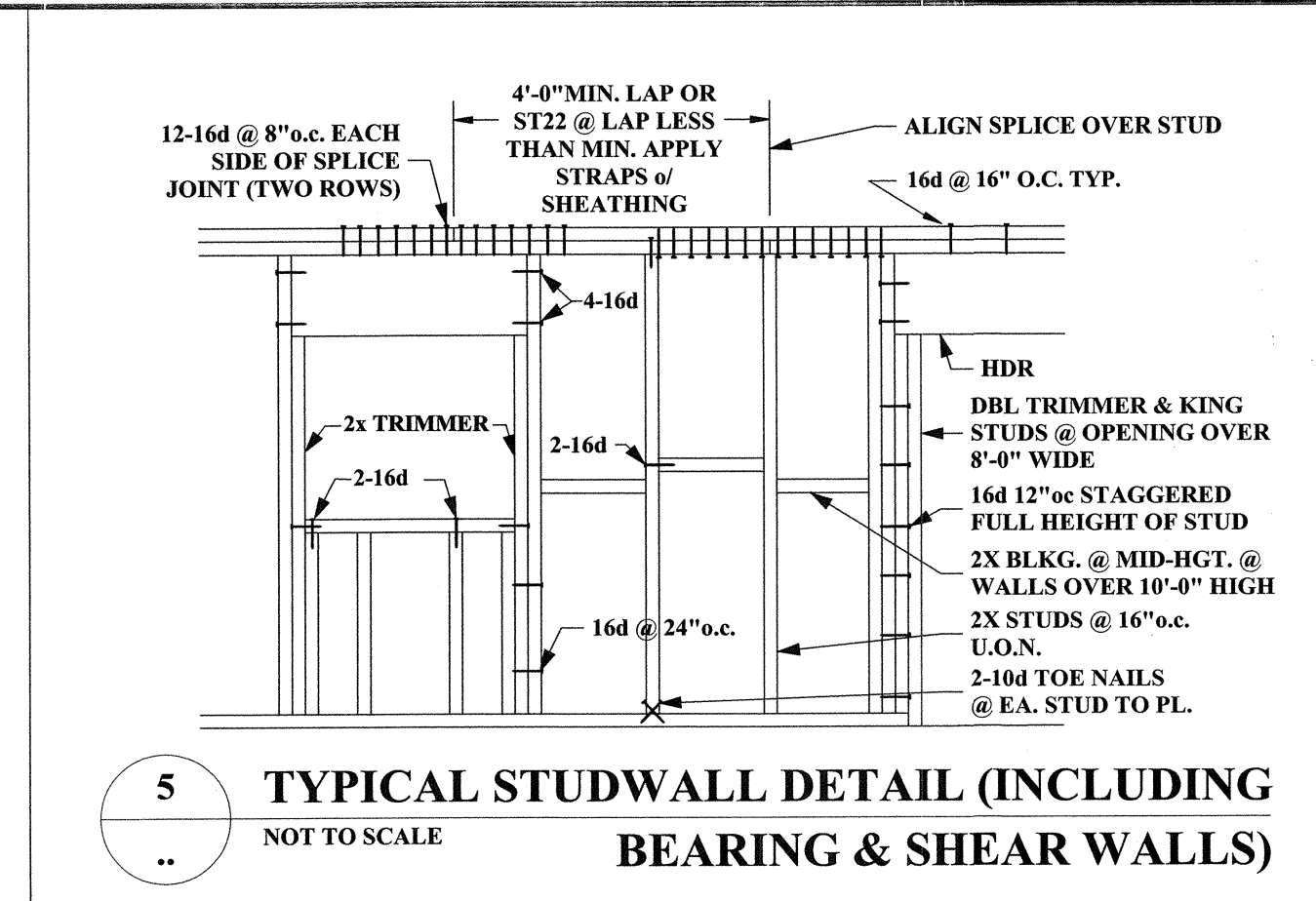
ALL BOLTS SHALL CONFORM TO ASTM A307 AND SHALL BE INSTALLED TO A "SNUG-TIGHT" CONDITION.

ALL EXPOSED METAL SHALL BE GALVANIZED OR PAINTED AND PROTECTED USING AN EXTERIOR METAL PRIME PAINT AND A FINISH COAT.

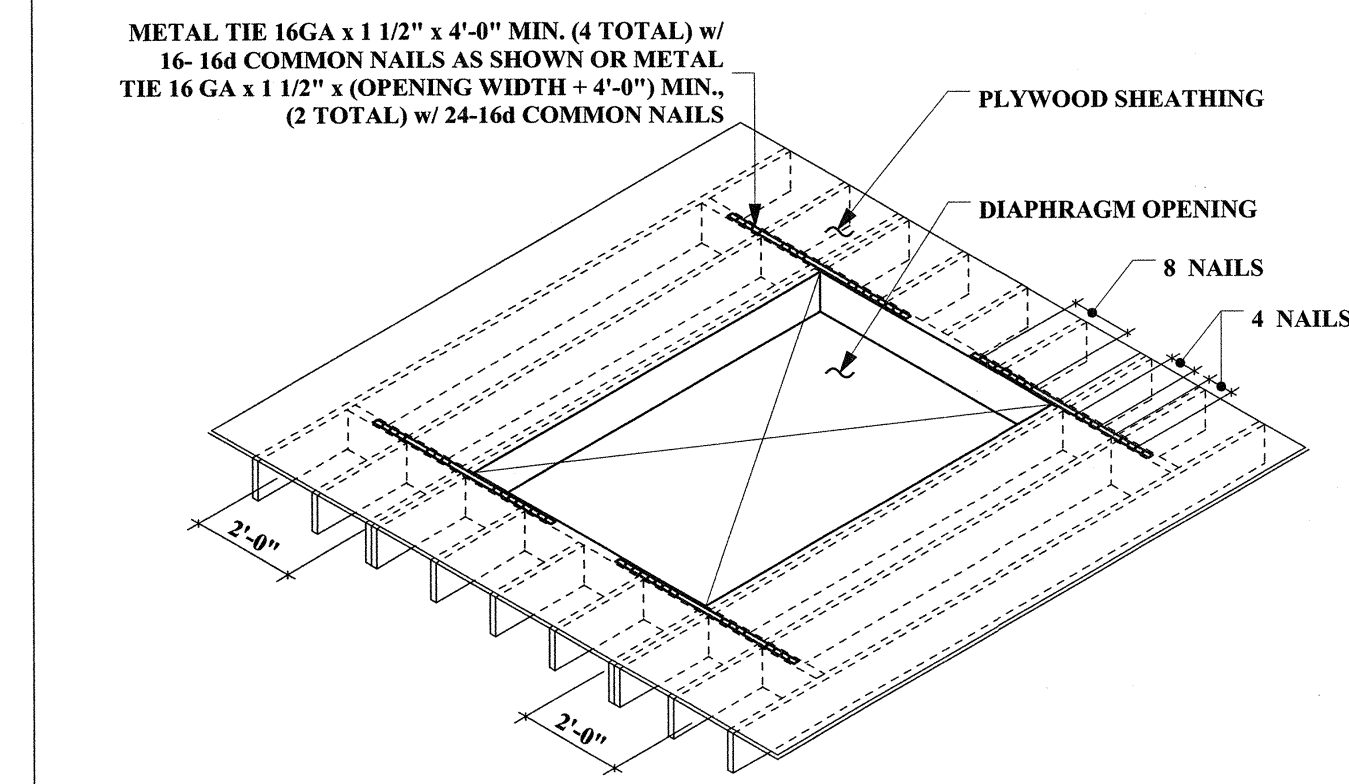
- FABRICATION AND ERECTION:**
 - COMPLY WITH AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATIONS FOR DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", CURRENT EDITION
- WELDING:**
 - COMPLY WITH AMERICAN WELDING SOCIETY "STRUCTURAL WELDING CODE-STEEL" ANS/AWS D11, CURRENT EDITION, AND "STRUCTURAL WELDING CODE - SHEET STEEL" AWS D1.3, CURRENT EDITION. USE "E70" OR EQUAL ELECTRODES. ALL WELDING TO BE BY CERTIFIED WELDERS.
- THE STRUCTURAL STEEL FABRICATOR'S SHOP DRAWINGS SHALL BE SUBMITTED TO THE PROJECT ENGINEER-OF-RECORD FOR REVIEW PRIOR TO SUBMITTAL TO THE BUILDING DEPARTMENT

EPOXY ANCHORS

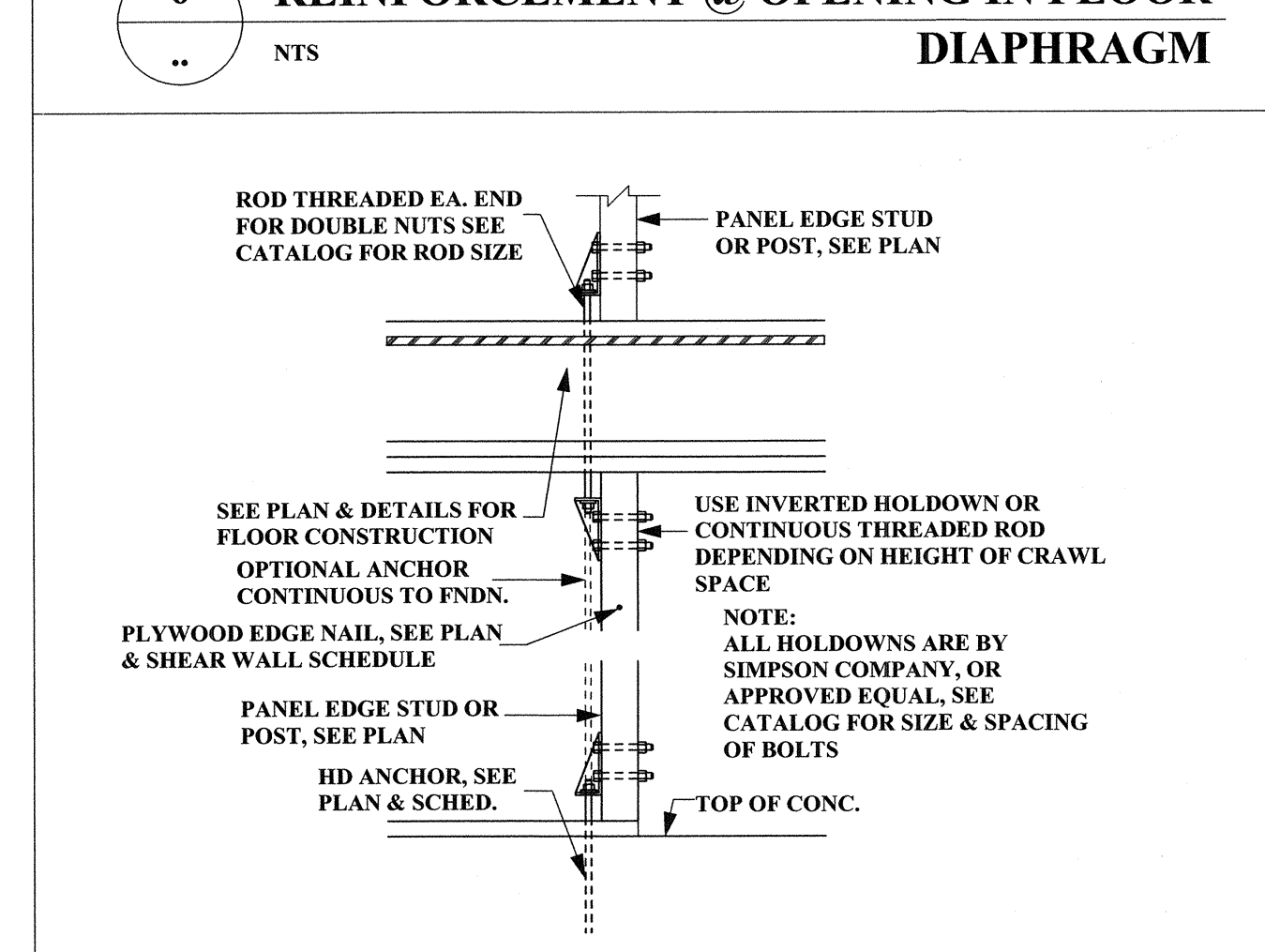
- WHERE EPOXY ANCHORS (REINFORCING BARS OR ALL-THREADED RODS) ARE CALLED FOR IN THE STRUCTURAL DRAWINGS, THE EPOXY USED SHALL BE THE SIMPSON (SE-XP) ANCHORING ADHESIVE, OR EQUAL. SUBMIT MANUFACTURER'S LITERATURE FOR SUBSTITUTE SYSTEM(S) TO ENGINEER FOR REVIEW AND APPROVAL. PRE-MEASURED EPOXIES IN DISPOSABLE, TWO-PART CARTRIDGES DISPENSED THROUGH PROPRIETARY MIXING NOZZLES ARE ACCEPTABLE. POLYESTER RESINS SHALL NOT BE SUBSTITUTED FOR EPOXY. INSTALL DOWELS IN EXISTING CONCRETE PER MANUFACTURER'S RECOMMENDATIONS.
- TESTING:**
 - ANCHORS IN CONCRETE
 - EPOXY ANCHORS IN CONCRETE SHALL BE INSPECTED AND TENSION TESTED BASED ON THE REQUIRED TEST VALUES AS FOLLOWS:
 - 1.58" Ø BOLT - 2.500# [BASED ON 1.5 TIMES DESIGN LOAD OF 1.667#] FOR HOLD-DOWNS LTT20B'S.
 - AGE OF CONCRETE FOR INSTALLATION PER ACI 318-2011 (SECTION B.2.2) ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE HAVING A MINIMUM AGE OF 21 DAYS AT TIME OF ANCHOR INSTALLATION. FOR INSTALLATIONS SOONER THAN 21 DAYS CONSULT ADHESIVE MANUFACTURER.



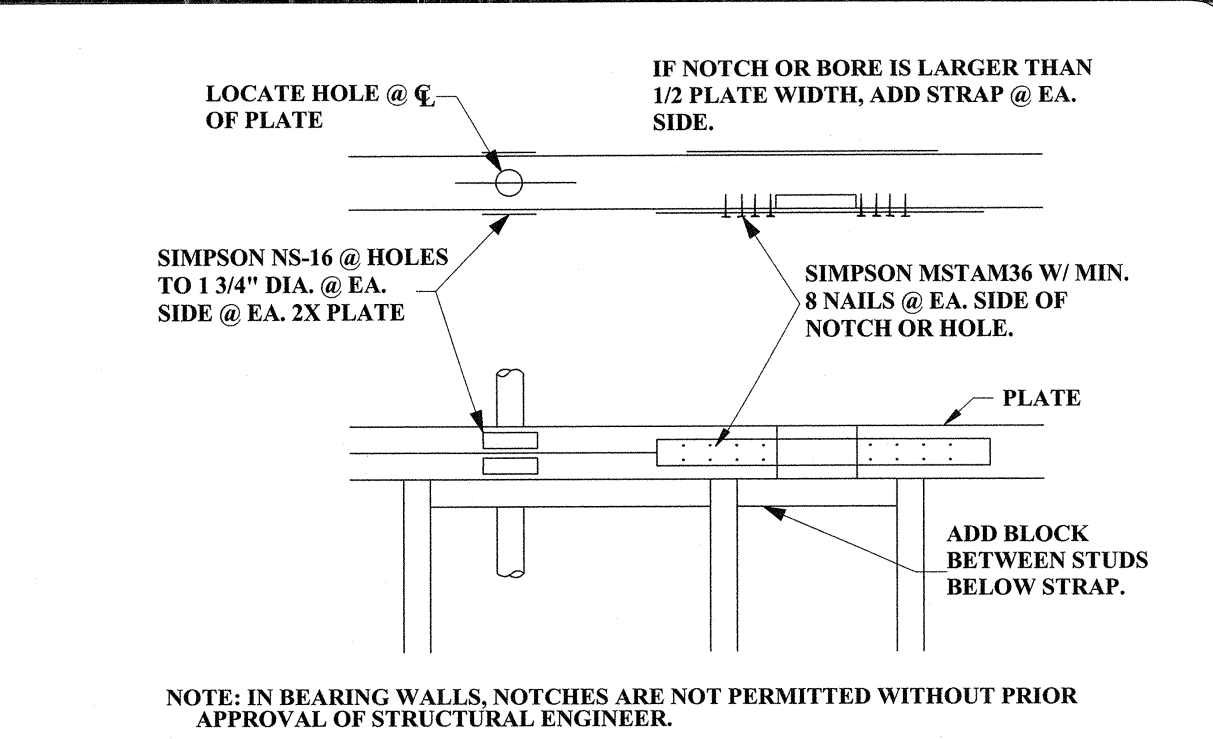
5 TYPICAL STUDWALL DETAIL (INCLUDING BEARING & SHEAR WALLS)
NOT TO SCALE



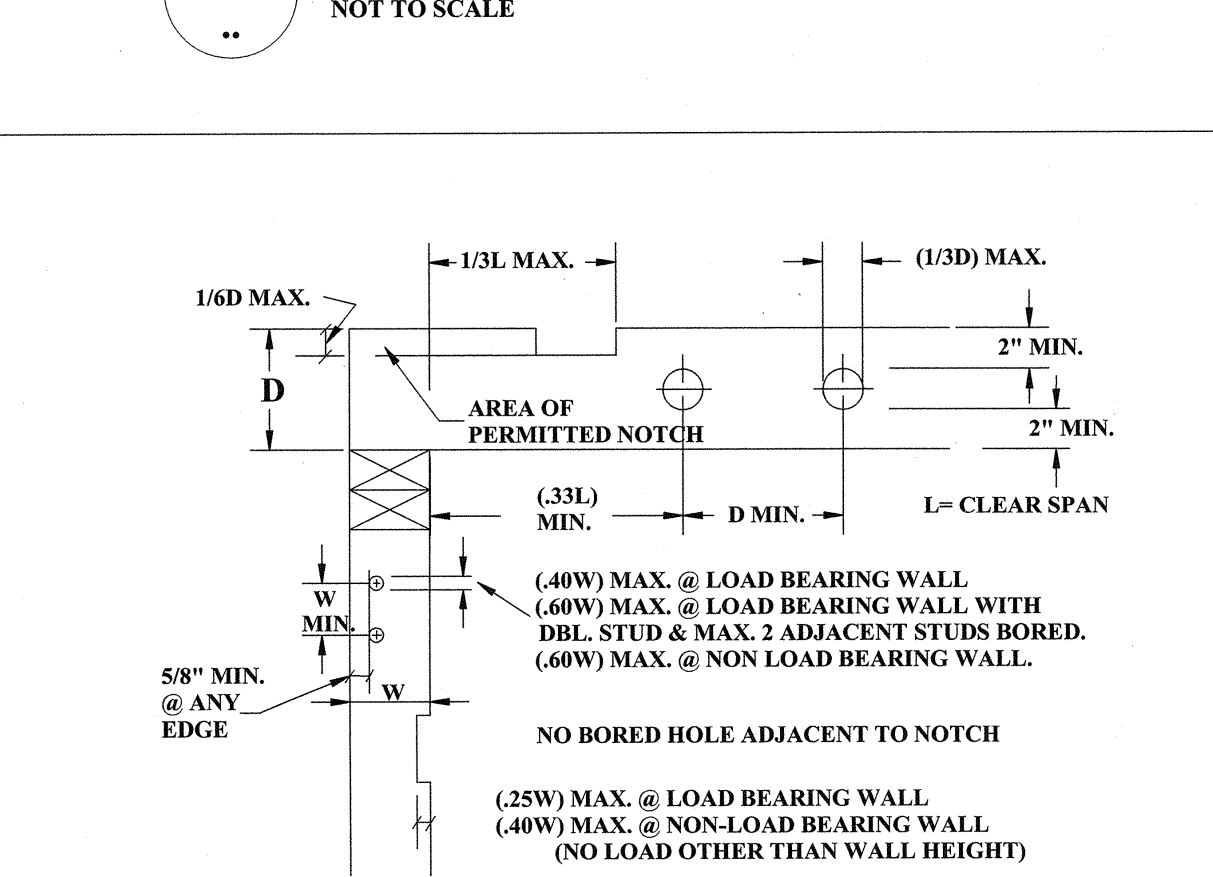
6 REINFORCEMENT @ OPENING IN FLOOR DIAPHRAGM
NTS



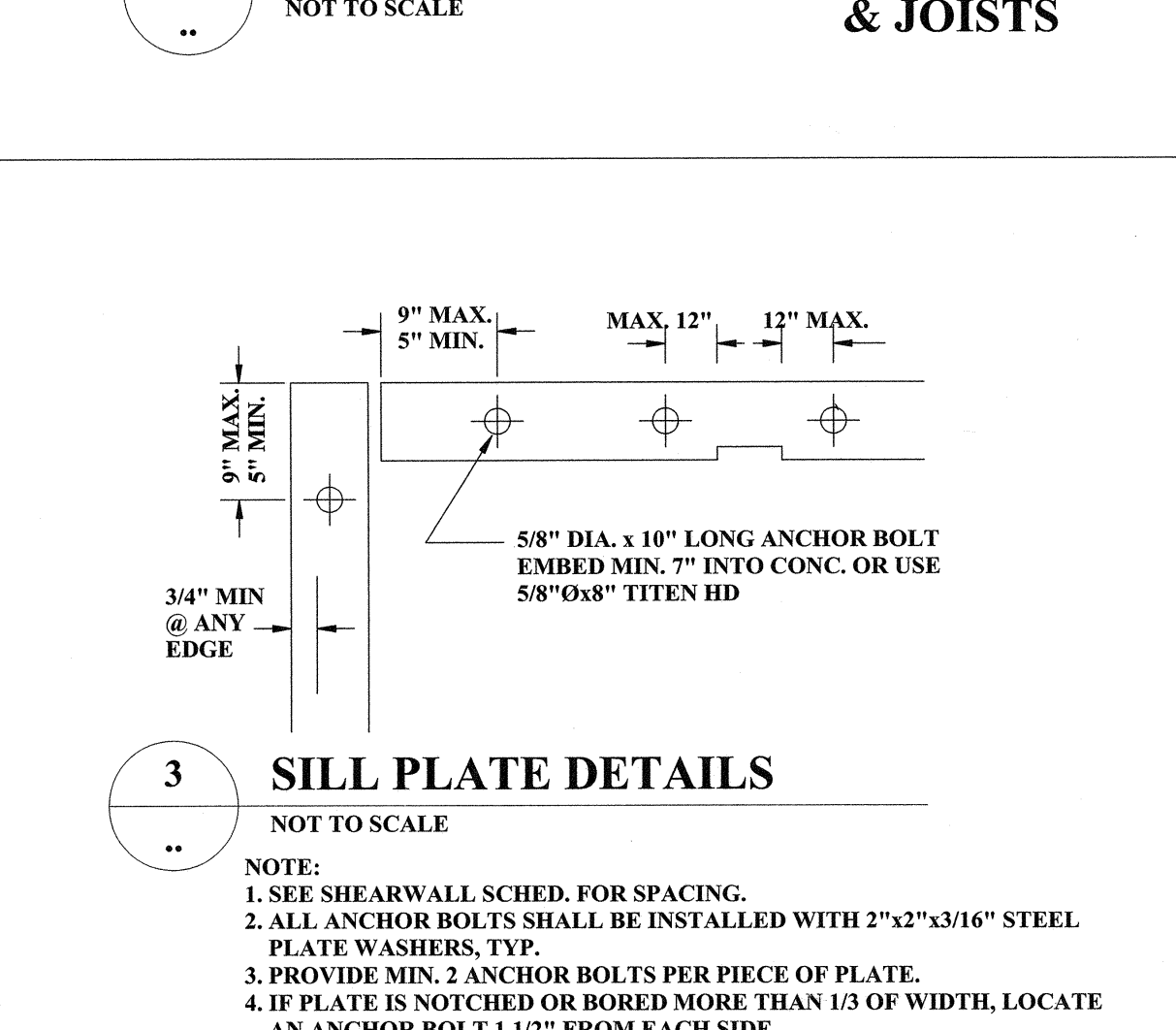
7 TYPICAL HOLDOWN DETAIL
NTS



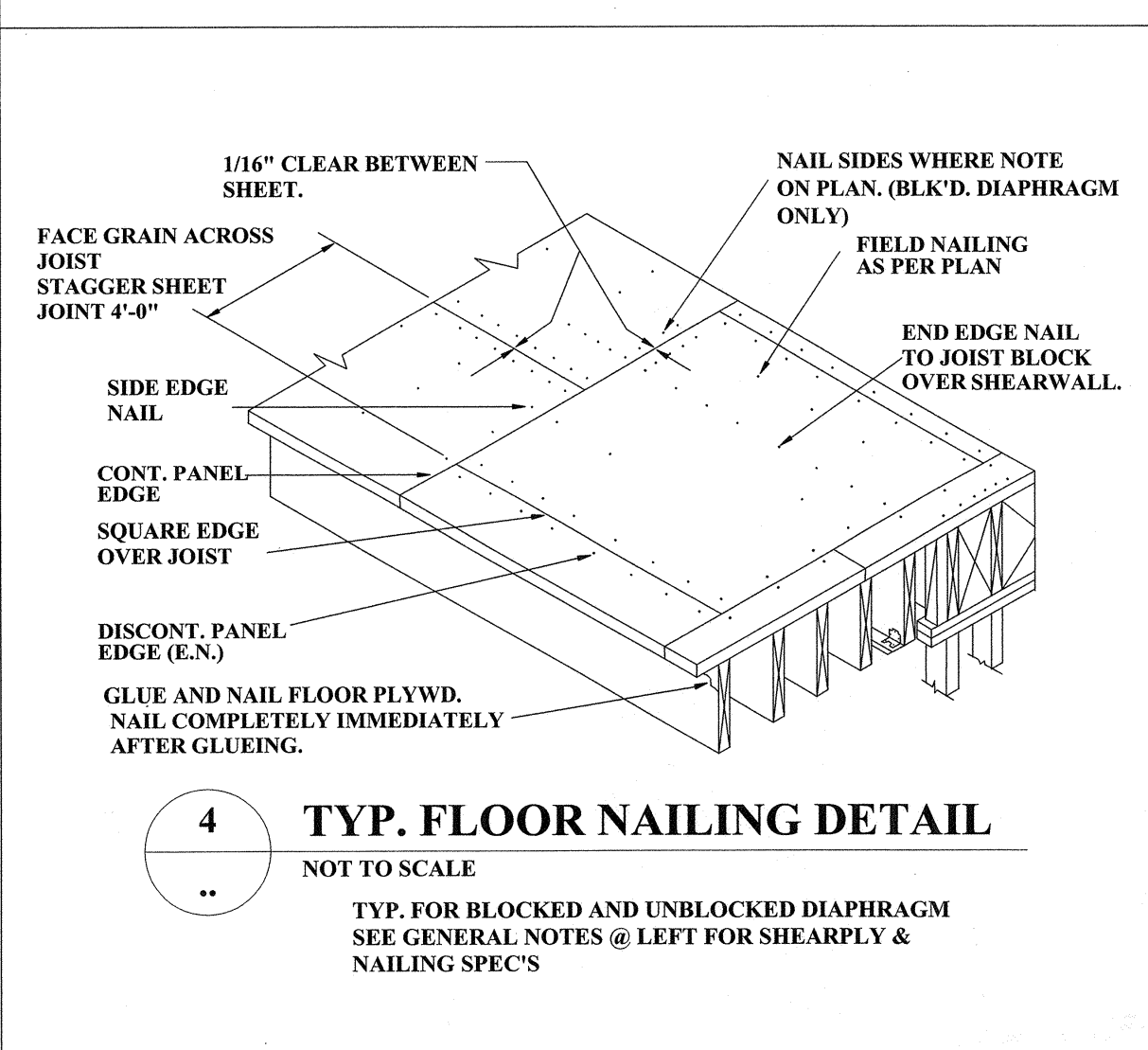
1 NOTCH OR BORE @ TOP PLATE
NOT TO SCALE



2 NOTCH & BORE LIMITS @ STUDS & JOISTS
NOT TO SCALE



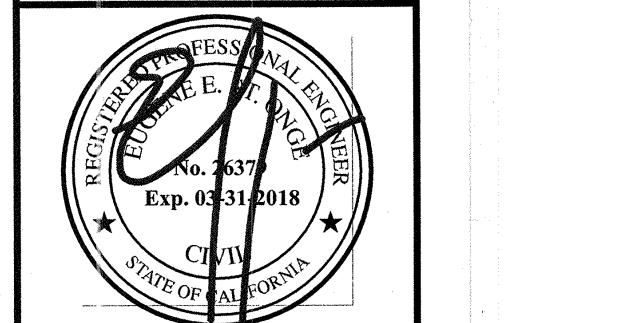
3 SILL PLATE DETAILS
NOT TO SCALE



4 TYP. FLOOR NAILING DETAIL
NOT TO SCALE

REVISIONS	BY

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Berkeley, CA 94704

GENERAL NOTES & DETAILS

DRAWN	JAC & LBH
CHECKED	GSO
DATE	December 6, 2016
SCALE	As Noted
JOB	1685
SHEET	
S4	
of 4 sheets	

Date: December 6, 2016
 Time: 11:50:32 AM
 Project: 1685 - 17-2134 Haste St Berkeley road



Communications

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City Clerk Department

2180 Milvia Street
Berkeley, CA 94704
(510) 981-6900

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3. To Date: Enter the date of the Council meeting (this may match the From Date field)
4. Click the “Search” button
5. Communication packets matching the entered criteria will be returned
6. Click the desired file in the Results column to view the document as a PDF