



**PROCLAMATION
CALLING A SPECIAL MEETING OF THE
BERKELEY CITY COUNCIL**

In accordance with the authority in me vested, I do hereby call the Berkeley City Council in special session as follows:

Tuesday, June 18, 2019

6:00 P.M.

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

Preliminary Matters

Roll Call:

Public Comment - Limited to items on this agenda only

Action Calendar

The public may comment on each 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 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.

1. City of Berkeley Green Infrastructure Plan

From: City Manager

Contact: Phillip Harrington, Public Works, 981-6300

Action Calendar

- 2a. Mandatory and Recommended Green Stormwater Infrastructure in New and Existing Redevelopments or Projects** *(Reviewed by the Facilities, Infrastructure, Transportation, Environment and Sustainability Committee)*
From: Councilmembers Harrison, Davila, and Robinson
Recommendation: Refer to the City Manager to develop an ordinance on green stormwater infrastructure according to recommendations from the Facilities, Infrastructure, Transportation, and Environmental Sustainability Committee.
Financial Implications: Staff time
Contact: Kate Harrison, Councilmember, District 4, 981-7140
- 2b. Referral Response: Mandatory and Recommended Green Stormwater Infrastructure in New and Existing Redevelopments or Properties** *(Reviewed by the Facilities, Infrastructure, Transportation, Environment and Sustainability Committee. Item contains supplemental material.)*
From: Community Environmental Advisory Commission
Recommendation: Since the drought-storm-flooding cycle is predicted to get worse, refer to the City Manager to develop and implement measures to help reduce runoff from private property when rain exceeds two inches in a 24-hour period. The City Manager and staff should consider the following: Comply beyond the State and Alameda County current requirements; Encourage the treating and detaining of runoff up to approximately the 85th percentile of water deposited in a 24-hour period; Establish site design measures that include minimizing impervious surfaces; Require homeowners to include flooding offsets in preparing properties for sale; Offer option(s) for property owners to fund in-lieu centralized off-site storm-water retention facilities that would hold an equivalent volume of runoff; Require abatements for newly paved areas over a specific size; Make exceptions for properties that offer significantly below-market rent or sale prices; Authorize a fee for all new construction or for title transfer to cover the cost of required compliance inspections; Incorporate these measures for private property with similar measures for Public Works, while coordinating with EBMUD, BUSD, UCB and LBNL.
Financial Implications: See report
Contact: Viviana Garcia, Commission Secretary, 981-7460
- 2c. Companion Report to Referral Response: Mandatory and Recommended Green Stormwater Infrastructure in New and Existing Redevelopments or Properties** *(Reviewed by the Facilities, Infrastructure, Transportation, Environment and Sustainability Committee)*
From: City Manager
Recommendation: Express appreciation for the intent of the Community Environmental Advisory Commission (CEAC) recommendation to develop and implement measures to help reduce runoff from private property when rain exceeds two inches in a 24-hour period, and allow staff to continue existing efforts to implement Municipal Regional Stormwater Permit regulations in coordination with the 14 other local governments and agencies that participate in the Alameda Countywide Clean Water Program.
Financial Implications: None
Contact: Timothy Burroughs, Planning and Development, 981-7400; Phillip Harrington, Public Works, 981-6300

Action Calendar

3. Strategic Plan Proposed Fiscal Year 2020-2021 Projects and Programs, and Planning Commission Work Plan

From: City Manager

Contact: Melissa McDonough, City Manager's Office, 981-7000

Adjournment

I hereby request that the City Clerk of the City of Berkeley cause personal notice to be given to each member of the Berkeley City Council on the time and place of said meeting, forthwith.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the official seal of the City of Berkeley to be affixed on this 13th day of June, 2019.



Jesse Arreguin, Mayor

Public Notice – this Proclamation serves as the official agenda for this meeting.

ATTEST:



Date: June 13, 2019

Mark Numainville, City Clerk

NOTICE CONCERNING YOUR LEGAL RIGHTS: *If you object to a decision by the City Council to approve or deny an appeal, the following requirements and restrictions apply: 1) Pursuant to Code of Civil Procedure Section 1094.6 and Government Code Section 65009(c)(1)(E), no lawsuit challenging a City decision to deny or approve a Zoning Adjustments Board decision may be filed and served on the City 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 Zoning Adjustments Board decision, 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.*

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Office of the City Manager

WORK SESSION

June 18, 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: City of Berkeley Green Infrastructure Plan

SUMMARY

The City of Berkeley Green Infrastructure Plan (GI Plan) is a requirement under the Stormwater NPDES Municipal Regional Permit 2 (MRP2). The GI Plan was developed in coordination with the SF Bay Regional Water Quality Control Board (Water Board) to meet regulatory requirements and provide guidance for prioritizing GI projects in the City. Applying the GIS based analysis, the GI Plan identified 11 priority sites for GI facilities for the City. The GI Plan predicts the City will need to treat runoff from an additional 17 acres of the City to meet regionwide PCB and mercury reduction goals by 2030, and 19 acres of the City to meet regionwide PCB and mercury reduction goals by 2040. The information on the 11 priority sites and the additional areas to be treated by 2030 and 2040 is used on a regionwide basis to allow MRP2 permittees and the Water Board to assess how well the stormwater agencies are reducing pollution to the San Francisco Bay. MRP2 requires the GI Plan be submitted to Water Board by September 30, 2019.

CURRENT SITUATION AND ITS EFFECTS

The GI Plan was prepared according to the framework adopted by Resolution 68,041—N.S. on June 13, 2017 (see Attachment 1). The GI Plan is a planning document required under MRP2, to guide selection and development of GI projects beginning in 2020, and assure reductions of polychlorinated biphenyls (PCB) and mercury in urban stormwater discharges. Adopting the GI Plan supports the City's Strategic Plan Priority Goal of being a global leader in addressing climate change, advancing environmental justice, and protecting the environment.

Staff made GI Plan presentations to the Public Works Commission (PWC), the Public, and to the Council's Facilities, Infrastructure, Transportation, Environment, and Sustainability Committee. The Public Works Commission submitted an off agenda memo dated April 10, 2019 providing recommendations to Council (Attachment 2). Staff's responses to their comments are as follows:

1. PWC recommends staff develop metrics that educate readers about the economic benefits of the plan in reducing flooding and increasing water supply by

infiltrating runoff. The purpose of the GI Plan is to improve urban runoff quality and includes outreach and education for the general public and developers on the requirements for implementing GI in projects, and the purpose is not to reduce flooding and increase water supply.

2. PWC recommends staff meet with Regional Board staff to be sure that the plan will be acceptable. The GI Plan was developed in consultation with Water Board staff to understand their expectations, and to meet the requirements set forth in MRP2.
3. PWC recommends City work with Caltrans to develop a comprehensive Green Infrastructure approach for San Pablo Avenue, in a manner similar to the approach for the Adeline Corridor. The GI Plan requires urban runoff water quality and GI be incorporated into the City's planning processes.
4. PWC requests the GI Plan model be applied to additional options such as the center median of Sacramento and other historic streetcar lines. The assessment of the Sacramento median showed that it does not rank as high in priority as other sites at this time. The Sacramento median and other historic streetcar line can be reassessed in the future and compared as project development changes.

BACKGROUND

Implementing Green Infrastructure (GI) or Low Impact Development (LID) in Berkeley has been happening in various forms for many years. Tracking GI improvements began under Municipal Regional Stormwater NPDES Permit 1 (October 2009 to November 2015) and has continued into the current MRP2 with over 50 such installations completed to date. These installations include permeable pavement applications (Allston Way), bio-swale retrofits into existing conditions (Presentation Park at California Street/Allston Way), complete street applications of bio-swales (Hearst Avenue/Oxford Street), flow-through planters (BART Plaza), and green roofs (Dona Spring Animal Shelter). These past GI projects have been incorporated into the GI Plan.

The GI Plan performs several functions including prioritizing areas for GI projects, tracking GI projects, tracking compliance with regionwide reductions in pollutants including PCB and mercury, identifying other City planning documents to incorporate GI considerations, and exploring funding options for GI projects.

Prioritizing and Identifying GI Projects. A major tool in reducing pollutant loading in urban runoff is addressing impacts created by impervious surfaces. The GI Plan uses the UrbanSim¹ Model to forecast future potential development areas and the corresponding impervious area where GI will be implemented to treat urban runoff. These predictions are combined with the City's planned projects and projections to develop target amounts of impervious surface treatment for the milestone years of

¹ <http://www.urbansim.com/>

2020, 2030, and 2040. Two GIS based tools are used to prioritize projects for the GI Plan. The first tool (Multi-Benefit Prioritization Tool) ranks based on characteristics that include ground slope, soil permeability, potential for pollutant reduction and augmenting groundwater, flood control benefit, potential to restore habitat, trash capture, and public involvement. The second tool (Micro-Watershed Tool) uses specific drainage area or Micro-Watershed to refine how urban runoff is collected and delineates specific drainage areas for placing GI facilities. These two tools were applied and the priority sites that were identified include:

- Page Street between Fourth Street and the RR Tracks (Gilman Watershed)
- Jones Street between Fourth Street and RR Tracks (Gilman Watershed)
- Channing Way at the RR Tracks (Potter Watershed)
- Heinz Avenue near RR Tracks (Potter Watershed)
- Dwight Way between Fourth Street and the RR Tracks (Aquatic Park Watershed)
- Grayson Street near the RR Tracks (Aquatic Park Watershed)
- Tenth Street at Codornices Creek (Codornices Watershed)
- Ninth Street at Codornices Creek (Codornices Watershed)
- Piedmont Avenue Median between Durant Avenue and Channing Way (Potter Watershed)
- Piedmont Avenue Traffic Circle (Potter Watershed)
- San Pablo Park at Ward Street (Potter Watershed)

Tracking and Regionwide Compliance. These values are shared regionally to determine how well targeted reductions in pollutants such as mercury and PCBs are reduced through treating urban runoff by GI facilities. The Alameda Countywide Clean Water Program (ACCWP) and Contra Costa Countywide Clean Water Program combined efforts to develop a tracking and load reduction accounting tool. This ArcGIS Online web application (AGOL Tool) is an online GIS application to track GI projects and will be open to the public when fully implemented.

Planning Documents. The GI Plan provides the most current information on methods and locations for optimal pollutant load reductions in urban runoff. This information must be incorporated into the City's planning documents. This will require inter-departmental cooperation and communications. The planning documents identified include:

- City of Berkeley General Plan
- Downtown Berkeley Design Guidelines

- Downtown Streets and Open Space Improvement Plan
- Downtown Area Plan
- Berkeley Strategic Transportation Plan (BeST Plan)
- Watershed Management Plan
- Adeline Corridor Plan (in progress)
- Pedestrian Master Plan (update in progress)
- Southside Complete Streets (in progress)

ENVIRONMENTAL SUSTAINABILITY

The GI Plan is designed to work in conjunction with existing City planning documents and programs with the goal of coordinating and ensuring GI opportunities are identified and implemented.

POSSIBLE FUTURE ACTION

The GI Plan requires green infrastructure considerations be incorporated in planning documents including City's General Plan, and specific plans.

Staff is working with ACCWP to finalize some attachments in the GI Plan. Once finalized, the GI Plan will be brought for adoption to the City Council at its meeting on September 10, 2019. The Draft GI Plan is provided as Attachment 3.

FISCAL IMPACTS OF POSSIBLE FUTURE ACTION

The cost for constructing the eleven prioritized GI projects identified above is estimated to be \$1.7 million (2018 dollars). This estimate is based on construction costs for recently completed projects at Rose Street at Hopkins Street, and at Hearst Avenue at Oxford Street. Ongoing maintenance of these 11 City facilities will cost approximately \$100,000 per year (2018 dollars).

The City's goal is to treat an additional 17 acres between 2020 and 2030. The estimated cost for installing GI to treat 17 acres is \$8.9 million (2018 dollars) spread over the ten year period from 2020 to 2030. The corresponding ongoing annual maintenance cost would increase by approximately \$550,000 per year (2018 dollars).

The City's goal in the GI Plan from 2030 to 2040 is to treat an additional 19 acres. The estimated cost for installing GI to treat 19 acres is \$10.0 million (2018 dollars) spread over ten year period from 2030 to 2040. The corresponding ongoing annual maintenance cost would increase by approximately \$620,000 per year (2018 dollars).

Funding Options. The property owners in the City voted on and approved the 2018 Clean Stormwater Fee as certified by Council Resolution 68,483—N.S. In 2019, the ACCWP completed the Countywide Storm Water Resource Plan, which makes

Berkeley and other agencies in Alameda County eligible for California Proposition 1 grants. It is envisioned that revenue from the City's Clean Stormwater Fee will be used to satisfy matching or local fund contributions to obtain grant funding. However, to implement the goals of the GI Plan additional funding sources will need to be identified.

CONTACT PERSON

Phillip L. Harrington, Director, Department of Public Works, 981-6300
Nisha Patel, Manager of Engineering/City Engineer, 981-6406
Danny Akagi, Associate Civil Engineer, 981-6394

Attachments:

- 1: Resolution 68,041—N.S.
- 2: Public Works Commission Off-Agenda Memo, Dated April 10, 2019
- 3: Draft City of Berkeley Green Infrastructure Plan

RESOLUTION NO. 68,041-N.S.

FRAMEWORK FOR GREEN INFRASTRUCTURE PLAN DEVELOPMENT

WHEREAS, in order to be in compliance with Provision C.3.j of the reissued Municipal Regional Stormwater Permit (MRP 2) adopted by the San Francisco Bay Regional Water Quality Control Board on November 19, 2015 (Order No. R2-2015-0049); the City of Berkeley is required to prepare a Green Infrastructure Plan for the inclusion of low impact development drainage design into appropriate projects on public and private lands to address the adverse water quality impacts and pollutants from urban stormwater runoff and urbanization, including paving of roadways and parking lots; and

WHEREAS, the goal of low impact development drainage design is to reduce runoff, minimize land disturbance, minimize pavement and other impervious cover, and remove pollutants from stormwater runoff using methods that employ natural processes of storage, detention, infiltration, evapotranspiration, and filtering of runoff through soil media as described in Provision C.3.c of MRP 2; and

WHEREAS, the Green Infrastructure Plan shall meet the following milestones specified in Provision C.3.j of MRP 2:

1. Approval of a framework for the Green Infrastructure Plan by June 30, 2017.
2. Approval of the Green Infrastructure Plan by June 30, 2019.
3. Submittal to the San Francisco Regional Water Quality Control Board of the Green Infrastructure Plan with the City of Berkeley's Annual Stormwater Report by September 30, 2019; and

WHEREAS, in order to be in compliance with MRP 2, a Framework for Green Infrastructure Plan Development has been prepared and presented to applicable City of Berkeley Commissions including Public Works Commission, Planning Commission, and Community Environmental Advisory Commission.


NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that it hereby adopts the Framework for Green Infrastructure Plan Development.

The foregoing Resolution was adopted by the Berkeley City Council on June 13, 2017 by the following vote:

Ayes: Bartlett, Davila, Droste, Hahn, Harrison, Maio, Wengraf, Worthington and Arreguin.

Noes: None.

Absent: None.



 Jesse Arreguin, Mayor

Attest: 

 Mark Numainville, City Clerk



Public Works Commission

April 10, 2019

To: Honorable Mayor and Members of the City Council
From: Public Works Commission
Submitted by: Ray Yep, Chair, Public Works Commission
Subject: Status of Green Infrastructure Plan

On February 7, 2019, the Public Works Commission heard a briefing on Berkeley's Green Infrastructure Plan (GI Plan) from Mitch Buttress, who is overseeing preparation of the plan. Such a plan is required to be approved and implemented under the City's stormwater permit.

There is much to like in the draft plan nearing completion. The plan includes an estimate of 119 acres of impervious surface to be treated by green infrastructure by 2040. Using newly developed mapping tools, City staff and their consultants have identified 11 different projects that would provide water quality, flood control, and infiltration benefits. It appears that the City can choose elements of these projects over the next decade to meet stormwater permit requirements. Once the city has completed an analysis of the feasibility of these options, projects that qualify for grant funding from outside sources, or that should be a high priority for funding under Measure T1, will be identified.

The Public Works Commission has several recommendations for implementing the GI Plan to make it more effective and to communicate the benefits of the plan. First, staff should develop metrics that educate readers about the economic benefits of the plan in reducing flooding and increasing water supply by infiltrating runoff. Second, we recommend that City staff meet with Regional Board staff to be sure that the plan will be acceptable. Third, we strongly urge that the City work with Caltrans to develop a comprehensive Green Infrastructure approach for San Pablo Avenue, in a manner similar to the approach for the Adeline Corridor. We expect to see redevelopment of these two areas the next twenty years, and the plan should provide a vision for redevelopment that incorporates green infrastructure into that redevelopment.

We would ask that the model that has been developed to date be used to evaluate some additional options such as using the center median of Sacramento and other historic streetcar lines for green infrastructure. Developing additional options could help the City increase groundwater recharge, improve flood control, and provide additional water supply.

We are encouraged by staff's practical and analytical approach to planning green infrastructure projects to meet Berkeley's needs and look forward to seeing the feasibility analysis as the projects develop.

Sincerely,

Nicholas Dominguez
Watershed Subcommittee
Public Works Commission



DRAFT Green Infrastructure Plan

City of Berkeley

May 2, 2019

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- Appendix A. City of Berkeley Watershed Management Plan
- Appendix B. Early Implementation Projects Table
- Appendix C. General Guidelines for GI Projects
- Appendix D. MWH Evaluation of Stormwater Program Funding Options
- Appendix E. City of Berkeley 2018 Storm Drainage Fee Report and Resolution No. 68,483-N.S.

List of Acronyms

Acronym	Definition
ACCWP	Alameda Countywide Clean Water Program
AGOL	ArcGIS Online
BAHM	Bay Area Hydrology Model
BASMAA	Bay Area Stormwater Management Agencies Association
DMA	Drainage management area
GI	Green infrastructure
LID	Low impact development
MRP	Municipal Regional Stormwater Permit
HM	Hydromodification management
RWQCB	Regional Water Quality Control Board, San Francisco Bay
PCBs	Polychlorinated biphenyls
TMDL	Total maximum daily load

1. Introduction

1.1 Statement of Purpose

The purpose of this Green Infrastructure Plan (GI Plan) is to guide the identification, implementation, tracking, and reporting of green infrastructure projects within the City of Berkeley in accordance with the Municipal Regional Stormwater Permit (MRP), Order No. R2-2015-0049, adopted by the San Francisco Bay Regional Water Quality Control Board on November 15, 2015. "Green infrastructure" refers to a sustainable system that slows runoff by dispersing it to vegetated areas, harvests and uses runoff, promotes infiltration and evapotranspiration, and/or uses bioretention and other low impact development practices to improve the water quality of stormwater runoff.

1.2 Physical Setting¹

The City of Berkeley, approximately 10.5 sq miles, is located in northern Alameda County on the eastern shoreline of the San Francisco Bay and extends east to the ridgelines of the East Bay Hills. In general, the physiography of the Berkeley watersheds reflects their general position or alignment in relation to the primary geologic structures in the East Bay. The watersheds in Berkeley typically drain to the west out of the steeper headwaters (Berkeley Hills, with a maximum elevation of approximately 1,770' at Chaparral Peak), across a transitional alluvial fan zone, and then across the more gently sloping Bay plain before discharging into the San Francisco Bay (approximately at sea-level). One exception is the Wildcat watershed which runs along the eastern side of the ridgelines of the Berkeley Hills and drains to Wildcat Creek. There are 10 watersheds wholly or partially within the City of Berkeley (not including the Marina). Moving from north to south, these are: Wildcat, Cerrito, Marin, Codornices, Gilman, Schoolhouse, Strawberry, Aquatic Park, Potter, and Temescal (Figure 1). Several watersheds extend past Berkeley's municipal boundaries into the Cities of Emeryville and Oakland to the south, and the Cities of Albany and El Cerrito to the north. The City of Berkeley is predominately urban; however drainage from approximately 2 sq. mi. of non-urban area outside the City boundary flows into the City from Strawberry Canyon and Claremont Canyon east of the City. Detailed characteristics of Berkeley's watersheds are provided in Appendix A.

¹ Excerpt from City of Berkeley, 2011. *Watershed Management Plan, Public Works Engineering, Version 1.0*, October.

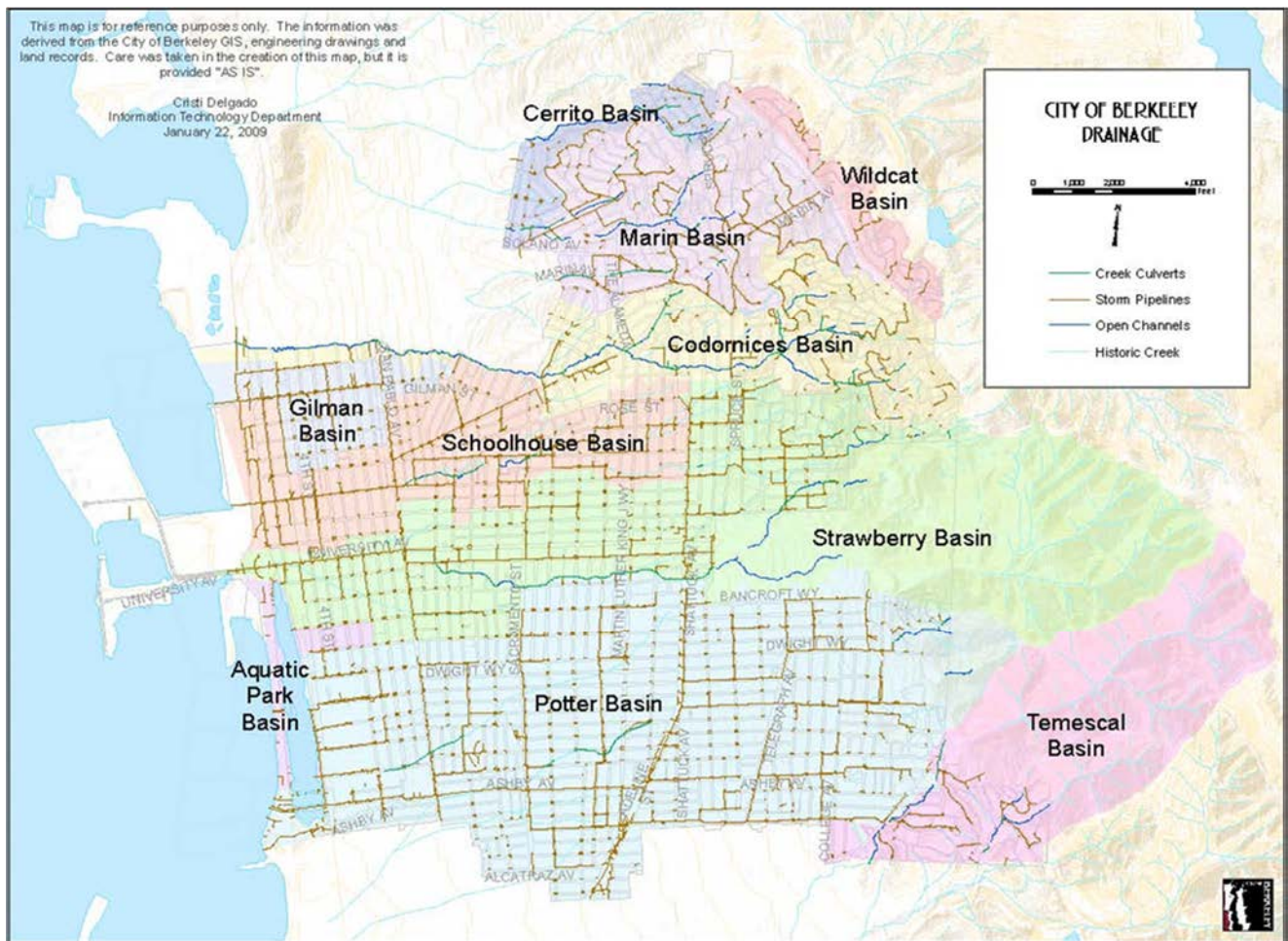


Figure 1 – Map of Watersheds in the City of Berkeley, California

1.3 Existing Green Infrastructure in Berkeley

Since the early 2000s, green infrastructure facilities have been installed in Berkeley at a rapid pace. As of 2019, over 50 public and private green infrastructure facilities have been installed in Berkeley. These facilities have been installed as parts of City “Green Streets” initiatives and as a result of Low-Impact Development (LID) requirements for private development projects. Additionally, some private landowners have voluntarily installed green infrastructure facilities on their properties. Figure 2 shows the locations of existing Green Infrastructure/Low-Impact Development (GI/LID) facilities in Berkeley. Figures 3 through 8 provide examples of existing GI/LID facilities. In 2012, the City adopted its Watershed Management Plan (WMP, Appendix A). Chapter 3 of the WMP provides detailed explanations and compares the benefits of different types of GI/LID facilities.

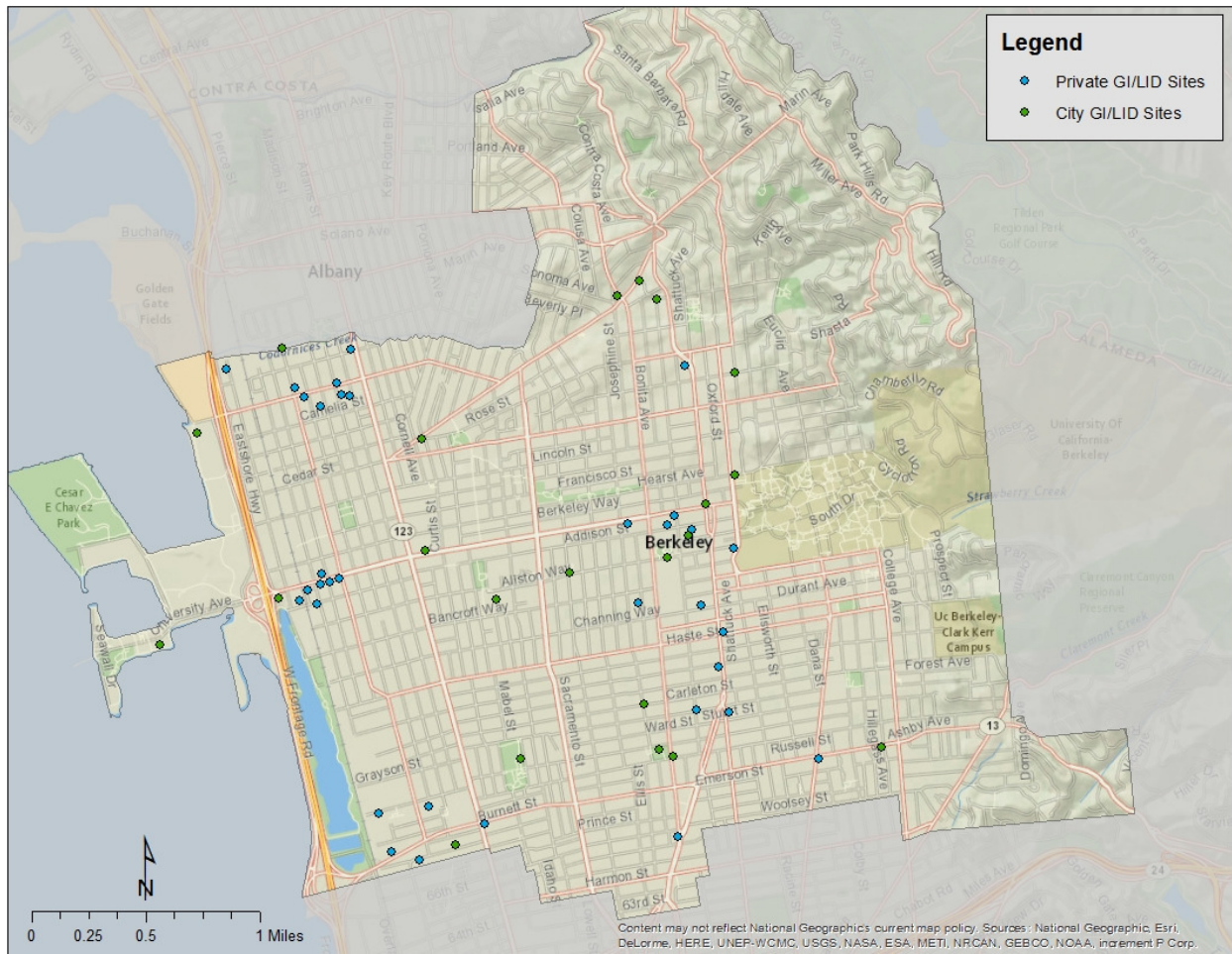


Figure 2 – Existing Green Infrastructure/Low-Impact Development (GI/LID) Sites as of 2019 in the City of Berkeley, California



Figure 3 – The entire block of Allston Way between Milvia Street and Martin Luther King Jr. Way is paved with permeable pavers.



Figure 4 – Permeable pavers combined with underground flow detention at Milvia and Hopkins Streets.



Figure 5 – A large concrete traffic island/median was reconstructed with a bioretention facility at Rose and Hopkins Streets.



Figure 6 – A bioretention facility was installed along with pedestrian and cyclist safety improvements as part of the Hearst Complete Streets Project.



Figure 7 – Connected bioretention features in a traffic circle and corner bulb-out at Spruce and Vine Streets.



Figure 8 – The green roof at the City of Berkeley's Dona Spring Animal Shelter.

1.4 MRP Requirements

This Green Infrastructure Plan has been developed to comply with Green Infrastructure Plan requirements in Provision C.3.j of the MRP, which states in part:

The Plan is intended to serve as an implementation guide and reporting tool during this and subsequent Permit terms to provide reasonable assurance that urban runoff TMDL wasteload allocations (e.g., for the San Francisco Bay mercury and polychlorinated biphenyls [PCBs] Total Maximum Daily Loads [TMDLs]) will be met, and to set goals for reducing, over the long term, the adverse water quality impacts of urbanization and urban runoff on receiving waters. For this Permit term, the Plan is being required, in part, as an alternative to expanding the definition of Regulated Projects prescribed in Provision C.3.b to include all new and redevelopment projects that create or replace 5,000 square feet or more of impervious surface areas and road projects that just replace existing impervious surface area. It also provides a mechanism to establish and implement alternative or in-lieu compliance options for Regulated Projects and to account for and justify Special Projects in accordance with Provision C.3.e.

Over the long term, the Plan is intended to describe how the Permittees will shift their impervious surfaces and storm drain infrastructure from gray, or traditional storm drain infrastructure where runoff flows directly into the storm drain and then the receiving water, to green—that is, to a more-resilient, sustainable system that slows runoff by dispersing it to vegetated areas, harvests and uses runoff, promotes infiltration and evapotranspiration, and uses bioretention and other green infrastructure practices to clean stormwater runoff.

The Plan shall also identify means and methods to prioritize particular areas and projects within each Permittee's jurisdiction, at appropriate geographic and time scales, for implementation of green infrastructure projects. Further, it shall include means and methods to track the area within each Permittee's jurisdiction that is treated by green infrastructure controls and the amount of directly connected impervious area. As appropriate, it shall incorporate plans required elsewhere within this Permit, and specifically plans required for the monitoring of and to ensure appropriate reductions in trash, PCBs, mercury, and other pollutants.

Table 1-1 below links each section of this plan to the applicable MRP provision.

Table 1-1: Green Infrastructure Plan Sections and Applicable MRP Provisions

Section of Green Infrastructure Plan	Applicable MRP Provision
1. Introduction	C.3.j
2. Impervious Surface Retrofit Targets	C.3.j.i.(2)(c)
3. Prioritizing and Mapping Planned and Potential Projects	C.3.j.i.(2)(a),(b),(j)
3.1 Approach for Prioritizing and Mapping Projects	C.3.j.i.(2)(a)
3.2 High Priority Projects	C.3.j.i.(2)(b)
3.3 Early Implementation Projects	C.3.j.i.(2)(j)
4. Tracking and Mapping Completed Projects	C.3.j.i.(2)(d) & C.3.d.iv.(1)
5. Summary of General Guidelines for GI Projects	C.3.j.i.(2)(e), C.3.j.i.(2)(f), C.3.j.i.(2)(g)
6. Integration of GI Requirements in Other City Planning Documents	C.3.j.i.(2)(h) & (i)
7. Evaluation of Funding Options	C.3.j.i.(2)(k)

2. Impervious Surface Retrofit Targets

The City of Berkeley has identified targets for the amount of impervious surface, from public and private projects within its jurisdiction (including redevelopment projects regulated under Provision C.3.b of the MRP), to be retrofitted by 2020, 2030, and 2040. The targets are presented in Table 2-1. The time schedules shown in this table are consistent with the timeframes for assessing load reductions for mercury and PCBs specified in Provisions C.11 and C.12 of the MRP. The City is currently participating in a regional effort to perform a Reasonable Assurance Analysis that demonstrates how green infrastructure will be implemented to achieve PCB and mercury load reductions.

Target amounts of impervious surface to be retrofitted by Private Development are based on the UrbanSim Model used by the San Francisco Bay Area Metropolitan Transportation Commission. Target amounts of impervious surface to be retrofitted by Public Development, City Green Streets, and Regional GI Projects are based on local knowledge of planned future development, anticipated availability of funding, High Priority Projects discussed in Section 3.2, and Early Implementation Projects discussed in Section 3.3. Due to uncertainties related to the funding of public green infrastructure projects and the reliability of projections for private development projects, The City of Berkeley will track the progress toward achieving the targets presented in Table 2-1, identify any challenges that arise in achieving these targets, and propose solutions, in coordination with other MRP Permittees.

Table 2-1
Impervious Surface Retrofit Targets through 2040
City of Berkeley 2019 Green Infrastructure Plan

Future Year	Project Category	Total Area Treated by GI (acres)	Estimated Impervious Surface Retrofitted (acres)
2020	Private Development*	21	21
	Public Development	9	9
	City Green Streets and Regional GI Projects	15	11
	Total Targets:	45	41
2030	Private Development*	38	38
	Public Development	16	16
	City Green Streets and Regional GI Projects	25	19
	Total Targets:	79	73
2040	Private Development*	59	59
	Public Development	25	25
	City Green Streets and Regional GI Projects	35	26
	Total Targets:	119	110

*: Based on UrbanSim development projections provided by the San Francisco Bay Area Metropolitan Transportation Commission

3. Prioritizing and Mapping Planned and Potential Projects

Section 3 describes the use of a mechanism for prioritizing and mapping green infrastructure projects as required in Provision C.3.j.i.(2)(a), provides descriptions of planned and potential green infrastructure projects and other outputs of the mechanism per Provision C.3.j.i.(2)(b), and discusses early implementation projects.

3.1 Approach for Prioritizing and Mapping Projects (GI Mechanism)

This section describes the Green Infrastructure Mechanism ("GI Mechanism") used to prioritize and map areas for planned and potential green infrastructure projects in the City of Berkeley. The mechanism consists of the Alameda Countywide Multi-Benefit Metrics Prioritization Protocol ("Multi-Benefit Prioritization Tool"), the City of Berkeley Land-Use-Based Micro-Watershed Pollutant Load Estimation Tool ("Micro-Watershed Tool"), and the Alameda County/Contra Costa Project Tracking and Load Reduction Accounting Tool ArcGIS Online web application ("AGOL tool").

As described below, the mechanism includes criteria for prioritization, such as specific logistical constraints, water quality drivers (load reductions of mercury and PCBs consistent with TMDLs), and opportunities to treat runoff from private parcels in street right-of-way (ROW). It also produces outputs, including maps and project lists, which can be incorporated into the City of Berkeley's long-term planning and capital improvement processes.

Multi-Benefit Prioritization Tool

The Multi-Benefit Prioritization Tool is a stepwise GIS analysis documented in the Alameda Countywide Stormwater Resource Plan Screening and Prioritization using Multi-Benefit Metrics Technical Memorandum² and summarized below.

Step 1. Identify planned projects – Planned future green infrastructure projects within Alameda County were identified and entered into a GIS layer, based on project information provided by local agencies within the county.

Step 2. Identify opportunity sites – Additional potential project locations were identified and catalogued by the Alameda Countywide Clean Water Program consultant Geosyntec using a GIS-based opportunity analysis. The project opportunity analysis followed the steps listed below:

- a. Identify publicly-owned parcels.
- b. Screen identified public parcels to include only those that are at least 0.1 acre in size and with an average slope of less than 10 percent. Parcels that met these criteria were screened for physical feasibility.

² Geosyntec. 2017. *Alameda Countywide Stormwater Resource Plan Screening and Prioritization using Multi-Benefit Metrics Technical Memorandum*. December 13.

- c. Identify non-interstate highway public right-of-way (ROW) within urban areas. Roadways considered included state and county highways and connecting roads and local, neighborhood, and rural roads.
- d. Identify land uses or adjacent land uses of the sites resulting from steps b and c.
- e. Screen sites identified in steps b and c to remove sites with the following physical constraints:
 - i. Regional facilities were not considered for sites that were greater than 500 feet from a storm drain due to limited feasibility in treating runoff from a larger drainage area;
 - ii. Parcel-based facilities were not considered for sites that were more than 50% undeveloped due to the limited potential for pollutant reduction of concern load reduction;
 - iii. Sites with more than 50% of their drainage area outside of the urbanized area, as these sites would not provide opportunity for significant pollutant of concern load reduction;
 - iv. Sites with more than 50% overlying landslide hazard zones to avoid the potential for increasing landslide risk.

Step 3. Classify planned projects and opportunity sites in preparation for metrics-based

evaluation – A GIS analysis was performed to classify the planned projects identified in step 1 and the opportunity sites identified in step 2 according to four parameters listed below:

- a. Green infrastructure project type – Each project received one of the following classifications: parcel-based, regional, or ROW/green street project.
- b. Infiltration feasibility - Each project location received one of the following classifications for infiltration: infeasible, partially feasible, or feasible.
- c. Facility type – Each project received one of the following classifications: green infrastructure³, non-green infrastructure treatment control facility, water supply augmentation, flood control facility, hydromodification control, public use area or public education area, programmatic stormwater management opportunity.
- d. Drainage area information – A drainage area was identified for each project.

Step 4. Score projects using an automated metrics-based evaluation – A quantitative metrics-based multiple benefit evaluation was performed using an automated process. Projects or opportunity sites received a score of 0, 1, or 2 for each of the metrics listed below. The automated scores were used to preliminarily rank the projects by watershed, jurisdiction, project type, and/or project stakeholder(s). Geosyntec provided a jurisdiction-specific list of planned projects and opportunity sites located in the City of Berkeley including an automated score for each project.

³ All opportunity sites identified in step 2 were classified as GI projects. Based on information provided by local agencies in step 1, other classifications were assigned, where appropriate, to planned projects. Projects that were not classified as GI have co-benefits that may include GI.

Spatial data for the projects included in the list were provided in both GIS shape file and Google Earth KMZ file formats.

- a. Parcel area (for regional and parcel-based projects only)
- b. Location slope
- c. Infiltration feasibility
- d. PCBs/mercury yield classification in project drainage area
- e. Regional facility
- f. Removes pollutant loads from stormwater
- g. Augments water supply
- h. Provides flood control benefits
- i. Re-establishes natural water drainage systems
- j. Develops, restores, or enhances habitat and open space
- k. Provides enhanced or created recreational and public use areas with potential opportunities for community involvement and education
- l. Trash capture co-benefit

The results of the multiple benefit evaluation were compiled into a countywide Master List of Prioritized Planned and Potential Projects which is included in the Alameda Countywide Clean Water Program's Storm Water Resource Plan⁴. The City of Berkeley maintains a GIS database of the results of the multiple benefit evaluation within the City's boundaries. This database includes a GIS layer depicting the prioritization score for each section of right-of-way and applicable publicly owned parcel that can be displayed along with other City GIS layers to inform current and future planning decisions. A citywide evaluation performed using the Multi-Benefit Prioritization Tool is depicted in Figure 9.

⁴ Alameda Countywide Clean Water Program. 2019. *Storm Water Resource Plan*. January.

Micro-Watershed Tool

The City of Berkeley developed the Land-Use-Based Micro-Watershed Pollutant Load Estimation Tool ("Micro-Watershed Tool") as a complimentary tool to the Multi-Benefit Prioritization Tool. The purpose of the Micro-Watershed Tool is to evaluate small drainage areas in Berkeley for pollutant load reduction potential based on the historical land-use classifications contained within them. The MRP requires permittees to plan and implement green infrastructure projects to achieve load reductions of PCBs and mercury. The Micro-Watershed Tool is designed to assist with siting green infrastructure installations in locations that maximize PCBs and mercury load reductions. The Micro-Watershed Tool is based on the Bay Area Stormwater Management Agencies Association's Interim Accounting Methodology for TMDL Loads Reduced (Interim Accounting Methodology)⁵, which states:

A land-use-based yield is an estimate of the mass of a contaminant contributed by an area of a particular land use per unit time. Essentially, different types of land uses yield different amounts of pollutants because land use types differ in their degree of contamination resulting from differing intensities of historic or ongoing use of pollutants. The land use categories used to land use-based yields were identified from studies conducted to identify potential Pollutant of Concern (POC) sources and source areas.

A number of preliminary GIS data layers were developed using existing and historical information on land use and facility types that were located in the Bay Area during the early to mid-20th century. GIS data layers developed included a revised "Old Industrial" land use layer that attempted to depict industrial areas that were present in the year 1968 and an "Old Urban" land use layer that depicts urbanized areas developed by 1974, other than Old Industrial areas. The year 1974 was used as this was the closest year to 1968 for which data were available. The other categories include "New Urban", which depicts areas urbanized after 1974; "Open Space", which represents undeveloped land; and "Other", which consists of airport and military areas. "Source Property" areas are located in historically industrial or other areas where PCBs were used, released, and/or disposed of and/or where sediment concentrations are significantly elevated above urban background levels.

Assumed average PCBs and Mercury yields (in milligrams per acre per year) were developed for each of the six Historical Land Use categories listed above.

For the Micro-Watershed Tool, the City of Berkeley's drainage maps were digitized using GIS software. The result is a GIS Shapefile with roughly 1,000 polygons representing drainage areas as small as that contributing to a single catch basin/inlet. The drainage areas layer was overlain with the Historical Land Use Layers described in the Interim Accounting Methodology and calculations were run to determine the amount of each category of historical land use contained within each drainage area. A second round of calculations were then run to determine the assumed land-use-based PCBs yield for each drainage area based on the

⁵ BASMAA. 2017. *Interim Accounting Methodology for TMDL Loads Reduced*. Prepared by Geosyntec Consultants and EOA, Inc. March 23.

formulas provided in the Interim Accounting Methodology. Finally, the assumed land-use-based PCBs yields were multiplied by the Efficiency Factor for green infrastructure treatment (0.7), then divided by the total area of each drainage area to produce a PCB reduction potential per acre treated value for each Micro-Watershed in the City. The City maintains the Micro-Watershed Tool in the form of a GIS database which includes a GIS layer depicting the PCBs reduction potential for each Micro-Watershed in Berkeley that can be displayed along with the other City GIS layers to inform current and future planning decisions. Figure 10 depicts the land-use-based PCBs reduction potential for each Micro-Watershed in Berkeley.

3.2 High Priority Projects

Using the tools of the GI Mechanism described above, the City of Berkeley has identified the high priority potential green infrastructure projects described in this section that may be used to help meet the impervious surface retrofit targets presented in Section 2. This is only a current list of projects. It is envisioned that as future capital projects and City plans are developed, the tools of the GI Mechanism will be used to identify additional high priority green infrastructure projects that can be constructed as parts of broader City efforts.

Watershed Management Plan Projects

As part of the Watershed Management Plan (WMP), hydraulic models were developed for the Potter and Codornices Watersheds in Berkeley. The results of modelling in the Potter Watershed suggested that installation of surface-level bioretention combined with underground storage facilities (that would divert peak flows, then slowly meter flows back to the storm drain) in the upper watershed would result in incremental flood reductions throughout the watershed. The WMP identifies twenty five locations for GI/storage units in the upper Potter Watershed. As part of the current green infrastructure planning effort, the City reexamined these locations using the GI Mechanism to determine which locations are most likely to provide multiple benefits in addition to flood control. Figure 11 shows a conceptual cross section of a green infrastructure/storage unit as proposed in the WMP. Figure 12 shows the WMP-proposed GI/storage unit locations overlain with the Multi-Benefit Prioritization Tool GIS layer. Table 3-1 shows the Multi-Benefit Prioritization Scores for each location.

Table 3-1
Watershed Management Plan Proposed GI Sites - Potter Watershed
Multi-Benefit Prioritization Scores
2019 City of Berkeley Green Infrastructure Plan

Project Description	Multi-Benefit Prioritization Score*
2 GI/Storage Units - Piedmont (Forest to Derby)	15
2 GI/Storage Units - College (Parker to Derby)	15
2 GI/Storage Units - Ashby (Benvenue)	15
2 GI/Storage Units - Bowditch (Channing to Haste)	15
2 GI/Storage Units - Shattuck (Bancroft to Kittredge)	15
2 GI/Storage Units - Ellsworth (Channing)	15
2 GI/Storage Units - Shattuck (Channing)	15
2 GI/Storage Units - Adeline (Ashby)	15
2 GI/Storage Units - Adeline (Oregon)	15
2 GI/Storage Units - Shattuck (Blake)	15
2 GI/Storage Units - Ellsworth (Dwight)	15
2 GI/Storage Units - Ashby (Telegraph)	15
1 GI/Storage Unit - Woolsey (Tremont)	15
2 GI/Storage Units - Piedmont (Durant to Channing)	14.5
2 GI/Storage Units - College (Channing to Dwight)	13.5
2 GI/Storage Units - Derby (Telegraph to Regent)	13.5
2 GI/Storage Units - Webster (College)	13.5
2 GI/Storage Units - Wheeler (Prince to Woolsey)	13.5
3 GI/Storage Units - Derby (Warring)	13.5
2 GI/Storage Units - Telegraph (Stuart)	13.5
2 GI/Storage Units - Woolsey (Eton)	12.5
2 GI/Storage Units - Bancroft (Bowditch)	12.5
2 GI/Storage Units - Dwight (Prospect)	12.5
2 GI/Storage Units - Stuart (College to Cherry)	12.5
2 GI/Storage Units - Woolsey (Dana)	12

*: Maximum Multi-Benefit Prioritization Score for Berkeley = 15.

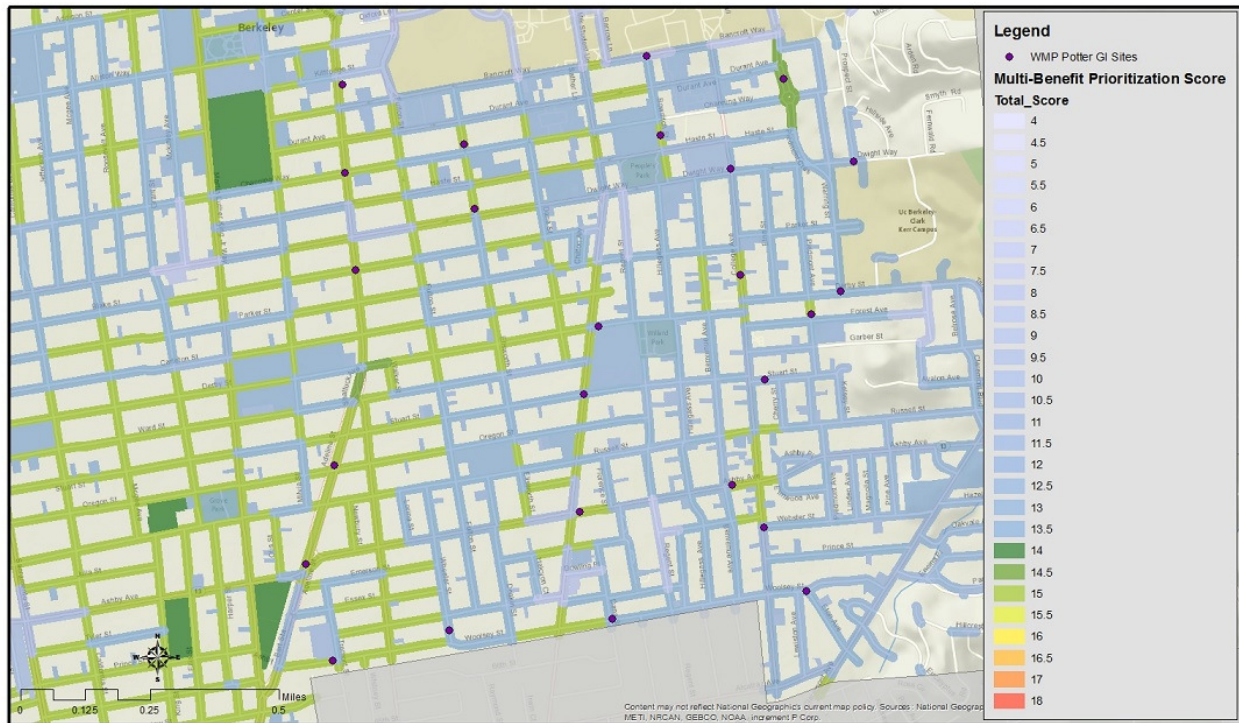


Figure 12 – WMP-Proposed GI/Storage Unit Locations in the Upper Potter Watershed Plotted Against Multi-Benefit Prioritization Scores

Woolsey Street Bioretention and Underground Flow Detention Facility

City staff has selected Woolsey Street at Tremont Street as the first WMP-proposed GI/storage unit to be constructed in the Potter Watershed. This location was selected for the following reasons:

- Synergy with the City's Paving Program;
- High level of constructability relative to other proposed locations;
- Relatively few space constraints;
- Multi-Benefit Prioritization Score of 15 (maximum);
- High visibility location adjacent to the Ed Roberts Campus and the Ashby Bart Station.

The Woolsey Street project is fully designed and the City is currently in the process of retaining a contractor for construction.

Piedmont Avenue Traffic Circle and Medians

The City of Berkeley and the University of California, Berkeley (UC Berkeley) have identified the large traffic circle and medians on Piedmont Avenue between Durant Avenue and Haste Street (Figure 13) as a potential site for a joint green infrastructure project. This is the location of a WMP-proposed GI/storage unit with a high Multi-Benefit Prioritization Score of 14.5. As Piedmont

Avenue is one of the main roads leading into the UC Berkeley campus, this is a very high visibility location to students and visitors alike. The large size of the traffic circle, ability to team with UC Berkeley, existing storm drain infrastructure, and location in the upper Potter Watershed make this an attractive project.



Figure 13 – The large grassy traffic circle at Piedmont Avenue and Channing Way could be retrofitted into a bioretention feature to treat runoff from the street.

Codornices Watershed Projects

The WMP identifies a number of potential sites for green infrastructure installations in the Codornices Watershed. Two proposed locations that received relatively high scores from the Multi-Benefit Prioritization Tool and have relatively high PCBs Reduction potential are Ninth Street at Codornices Creek and Tenth Street at Codornices Creek (Figures 14 and 15).

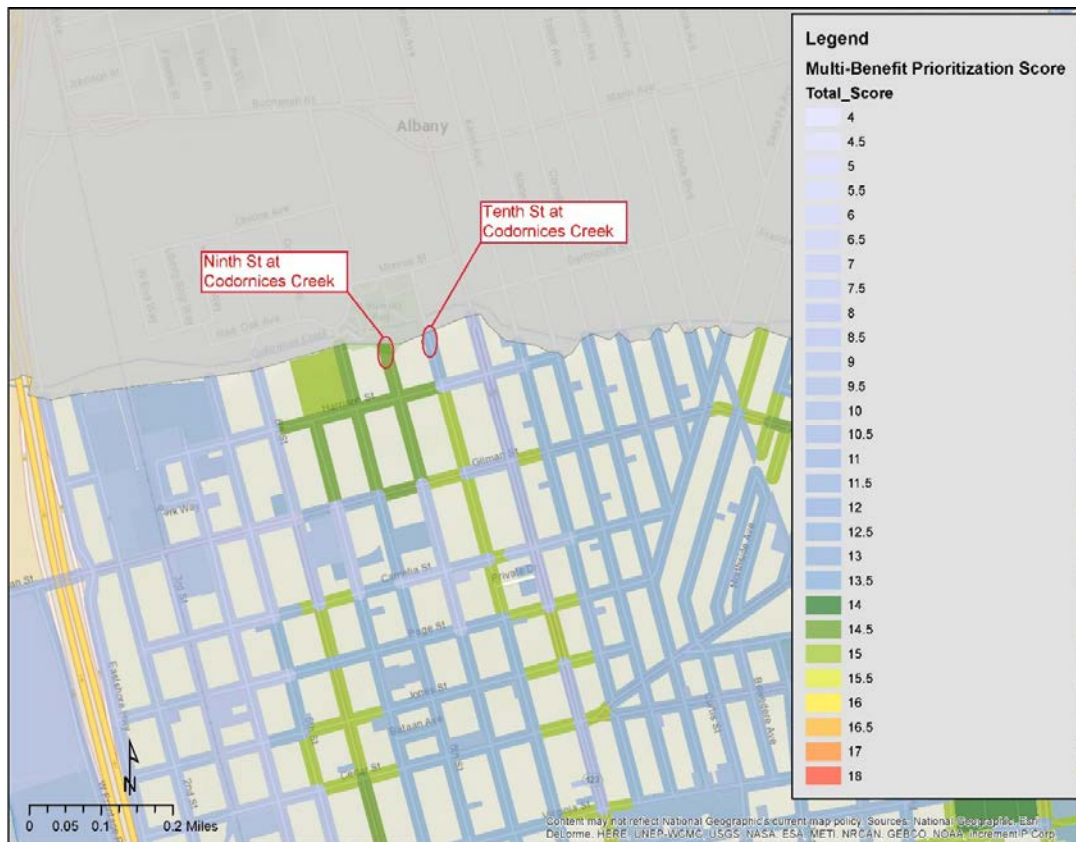


Figure 14 – Lower Codornices Watershed Potential GI Sites, Multi-Benefit Prioritization Scores

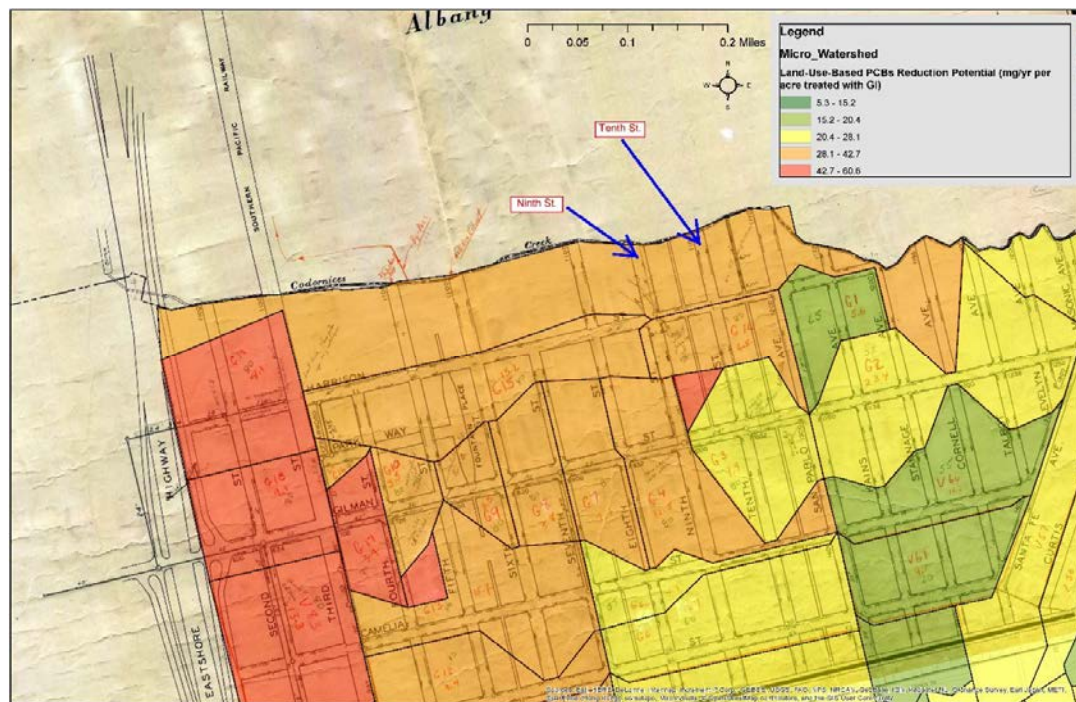


Figure 15 – Lower Codornices Watershed Potential GI Sites, PCBs Reduction Potential

As shown in Figure 16, a large raised concrete surface currently occupies the dead-end of Ninth Street at Codornices Creek. A portion of this concrete island could be converted into a bioretention unit to treat runoff from the street before it enters the creek. This retrofit could be completed concurrent with other improvements to the right-of-way and stabilization and restoration of the creek. In order for the City to complete this project, cooperation from upstream and downstream land owners on both sides of the creek would be necessary.



Figure 16 – A portion of the raised concrete surface on Ninth Street at Codornices Creek could be converted into a bioretention feature.

As shown in Figure 17, the parking lanes on both sides of Tenth Street at Codornices Creek are potential locations for bioretention features to treat runoff from the street prior to entering the creek. A similar project was previously completed on Sixth Street at Codornices Creek (Figure 18).



Figure 17 – Bioretention features could be installed in the parking lanes on Tenth Street at Codornices Creek.



Figure 18 – Existing bioretention features on Sixth Street that treat runoff from the street prior to running into the creek show how similar treatment at Tenth Street could be implemented.

Parks Projects

As the City of Berkeley is relatively built out, space constraints often limit opportunities for green infrastructure in the public right-of-way. Alternative opportunities may exist to install green infrastructure on City property such as parks. In some cases, green infrastructure can be installed along the perimeter of a park to treat runoff from the adjacent roadway. A bioswale in Presentation Park at the intersection of Allston Way and California Street (Figure 19) is an existing example of this type of project in Berkeley. City staff have identified San Pablo Park in southwest Berkeley as a potential site for a bioswale. As shown in Figure 20, the park itself has a relatively high Multi-Benefit Prioritization Score of 14. Many of the residential streets in the vicinity of the park have even higher Multi-Benefit Prioritization Scores (up to 15). Potential sites for a bioswale on the north end of the park (along Ward Street) or the east side of the park (along Park Street) could be used to treat runoff from the surrounding neighborhood.



Figure 19 – An existing bioswale at Presentation Park detains, treats, and infiltrates runoff from Allston Way.

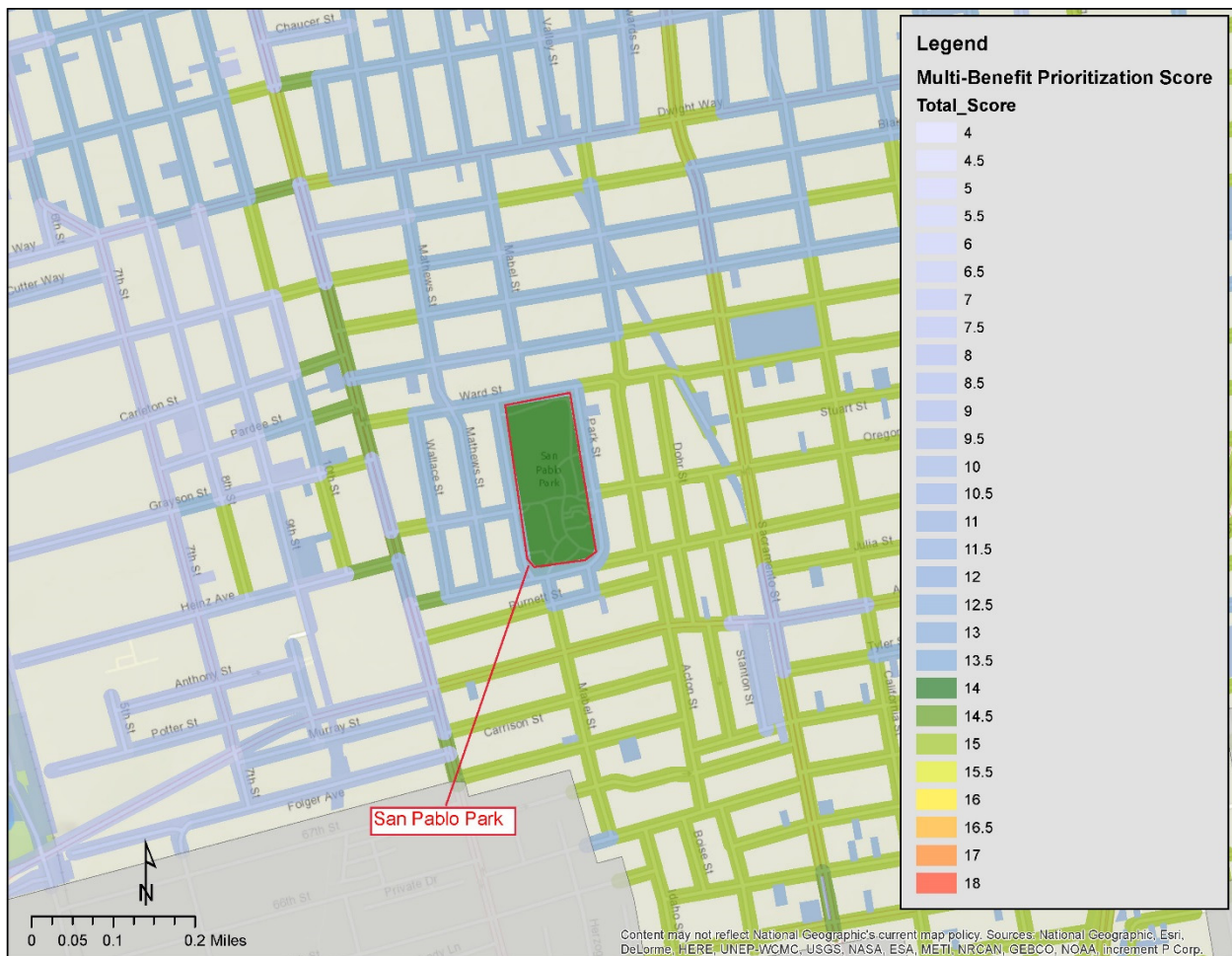


Figure 20 – Results from the Multi-Benefit Prioritization Tool for San Pablo Park and Surrounding Areas

West Berkeley Projects

As illustrated in Figure 10, the greatest opportunities in Berkeley to reduce PCBs (and Mercury) from stormwater runoff exist in Micro-Watersheds to the west of San Pablo Avenue. Utilizing outputs from the GI Mechanism, City staff conducted field and remote reconnaissance to determine where green infrastructure installations might be feasible in west Berkeley. Considering factors such as slope, space constraints, and existing storm drain infrastructure, seven west Berkeley Micro-Watersheds (or combinations of adjacent Micro-Watersheds) were identified for potential green infrastructure projects (Figure 21). Potential projects in the northernmost highlighted Micro-Watershed (adjacent to Codornices Creek) are discussed earlier in this section. Potential projects from the remaining highlighted Micro-Watersheds are discussed below.

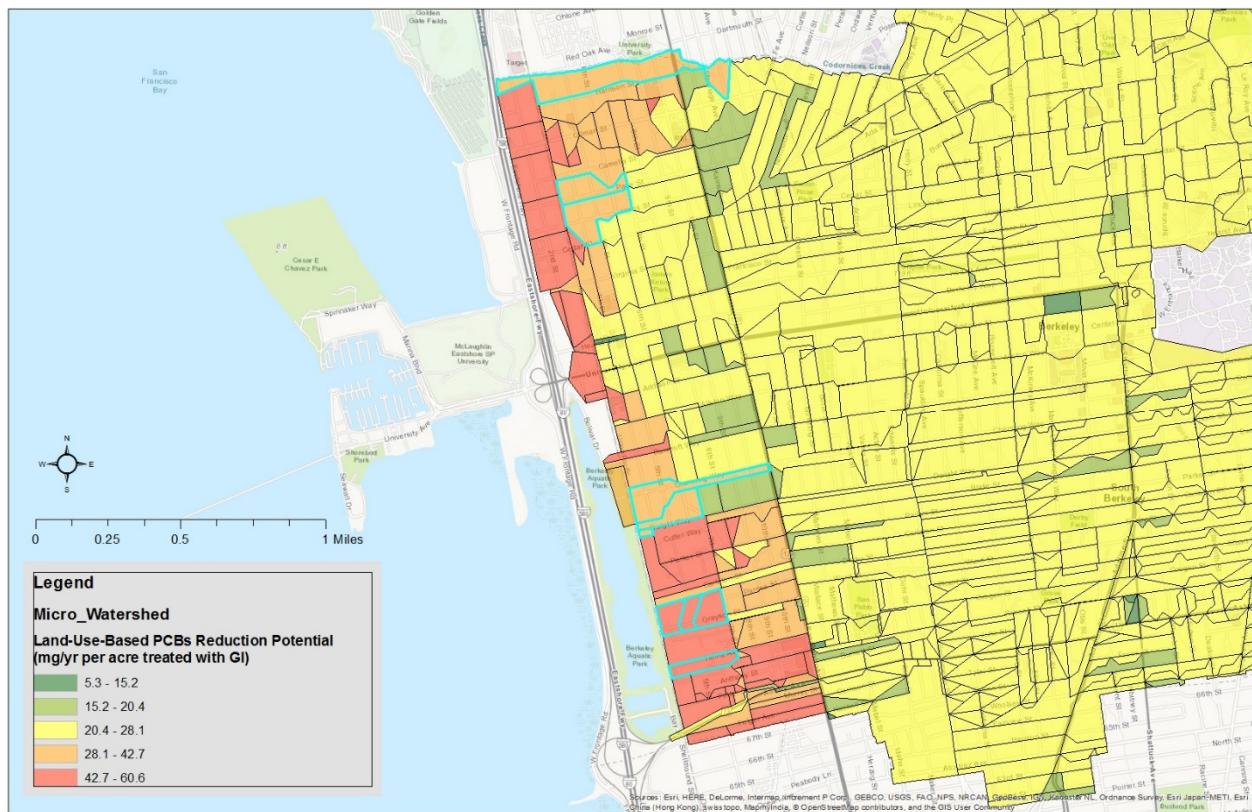


Figure 21 – Micro-Watersheds in West Berkeley with Identified Potential Green Infrastructure Opportunities (Outlined in Cyan)

Several east-west running streets in west Berkeley dead-end at the Union Pacific Railroad (UPRR) Right-of-Way (Third Street). At the locations discussed below, existing storm drain inlets are present near the UPRR dead-end, which could be retrofitted into surface-level bioretention features. These locations present a unique opportunity to treat runoff from Old Industrial parcels in west Berkeley. As the streets are closed to through traffic, space limitations for surface-level green infrastructure are minimized. As groundwater may be relatively shallow at these locations and groundwater contamination plumes may be present, additional feasibility studies will be required to properly assess subsurface conditions. Potential bioretention features at these locations may need to be lined to prevent interaction with groundwater.

Page Street at Railroad Right-of-Way

As illustrated on Figures 22 and 23, the dead end of Page Street at the UPRR Right-of-Way is a promising potential location for a bioretention feature. A 9.6-acre Micro-Watershed (including 3.9 acres of Old Industrial and 4.3 acres of Old Urban Historical Land Uses) drains to this location. Existing storm drain inlets on the north and south sides of Page Street should allow for a relatively straightforward retrofit. This Micro-Watershed has an average Land-Use-Based PCBs Reduction Potential of 34.3 milligrams per year per acre treated (mg/yr/ac) and is located in the Gilman Watershed.

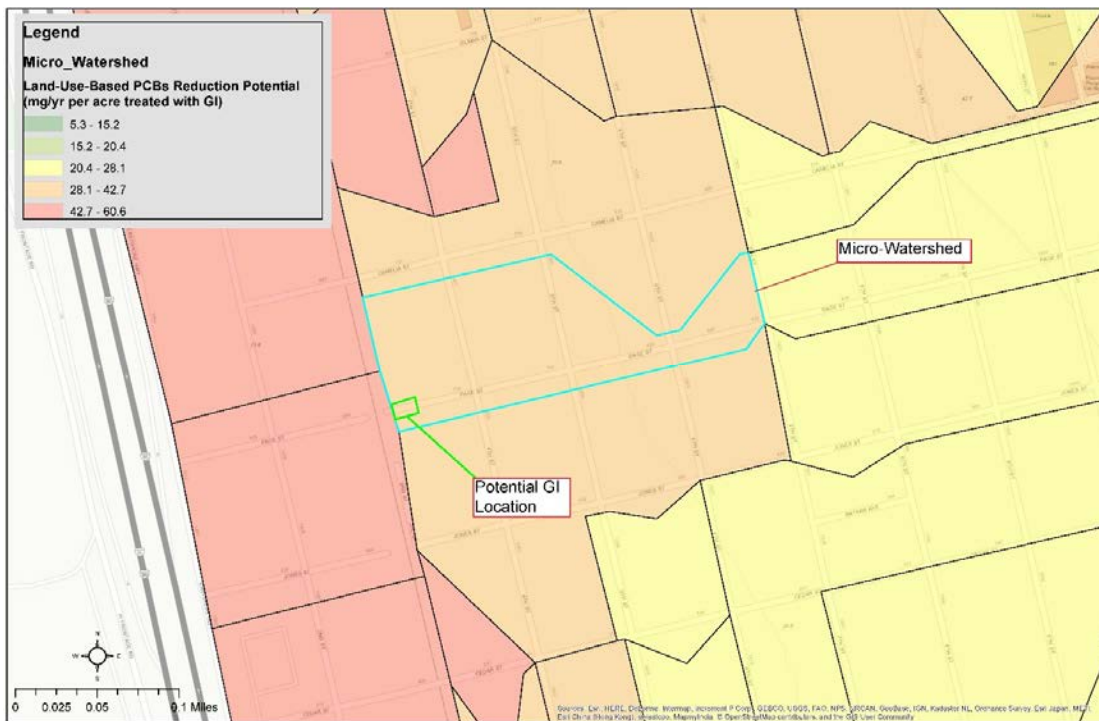


Figure 22 – Potential Location for a Bioretention Feature on Page Street at the UPRR ROW and Tributary Micro-Watershed



Figure 23 – Potential Location for a Bioretention Feature on Page Street at the UPRR ROW

Jones Street at Railroad Right-of-Way

Similar to Page Street, the dead end of Jones Street at the UPRR Right-of-Way is another potential location for one or more bioretention features (Figures 24 and 25). A 15.4-acre Micro-Watershed (including 5.2 acres of Old Industrial and 7.9 acres of Old Urban Historical Land Uses) drains to this location. An existing storm drain inlet on the south side of Jones Street at the UPRR Right-of-Way could be converted into a green infrastructure facility. Under current conditions, stormwater ponds at the southwest corner of Jones Street at Fourth Street. Installation of one or more bioretention features along the south side of Jones Street between Fourth Street and the UPRR Right-of-Way could be combined with drainage improvements to alleviate localized flooding. This Micro-Watershed has an average Land-Use-Based PCBs Reduction Potential of 31.8 mg/yr/ac and is located in the Gilman Watershed.

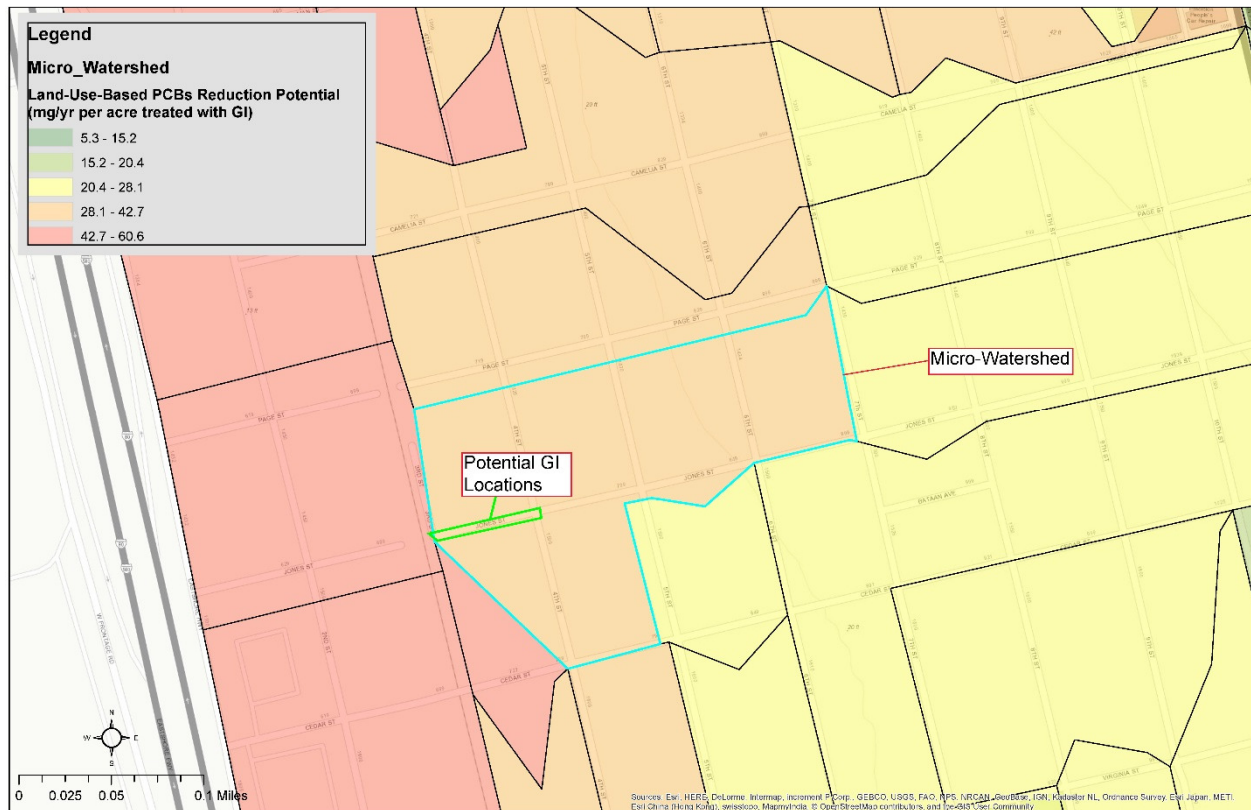


Figure 24 – Potential Location for a Bioretention Feature on Jones Street at the UPRR ROW and Tributary Micro-Watershed



Figure 25 – Potential Location for a Bioretention Feature on Jones Street at the UPRR ROW

Channing Way at Railroad Right-of-Way

As illustrated on Figures 26 and 27, the dead end of Channing Way at the UPRR Right-of-Way is a potential location for a bioretention feature. A 15.8-acre Micro-Watershed (including 5.1 acres of Old Industrial and 9.6 acres of Old Urban Historical Land Uses) drains to this location. Existing storm drain inlets on the north and south sides of Channing Way should allow for a relatively straightforward retrofit. This Micro-Watershed has an average Land-Use-Based PCBs Reduction Potential of 32.7 mg/yr/ac and is located in the Potter Watershed.

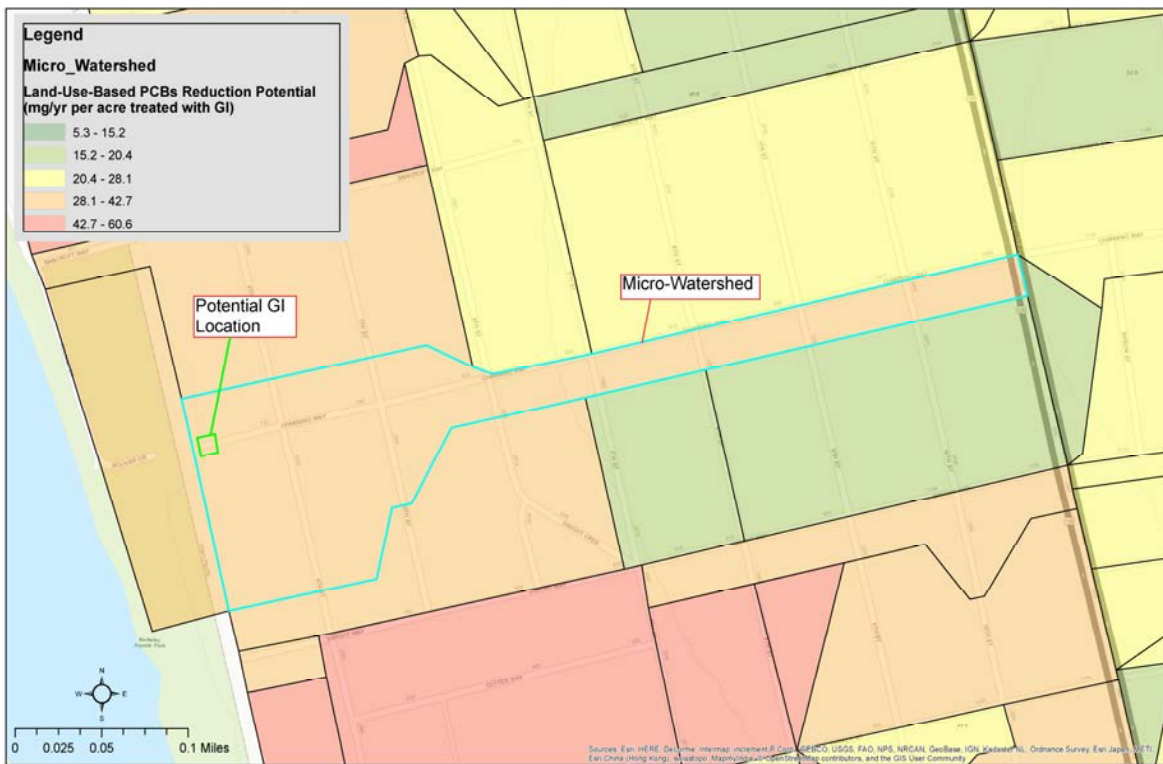


Figure 26 – Potential Location for a Bioretention Feature on Channing Way at the UPRR ROW and Tributary Micro-Watershed



Figure 27 – Potential Location for a Bioretention Feature on Channing Way at the UPRR ROW

Heinz Avenue at Railroad Right-of-Way

As illustrated on Figures 28 and 29, the dead end of Heinz Avenue at the UPRR Right-of-Way is a potential location for a bioretention feature. A 6.5-acre Micro-Watershed drains to this location. An existing storm drain inlet on the west end of the Heinz Avenue turn-around could be converted into a bioretention feature. This Micro-Watershed has an average Land-Use-Based PCBs Reduction Potential of 48.4 mg/yr/ac and is located in the Potter Watershed.

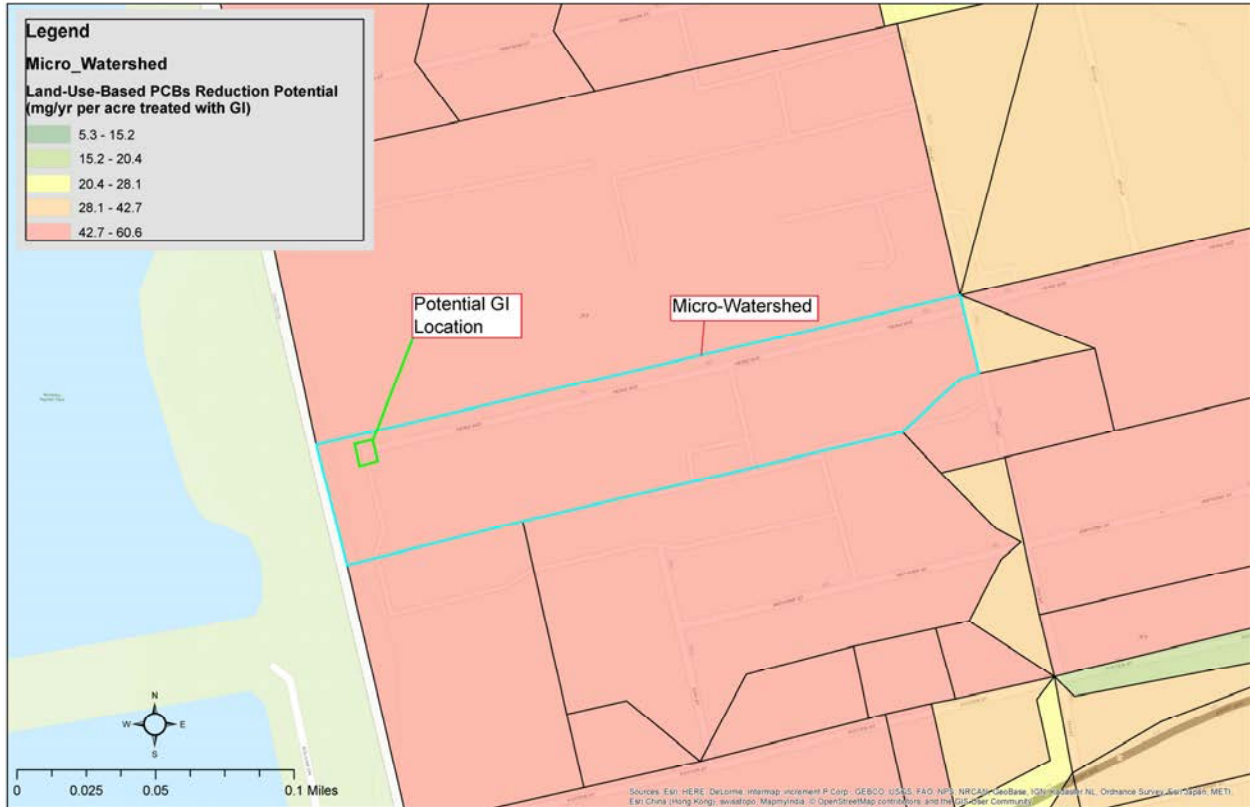


Figure 28 – Potential Location for a Bioretention Feature on Heinz Avenue at the UPRR ROW and Tributary Micro-Watershed



Figure 29 – Potential Location for a Bioretention Feature on Heinz Avenue at the UPRR ROW

Additional opportunity sites for green infrastructure facilities have been identified on Dwight Way and Grayson Street in west Berkeley. For each of these locations, construction of a bioretention feature at the UPRR Right-of-Way dead-end may not be feasible due to access constraints. However, extension and retrofit of existing sidewalk planter strips into bioretention features may be an effective way to manage and treat stormwater runoff. Potential locations for bioretention features have been identified on Grayson Street between Seventh Street and the UPRR Right-of-Way (Figure 30) and on Dwight Way between Fourth Street and the UPRR Right-of-Way (Figure 31). Table 3-2 provides a comparison of the high priority potential green infrastructure projects identified in this section.



Figure 30 – Extension and retrofit of existing sidewalk planter strips into bioretention features may be feasible on Grayson Street between Seventh Street and the UPRR ROW.



Figure 31 – Extension and retrofit of existing sidewalk planter strips into bioretention features may be feasible on Dwight Way between Fourth Street and the UPRR ROW.

3.3 Early Implementation Projects

The projects listed in Appendix B have been identified by the City of Berkeley as Early Implementation Green Infrastructure Projects in accordance with MRP Provision C.3.j.ii. Of the six projects listed, four were completed prior to 2019. The remaining two projects (San Pablo Avenue Storm Water Spine and Woolsey Street Bioswale and Flow Detention) are funded and designed, with construction anticipated to begin in 2019.

4. Tracking and Mapping Completed GI Projects

The process for tracking and mapping completed GI projects, both public and private, and making the information publicly available, as required by Provision C.3.j.i.(2)(d), is described below. This process was developed by the ACCWP, which participated in regional coordination with BASMAA, to comply with the requirement in Provision C.3.j.iv.(1) that "Permittees shall, individually or collectively, develop and implement regionally-consistent methods to track and report implementation of green infrastructure measures including treated area and connected and disconnected impervious area on both public and private parcels within their jurisdictions."

4.1 Project Tracking and Load Reduction Accounting Tool

As a member agency of the ACCWP, the City of Berkeley uses an ArcGIS Online (AGOL) web application-based tool, the C3 Project Tracking and Load Reduction Accounting Tool ("AGOL Tool"), which ACCWP developed in cooperation with the Contra Costa Clean Water Program to assist its member agencies in meeting the requirements described above. Detailed information and instructions on the tool can be found in the C3 Project Tracking and Load Reduction Accounting Tool Guidance Document (ACCWP 2017).

The general process for entering GI projects into the AGOL Tool involves logging in to the ArcGIS Online web application, opening the tool, and entering data. There are two methods for entering data, but, in general both involve: locating the project area, drawing the project boundary, entering project attributes, drawing the stormwater treatment facility(ies), and entering facility attributes. Project attributes include jurisdiction, location description, type of project, project name, and additional optional fields that can be populated if the information is known. Facility attributes include hydraulic sizing criterion, project ID, facility type, treatment, and percent of project area treated by the facility.

The City of Berkeley has incorporated the use of the AGOL Tool into its processes for reporting C.3 Regulated Projects and non-C.3 Regulated projects that include green infrastructure – encompassing both public and private projects. The tool includes a feature for generating tables of C.3 Regulated Projects and GI projects that include MRP-required project data for annual reporting purposes.

4.2 Making Information Publicly Available

As required by the MRP, the process for tracking and mapping completed projects (public and private) includes making the information generated by the tool publicly available. Information from the tool will be made publicly available as follows.

- On an annual basis, include in the Annual Report for the City of Berkeley's Stormwater Program information from the tool in the form of (1) a list of GI projects (public and private) that are planned for implementation during the permit term as required in Provision C.3.j.ii, and (2) a list of Regulated Projects approved during the fiscal year reporting period as required in MRP Provision C.3.b.iv.

- Coordinate with ACCWP to develop a viewable version of the AGOL tool, which is anticipated to be embedded on ACCWP's public website and may also be accessible via the City of Berkeley's website.

5. Summary of General Guidelines for GI Projects

General Guidelines are presented in Appendix C to guide the City of Berkeley in designing a project that has a unified, complete design that implements the range of functions associated with GI projects, and in providing for appropriate coordination of projects and project elements. The General Guidelines include hydraulic sizing guidance, standard specifications, and typical designs for GI projects. Additional information about the General Guidelines is summarized below.

5.1 Implementing Projects with a Unified, Complete Design

The General Guidelines presented in Appendix B focus on designing and coordinating projects that implement a range of functions appropriate to the type of project. For example, the guidelines for designing street projects address a range of functions including pedestrian travel, use as public space, for bicycle, transit, vehicle movement, and as locations for urban forestry. The guidelines for coordination identify measures for implementation during construction to minimize conflicts that may impact green infrastructure.

5.2 Hydraulic Sizing Requirements

Provision C.3.j.i.(2)(g) of the MRP states that GI projects are required to meet the treatment and hydromodification management (HM) sizing requirements included in Provisions C.3.c and C.3.d of the MRP. However, an exception to this requirement is provided in Provision C.3.j.i.(2)(g) for street projects that are not Regulated Projects under Provision C.3.b ("non-Regulated Projects").

The General Guidelines in Appendix C provide hydraulic sizing guidance for GI projects, addressing the hydraulic sizing criteria in MRP Provisions C.3.c and C.3.d, as well as the alternate sizing approach for constrained street projects developed by the Bay Area Stormwater Management Agencies Association. These guidelines do not address Regulated Projects as defined in Provision C.3.b of the MRP.

Please note that some non-Regulated Projects are required to implement site design measures in accordance with Provision C.3.i of the MRP. Appendix L of the ACCWP C.3 Technical Guidance Manual (ACCWP 2017b) explains how to determine whether Provision C.3.i applies to your project, and how to incorporate applicable site design measures, if required.

Table 5-1 presents a summary of resources for hydraulic sizing guidance, and other applicable guidance, for different types of projects.

Table 5-1: Hydraulic Sizing Guidance and Other Guidance Resources- by Project Type

Type of Project	Where to Find Guidance	
	Provision C.3.i or HM Guidance, if Applicable	Hydraulic Sizing Guidance
Non-Regulated Green Infrastructure Project (public or private project) that is NOT subject to Provision C.3.i ⁶	Not applicable	Appendix C – General Guidelines for GI Projects
Non-Regulated Green Infrastructure Project (public or private project) that IS subject to Provision C.3.i	ACCWP C.3 Technical Guidance (Appendix L, Site Design Requirements for Small Projects)	
Regulated Project that is NOT a Hydromodification Management (HM) Project ⁷	Not applicable	ACCWP C.3 Technical Guidance (Section 5.1, Hydraulic Sizing Criteria)
Regulated Project that IS an HM Project	ACCWP C.3 Technical Guidance (Chapter 7, Hydromodification Management Measures)	

5.3 Standard Specifications and Typical Designs

Appendix C of this GI Plan includes typical design drawings and standard specifications for GI projects, which address various types of land-use, transportation, and site characteristics. GI projects may also utilize design guidance provided in Chapter 6 of the C.3 Technical Guidance Manual for other types of low impact development storm water treatment facilities, subject to City staff approval.

⁶ MRP Provision C.3.i applies to projects that create and/or replace at least 2,500 but less than 10,000 square feet of impervious surface; and Individual single family home projects that create and/or replace 2,500 square feet or more of impervious surface.

⁷ An HM Project is a Regulated Project that creates and/or replaces one acre or more of impervious surface, will increase impervious surface over pre-project conditions, and is located in a susceptible area, as shown on the ACCWP default susceptibility map.

6. Integration of GI Requirements in Other City Planning Documents

Provision C.3.j.i.(2)(h) of MRP 2.0 requires permittees to update planning documents that may affect the future alignment, configuration, or design of impervious surfaces within the Permittee's planning authority. City of Berkeley documents and programs that include GI elements are listed below.

- City of Berkeley General Plan
- Downtown Berkeley Design Guidelines
- Downtown Streets and Open Space Improvement Plan
- Downtown Area Plan
- Berkeley Strategic Transportation Plan (BeST Plan)
- Watershed Management Plan
- Hazard Mitigation Plan
- Adeline Corridor Specific Plan (in progress)
- Pedestrian Master Plan (update in progress)
- Southside Complete Streets (in progress)

Adeline Corridor Specific Plan

The Adeline Corridor Specific Plan (Adeline Plan) was developed between 2015 and 2019, coinciding with development of the GI Plan. The concurrent development of these two plans represented an opportunity to create an example showing how the GI Plan can be integrated with an area-specific plan. As shown in Figure 32, several sections of Right-of-Way and parcels within the Adeline Corridor Area rank highly as GI opportunity sites according to the Multi-Benefit Prioritization Tool. The Adeline Plan presents a conceptual redesign of portions of Adeline Street and Shattuck Avenue in South Berkeley. Green infrastructure opportunities identified in the Adeline Plan include the use of permeable pavement in the parking lanes, walkways, and medians, and potential bioretention features in the buffers strips, medians, and newly developed public open spaces. Along the Adeline Corridor, the underlying BART Tunnel may render some types of stormwater infiltration facilities unfeasible. However, flow-through planters completed above the Downtown Berkeley BART Station in 2018 (Figure 33) provide a great example of the types of GI facilities that could be installed above the BART Tunnel.

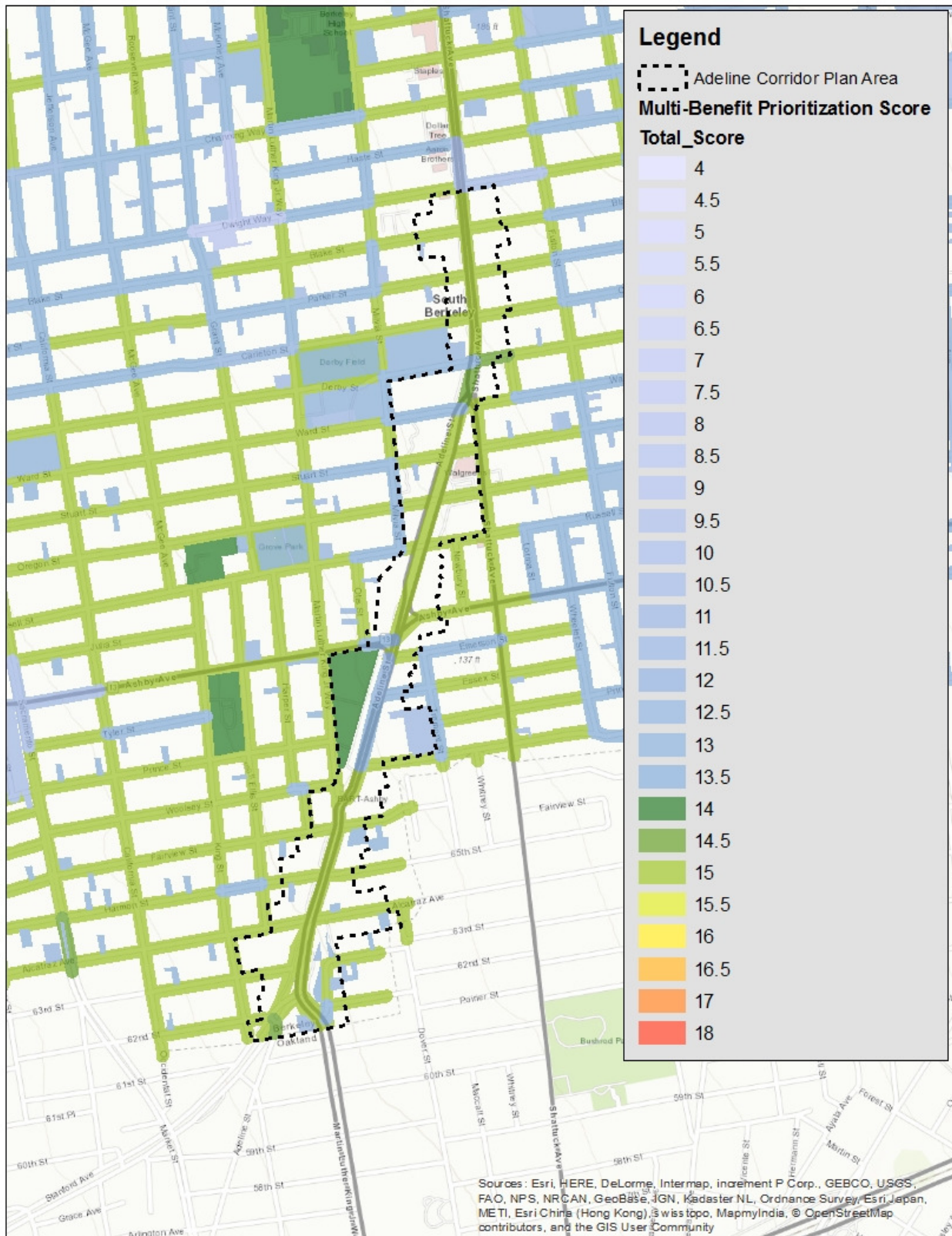


Figure 32 – Outline of the Adeline Corridor Specific Plan Area Overlain with Results from the Multi-Benefit Prioritization Tool



Figure 33 – Flow-through planters installed above the Downtown Berkeley BART Station treat runoff from Shattuck Avenue.

Watershed Management Plan

As discussed in previous sections, the City of Berkeley's 2011 Watershed Management Plan (WMP) includes many references to green infrastructure. As discussed in Section 3 of the GI Plan, potential green infrastructure projects identified in the WMP have been reevaluated using the tools of the GI Mechanism. Hydraulic models of the Potter and Codornices Watersheds were developed for the WMP. The City hopes to develop models for additional watersheds as recommended in the WMP. If potential green infrastructure sites are identified through future modelling efforts, those locations will also be evaluated using the tools of the GI Mechanism to inform prioritization.

Green Infrastructure Plan Adaptability

The Green Infrastructure Plan is intended to be an adaptable, living document and the tools of the GI Mechanism are meant to be modular and compatible with other current and future City prioritization protocols. As future City plans are developed, the tools of the GI Mechanism should be utilized to help identify potential green infrastructure locations that are complementary to the scope of those plans. As the tools of the GI Mechanism are GIS-based, they can be overlain with

other current or future City GIS layers and GIS analytical tools may be used to run updated prioritization analyses.

7. Evaluation of Funding Options

As required by provision C.3.j.i.(2)(k) of the MRP, The City of Berkeley has evaluated funding options for implementation of green infrastructure projects. An evaluation of funding options for the City's Stormwater Program performed by MWH in 2015 is included as Appendix D. Additionally, Chapter 9 of the WMP (Appendix A) contains a discussion of funding options for the City's Stormwater Program. As recommended in the MWH evaluation, a Proposition 218-compliant process to increase of the City's Clean Stormwater Fee was undertaken in 2018. After a series of productive public meetings and input from the community, the citizens of Berkeley voted to pass the fee increase (Appendix E).

In 2019, the ACCWP completed the countywide Storm Water Resource Plan. Completion of this plan makes Berkeley and the other entities that contributed to the plan eligible for California Proposition 1 grants. It is envisioned that revenue from the City's Clean Stormwater Fee, potentially supplemented by grant monies will be the primary sources of funding for green infrastructure in Berkeley in the short term. There has been some interest in exploring the feasibility of an In-Lieu Fee program as a source of funding for green infrastructure in the future.

8. References

Alameda Countywide Clean Water Program. 2017. C3 Project Tracking and Load Reduction Accounting Tool Guidance Document.

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City of Dublin, California. 2018. Typical Green Infrastructure Designs and Standard Specifications.

City of Berkeley, Public Works Engineering. 2011. Watershed Management Plan, Version 1.0. October.

Geosyntec. 2017. Alameda Countywide Stormwater Resource Plan Screening and Prioritization using Multi-Benefit Metrics Technical Memorandum. December 13.

National Association of City Transportation Officials. 2017. Urban Street Stormwater Guide.

San Francisco Bay Regional Water Quality Control Board. 2015. Order No. R2-2015-0049, Municipal Regional Stormwater Permit (MRP). November 19.

San Mateo Countywide Water Pollution Prevention Program. 2009. San Mateo County Sustainable Green Streets and Parking Lots Design Guidebook.

Appendix A

City of Berkeley Watershed Management Plan

Appendix B

Early Implementation Projects Table

Appendix B
Early Implementation Projects
City of Berkeley
2019 Green Infrastructure Plan

Project Name and Location	Project Description	Planning or Implementation Status	Green Infrastructure Measures Included
Rose-Hopkins Bioswale: Intersection of Rose St, Hopkins St, and Curtis St., Berkeley, CA	Remove concrete traffic island and replace with a bioswale and make required drainage modifications.	Construction Complete	Bioswale, drainage improvements.
Bus Pad Renovation at NW Corner Shattuck Ave at University Ave, Berkeley, CA	Remove existing impermeable bus pad and replace with flow through concrete pavers.	Construction Complete	Permeable pavers with <5mm gap openings to capture trash and promote infiltration.
Hearst Ave. Complete Streets: Hearst Ave. between Shattuck Ave. and Gayley Rd, Berkeley, CA	A bioretention planter was installed at Hearst and Oxford along with bike lane and pedestrian crossing improvements.	Construction Complete	Bioretention planter.
BART Plaza Transit Area Improvement Project: Shattuck Avenue between Allston Way and Center St, Berkeley, CA	Reconstruct City-owned BART Plaza, replace existing bus shelters and BART station entry structures, new lighting, landscaping, etc. 4 bioretention planters installed on the Plaza along Shattuck collect and treat runoff from Shattuck.	Construction Complete	4 Bioretention planters.
Bioswale and underground flow detention facility at Woolsey St between Adeline St and Tremont St, Berkeley, CA	Install underground flow detention facility, bioswale to treat local runoff, and improve existing treewells to promote tree health.	Construction planned for 2019.	Bioswale, improve flow attenuation.
San Pablo Avenue Storm Water Spine: 1198 San Pablo Ave, Berkeley, CA.	S.F. Estuary Institute/Caltrans/Berkeley project to install bioswale in front of fast food restaurant.	Construction planned for 2019.	Bioswale.

Appendix C. General Guidelines for GI Projects

These General Guidelines have been developed to guide the City of Berkeley in designing a project that has a unified, complete design that implements the range of functions associated with GI projects, and in providing for appropriate coordination of projects and project elements. The guidelines apply to projects that incorporate GI into an existing roadway segment or a previously developed public parcel and are **not** Regulated Projects as defined in Provision C.3.b of the MRP. The guidelines are organized as follows.

Section C.1	Functions Associated with GI
Section C.2	Guidelines for GI Retrofits of Existing Streets
Section C.3	Guidelines for GI Retrofits of Public Parcels
Section C.4	Guidelines for Coordination of Projects
Attachment C-1	Hydraulic Sizing Criteria
Attachment C-2	Worksheet for Calculating the Combination Flow and Volume Method
Attachment C-3	Mean Annual Precipitation Map of Alameda County
Attachment C-4	Standard Specifications and Typical Designs
Attachment C-5	Capital Improvement Projects Sign-Off Form

C.1 Functions Associated with GI

The functions associated with GI retrofits of existing streets and GI retrofits of public parcels are identified below.

C.1.1 Functions Associated with GI Retrofits of Existing Streets

The following functions are associated with GI retrofits of existing streets:

- Street use for stormwater management, including treatment;
- Safe pedestrian travel;
- Consistency with and support of neighborhood functionality;
- Compatibility with underground infrastructure;
- Use as public space for bicycle, transit, and vehicle movement/parking; and
- Use as locations for urban forestry.

C.1.2 Functions Associated with GI Retrofits of Public Parcels

Existing facilities on public parcels may be retrofitted with GI. Although there are potentially a wide range of public uses that could occur on various parcels, key issues are associated with the outdoor use of public parcels for landscaping and parking. The following functions are associated with GI retrofits of public parcels:

- Site use for stormwater management and landscaping
- Circulation and parking within the site

C.2 Guidelines for GI Retrofits of Existing Streets

Streets must perform the range of functions described in Section C.1.1. The following are general guidelines for designing and constructing GI facilities within the right-of-way of existing streets, to address the full range of functions. Additional design guidance for GI facilities, which are also referred to as low impact development (LID) stormwater treatment facilities, is provided in Chapters 5 and 6 of the Alameda Countywide Clean Water Program's C.3 Technical Guidance, which may be downloaded at, www.cleanwaterprogram.org (click Businesses, then Development).

C.2.1 Guidelines Addressing Street Use for Stormwater Management

The GI guidelines to support street functionality for stormwater management are organized around the following objectives:

- Convey stormwater to GI facilities;
- Identify the appropriate GI typical designs for the project site;
- Apply appropriate hydraulic sizing criteria; and
- Convey stormwater away from transportation facilities.

Convey Stormwater to GI Facilities

GI retrofits of existing streets must be designed to convey stormwater runoff from the roadway surface to the proposed GI facilities. Key issues include working with the street profile, working with the existing drainage system, and considering conveyance facilities where needed.

Work with the Existing Street Profile

Modifying the profile of an existing street is costly. Therefore, the designs of GI street retrofits should generally maintain the existing street profile. The street profile affects how stormwater runoff flows off of a street, and is considered in the design of GI facilities. The most common street profile is crowned, although some streets may be reverse crowned, or may drain to one side, as illustrated in Figures C-1 through C-3. Occasionally, a street may have a flat profile, such as the example shown in Figure C-4, as could be used for a pervious pavement street. Unless pervious pavement is used for the full width of the street, GI facilities would be located downslope from the roadway surface. In a crowned street, this may allow for GI facilities on both sides of the street. In a reverse crowned street, GI facilities may be considered in the median; and in a side-sloping street, GI facilities would be located on the downslope side.

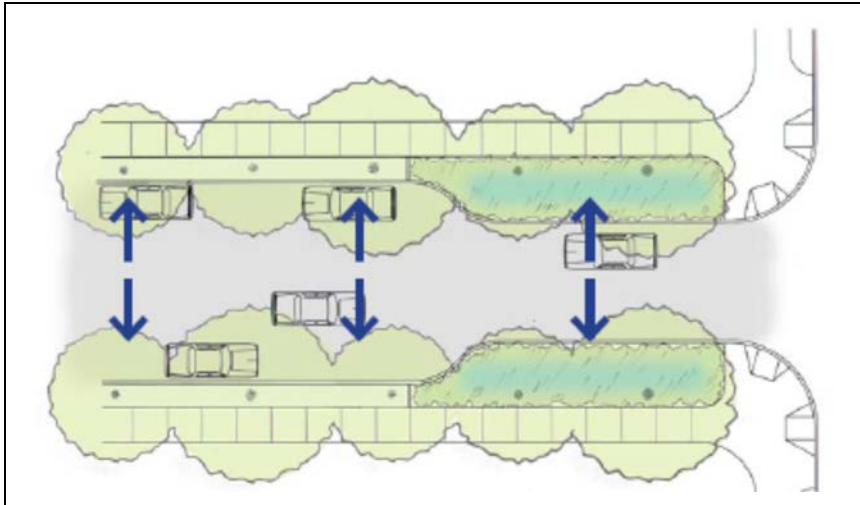


Figure C-1. Crowned Street Profile. A crowned street is designed so that the highest elevation is in the middle of the street, such that stormwater runoff drains to the sides of the street. GI facilities may be located on either side of the street.

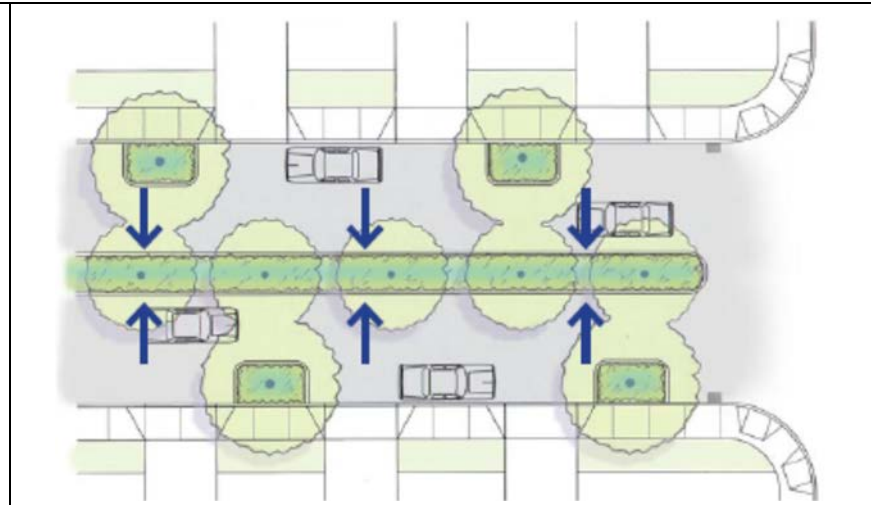


Figure C-2. Reverse Crowned Street Profile. A reversed crowned street is the opposite of a crowned street and directs runoff to the center line of the street. GI facilities may be considered in the median.

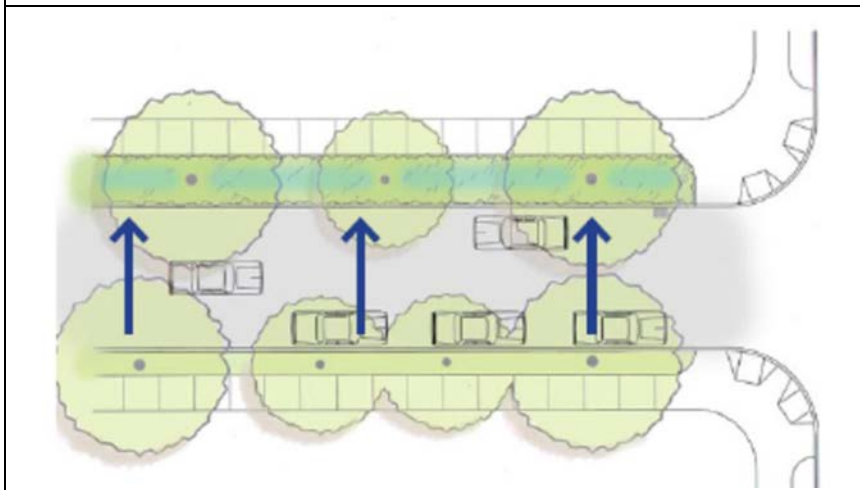


Figure C-3. Side Shed Street Profile. Side shed streets are designed to shed all water to one side of the street. GI facilities would be located on the downslope side.

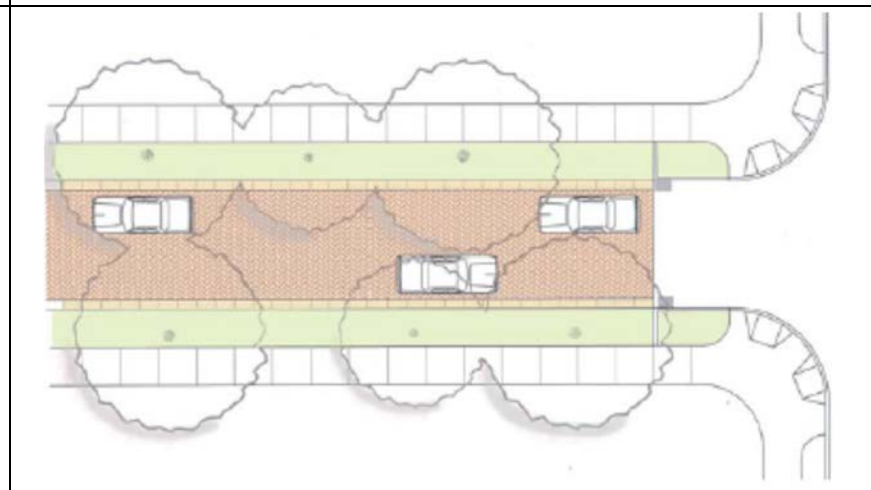


Figure C-4. Flat Street Profile. Flat streets are designed to drain through pervious paving. While these facilities do not have a marked slope, they may be graded slightly so that they drain to the sides or center of the street when there is too much water.

Source: San Mateo Countywide Water Pollution Prevention Program/Nevue Ngan

Work with the Existing Drainage Facilities

If an underdrain will be included in the GI facility design, a street retrofit site should have an existing storm drain line or creek, to which the underdrain may be connected. If there is no existing storm drain line, subject to municipal approval, in lieu of an underdrain, sites with poorly draining soils may potentially be designed with an oversized reservoir layer of rock below the GI facility. The rock layer would be sized to hold the amount of runoff identified in Section 6, Hydraulic Sizing Requirements. This approach was used in the City of Burlingame's Donnelly Street green street project (Figure C-5), because there was no available storm drain line.

Figure C-5. Donnelly Street Green Street Project. The Donnelly Street Green Street Project includes a rain garden, pictured at right, which captures runoff from the adjacent commercial buildings and parking lot. The rain garden was designed with no underdrain and an enlarged subsurface layer of rock, which serves as a reservoir and allows runoff to slowly infiltrate to the underlying soil. The system was designed for onsite management of flows that exceed the 30-year storm. An overflow to the curb is provided for a 50- to 100-year event scenario.

Source: City of Burlingame



Consider Conveyance Facilities

In some cases, a street retrofit project may be located near an appropriate site for a larger stormwater facility than can be accommodated in the typical street right-of-way. For example, a street retrofit project may be designed to convey stormwater runoff to a bioretention facility that will be constructed on an adjacent park or greenway. This approach is illustrated by the City of El Cerrito's Ohlone Greenway Natural Area and Rain Garden project's incorporation of a rain garden (Figure C-6) that captures and treats stormwater runoff from an adjacent segment of Fairmont Boulevard. Various methods may be considered for conveying runoff to nearby GI facilities, including trench drains (Figure C-7) and vegetated swales or vegetated channels (Figure C-8).

Figure C-6. Ohlone Greenway Natural Area and Rain Garden.

This rain garden captures and treats runoff from an adjacent segment of Fairmont Boulevard. In this instance, the rain garden location provided an opportunity to convey and treat stormwater outside the street right-of-way.

Source: PlaceWorks

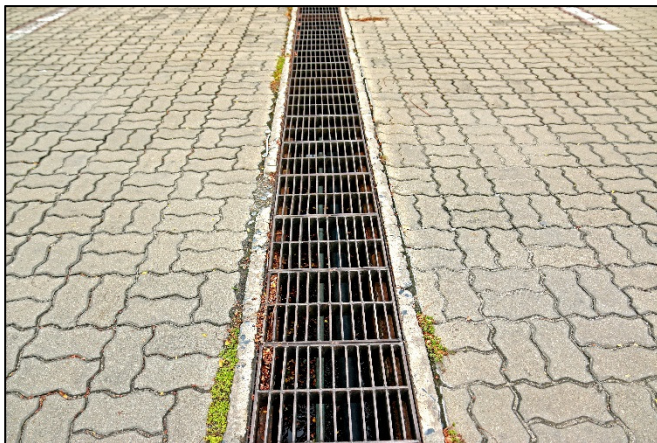


Figure C-7. Trench Drain. A trench drain can be used to convey runoff to GI facilities.



Figure C-8. Pervious Drainage Channel. Pervious, unlined drainage channels can be designed to convey runoff to GI facilities.

Identify the Appropriate Typical Design for Street Project Site

Refer to Attachment C-4 of this appendix to identify appropriate typical design drawings for the project. Typical designs have been developed for various conditions that may occur at a project site. GI projects may also utilize design guidance provided in Chapter 6 of the C.3 Technical Guidance manual for other types of low impact development storm water treatment facilities, subject to municipal staff approval.

Apply the Appropriate Hydraulic Sizing Criteria

Refer to Attachment C-1 for guidance on identifying and using the appropriate hydraulic sizing criteria for the proposed project.

Convey Stormwater away from Transportation Facilities

To manage the risk of flooding, adequate drainage facilities must be provided for all segments of roadway, in accordance with the City of Berkeley's storm drainage design standards, including design criteria, standards, policies, and procedures for storm drainage improvements. All storm drainage facilities must be designed in accordance with the applicable standards and accepted engineering principles, as directed by Public Works Department.

C.2.2 Guidelines Addressing Pedestrian Travel within Street Right of Way

To help reduce pollution from automobiles, the City of Berkeley has goals to improve and expand transportation choices, including the pedestrian mode of travel. As part of meeting these goals, the design of GI retrofits of existing streets should incorporate measures that seek to enhance the safety and attractiveness for pedestrians. The following measures may be considered:

- Incorporate into project intersections curb extensions, also referred to as bulbouts, which reduce the street width at intersections and shorten the length of street crossings for pedestrians, while also providing space for GI facilities (see Figure C-9).
- Provide attractive landscaping designs that enhance the sense of place for pedestrians and may potentially include amenities such as shade trees and seating areas.
- Locate the GI facility between the sidewalk and vehicle travel lanes, in order to enhance pedestrian safety by providing protected sidewalks.



Figure C-9. Curb Extension. In addition to reducing the street width and shortening the length of street crossings for pedestrians, curb extensions, or “bulbouts,” such as this example in Albany, also provide space for GI facilities.

Source: bluegreenbldg.com

C.2.3 Guidelines Addressing Street Use for Bicycle, Transit, and Vehicle Movement/Parking

Complete streets balance the needs of pedestrian, bicycle, automobile, and public transit modes of travel. To meet the goal of improving and expanding transportation choices, described in Section C.2.2, in addition to pedestrian transportation, GI retrofits of existing streets must also be designed to accommodate bicycles, motor vehicles, and, where appropriate, public transit. The design and construction of each GI project should incorporate appropriate measures to enhance transportation safety and help improve the attractiveness of alternative modes of travel. The following measures may be considered:

Bicycle-Friendly Measures

- Include bicycle lanes in GI retrofits of existing streets.
- Provide a protected bicycle lane by locating a GI facility or other landscaped area, or a lane of parking, between a bicycle lane and lanes of motor vehicle travel.
- Include bicycle racks in GI street retrofit projects.

Public Transit-Friendly Measures

- Enhance the comfort of public transit users by providing shelter, shade, and greenscape at bus stops and other public transit stops.
- Integrate GI into transit facilities, such as boarding bulbs and islands, or rooftops of transit shelters.
- Provide bicycle racks at public transit stops.

Motor Vehicle-Friendly Measures

- Implement GI with geometric changes that reduce vehicle speed and/or improve visibility. This may include "road diet" projects that reduce the number of lanes of travel, or traffic calming projects that incorporate areas of landscaping, such as traffic islands, as visual cues to help slow down traffic.
- Provide visual cues to help slow down traffic and alert drivers to the presence of GI facilities, to help prevent motor vehicles from driving into a stormwater facility. Visual cues may include curbs and landscaping that is readily visible to drivers.

C.2.4 Guidelines Addressing Urban Forestry in Public Right of Way

Increasing the planting of street trees in the City of Berkeley is anticipated to benefit local water quality, air quality, energy efficiency, and property values. GI projects should incorporate measures to preserve existing street trees and promote the planting of new street trees. The following measures should be incorporated, as appropriate:

- Prioritize the preservation of existing mature trees.
- Replace any mature trees that are removed by the project.
- Maximize the planting of new trees in accordance with City standards.
- The planting of trees within a GI facility should follow guidance, including the identification of appropriate species, provided in Appendix B of the ACCWP C.3 Technical Guidance, which may be downloaded at www.cleanwaterprogram.org (click Businesses, then Development).

C.3 Guidelines for GI Retrofits of Public Parcels

Public parcels must perform the range of functions described in Section C.1. The following guidelines provide general guidelines for GI retrofitting of public parcels, to address the full range of functions. Additional design guidance for GI facilities, which are also referred to as low impact development (LID) storm water treatment facilities, is provided in Chapters 5 and 6 of the ACCWP C.3 Technical Guidance, which may be downloaded at, www.cleanwaterprogram.org (click Businesses, then Development).

C.3.1 Guidelines to Address Parking Lot Use for Landscaping and Stormwater Management

Parking lots often contain excess parking spots and oversized parking spaces and drive aisles. GI retrofits of public parcels should consider options to reduce any unnecessary parking areas, in order to provide space for landscaping, stormwater management, and pedestrian walkways. The following measures may be considered:

Consider Specifying Pervious Paving Pervious paving may be used in parking lot designs. Where pervious paving is underlain with pervious soil or pervious storage material sufficient to hold the Municipal Stormwater Regional Permit Provision C.3.d volume of rainfall runoff, it is not considered impervious and can function as a self-treating area. Please see Section 6.6 of the C.3 Technical Guidance for further design guidance for pervious pavement installations.

Convey Stormwater to GI Facilities

GI retrofits of existing sites must be designed to convey stormwater runoff from impervious surfaces (roofs and/or parking lots) to the proposed GI facilities. Key issues include working with the existing drainage system, and considering conveyance facilities where needed.

Work with the Existing Drainage System

If an underdrain will be included in the GI facility design, the site should have access to an existing storm drain line, to which the underdrain may be connected. If there is no existing storm drain line, subject to municipal approval, in lieu of an underdrain, sites with poorly draining soils may potentially be designed with an oversized reservoir layer of rock below the GI facility. The rock layer would be sized to hold the amount of runoff identified in Section 6, Hydraulic Sizing Requirements. This approach was used in the City of Burlingame's Donnelly Street green street project (Figure C-5), because there was no available storm drain line.

Consider Conveyance Facilities

Various methods may be considered for conveying runoff from impervious surfaces to GI facilities, including trench drains (Figure C-7) and vegetated swales or vegetated channels (Figure C-8). In parking lots that include speed bumps, consider using speed bumps to help direct stormwater runoff to GI facilities.

Identify the Appropriate Typical Design for the Project Site

Refer to Attachment C-4, included in this appendix, to identify appropriate typical design drawings for the project. Typical designs have been developed for various conditions that may occur at a project site. GI projects may also utilize design guidance provided in Chapter 6 of the C.3 Technical Guidance manual for other types of low impact development storm water treatment facilities, subject to municipal staff approval.

Apply the Hydraulic Sizing Criteria Identified in Provisions C.3.c and C.3.d

Refer to Attachment C-1 for guidance on using the appropriate hydraulic sizing criteria in MRP Provisions C.3.c and C.3.d as applicable to design GI projects that are not regulated by Provision C.3.b ("non-Regulated Projects).

Prioritize Tree Preservation and Planting

In order to benefit local water quality, air quality, energy efficiency, and property values, GI projects on public parcels should incorporate measures to preserve existing street trees and promote the planting of new trees. The following measures should be incorporated, as appropriate:

- Prioritize the preservation of existing mature trees.
- Replace any mature trees that are removed by the project.
- Maximize the planting of new trees in accordance with City Standards.

- Incorporate trees in landscaped areas within parking lots – which serves to shade vehicles and paved surfaces, improve air and water quality, intercept stormwater in the tree canopy, and take up stormwater through the root system.
- The planting of trees within a GI facility should follow guidance, including the identification of appropriate species, provided in Appendix B of the ACCWP C.3 Technical Guidance, which may be downloaded at www.cleanwaterprogram.org (click Businesses, then Development).

C.3.2 Guidelines to Address Parking Lot Use for Vehicular Parking

GI retrofits of public parcels should provide for adequate motor vehicle and bicycle parking for the proposed public use. The following measures may be considered:

- Include bicycle parking facilities.
- Provide pedestrian walkways within parking lots, including bridged walkways across GI facilities.
- Provide safe pedestrian access to and directional signage for adjacent public transit stops.
- Consider other improvements to enhance existing pedestrian circulation and safety.
- Depending on the type of use, larger public parcel retrofits should consider providing bicycle storage, changing rooms, and preferred parking for carpooling

C.4 Guidelines for Coordination of Projects

Installing GI components at a project prior to the completion of that project, or the construction of an adjacent project, has the potential to degrade the functioning of the GI facility. Street improvement or other infrastructure projects, the development of public parcels, and other public and private projects should therefore include coordination of construction schedules to minimize impacts to GI.

The following measures shall be implemented in all GI projects to protect investments in GI:

1. GI facilities shall not be used as temporary sediment basins during construction.
2. Erosion control plans shall include protections for GI; erosion control plans are subject to applicable requirements.
3. Installed GI facilities shall be protected from construction runoff and kept offline until the contributing drainage area is stabilized.

Contractors are encouraged to construct GI facilities at the end of a project, to help protect the facilities from construction-related impacts.

Attachment C-1: Hydraulic Sizing Criteria

This provides guidance on the following topics:

- Hydraulic sizing criteria in MRP Provisions C.3.c and C.3.d as applicable to GI projects that are not regulated by Provision C.3.b (“non-Regulated Projects)
- Alternate sizing approach for constrained street projects

C1.1 Hydraulic Sizing Criteria in MRP Provisions C.3.c and C.3.d

Provision C.3.c requires the use of low impact development (LID) stormwater controls. To meet the MRP definition of LID, bioretention facilities must have a surface area no smaller than what is required to accommodate a 5 inches/hour stormwater runoff surface loading rate, and infiltrate runoff through biotreatment soil media at a minimum of 5 inches per hour.

Provision C.3.d of the MRP includes volume-based, flow-based, and the combination volume- and flow-based hydraulic sizing criteria. Bioretention areas may be sized using a simplified flow-based hydraulic sizing method, known as the “4 percent method,” in which the surface area of the bioretention area is 4 percent of the effective impervious surface area that is treated. However, by using a combination volume- and flow-based hydraulic sizing approach, it may be possible to provide a bioretention area that is less than 4 percent of the effective impervious surface area, which can help reduce costs. Step-by-step instructions for using the 4 percent method and the volume-based sizing criteria are provided in Section 5.1 of the C.3 Technical Guidance. Guidance for using the combination flow and volume criteria from Section 5.1 of the C.3 Technical Guidance document are copied below. The worksheet for using this method is provided in Attachment C-2.

The implementation of LID stormwater treatment facilities designed in accordance with Provisions C.3.c and C.3.d of the MRP will provide hydromodification management benefits by infiltrating and detaining stormwater runoff.

Step-by-Step Guidance for Combination Flow and Volume Method

To apply the combination flow and volume approach, use the following steps, which may be performed using the combination flow and volume sizing criteria Excel worksheet provided in Attachment C-2 of this appendix.

1. Mean Annual Precipitation

- Determine the mean annual precipitation (MAP) for the project site using the Mean Annual Precipitation Map of Alameda County (Attachment C-3). Use the Oakland Airport unit basin storage volume values from Table C1-1 (below) if the project location's mean annual precipitation is 16.4 inches or greater and the San Jose values if it is less than 16.4 inches.

- In order to account for the difference between MAP of the project site and the two rainfall locations shown, calculate the **MAP adjustment factor** by dividing the project MAP by the MAP for the applicable rain gauge, as shown below: MAP adjustment factor = (project location mean annual precipitation

$$\text{Map adjustment factor} = \frac{(\text{project location mean annual precipitation})}{(18.35 \text{ or } 14.4, \text{ as appropriate})}$$

2. Effective Impervious Area for the Drainage Management Area

- Based on the topography of the site and configuration of buildings, divide the site into drainage management areas (DMAs), each of which will drain to a treatment measure. Implement the steps below for each DMA with a volume-based treatment measure.
- Minimize the amount of landscaping or pervious pavement that will contribute runoff to the treatment measures. Refer to Sections 4.1 and 4.2 of the C.3 Stormwater Technical Guidance to design areas of landscaping or pervious pavement as “self-treating areas” or “self-retaining areas,” so that they do not contribute runoff to the LID treatment measure and may be excluded from the DMAs for the treatment measures.
- For each DMA in which the area that will contribute runoff to the treatment measure includes pervious surfaces (landscaping or properly designed pervious paving), multiply the area of pervious surface by a factor of 0.1.
- For applicable DMAs, add the product obtained in the previous step to the area of impervious surface, to obtain the “**effective impervious area.**” (For DMAs that are 100% impervious, use the entire DMA area.)

3. Unit Basin Storage Volume

- The effective impervious area of a DMA has a runoff coefficient of 1.0. Refer to Table C1-1 to obtain the **unit basin storage volume** that corresponds to your rain gauge area. For example, using the Oakland Airport gauge, the unit basin storage volume would be 0.67 inches. Adjust the unit basin storage volume for the site by multiplying the unit basin storage volume value by the MAP adjustment factor calculated in Step 1.
- Calculate the **required capture volume** by multiplying the effective impervious area of the DMA calculated in Step 2 by the adjusted unit basin storage volume. Due to the mixed units that result, such as acre-inches, it is recommended that the resulting volume be converted to cubic feet for use during design. For example, say you determined the adjusted unit basin storage volume to be 0.5 inches, and the effective impervious area draining to the bioretention facility is 7,000 square feet. Then the required capture volume would be:

$$\text{Required capture volume} = 0.5 \text{ inches} \times \left(\frac{1 \text{ foot}}{12 \text{ inches}} \right) \times 7,000 \text{ feet}^2 = 292 \text{ cubic feet}$$

Table C1-1. Unit Basin Storage Volume (Inches) for 80 Percent Capture with 48-Hour Drawdown Time		
		Unit Basin Storage Volume for Effective Impervious Area of Drainage Management Area
Location	Mean Annual Precipitation (inches)	Coefficient of 1.00
Oakland Airport	18.35	0.67
San Jose	14.4	0.56
Source: CASQA 2003, cited in Table 6-2 of the C.3 Technical Guidance.		

4. Depth of Infiltration Trench or Pervious Paving Base Layer

- Assume that the rain event that generates the required capture volume of runoff determined in Step 3 occurs at a constant rainfall intensity of 0.2 inches/hour from the start of the storm (i.e., assume a rectangular hydrograph). Calculate the **duration of the rain event** by dividing the unit basin storage volume by the intensity. In other words, determine the amount of time required for the unit basin storage volume to be achieved at a rate of 0.2 inches/hour. For example, if the unit basin storage volume is 0.5 inches, the rain event duration is $0.5 \text{ inches} \div 0.2 \text{ inches/hour} = 2.5 \text{ hours}$.

5. Preliminary Estimate of the Surface Area the Facility

- Make a **preliminary estimate of the surface area** of the bioretention facility by multiplying the DMA's impervious area (or effective impervious surface if applicable) by the 4 percent method sizing factor of 0.04. For example, a drainage area of 7,000 square feet of impervious surface $\times 0.04 = 280$ square feet of bioretention treatment area.
- Assume a bioretention area that is about 25% smaller than the bioretention area calculated with the 4 percent method. Using the example above, $280 - (0.25 \times 280) = 210$ square feet.
- Calculate the volume of runoff that filters through the biotreatment soil** at a rate of 5 inches per hour (the design surface loading rate for bioretention facilities), for the duration of the rain event calculated in Step 4. For example, for a bioretention treatment area of 210 square feet, with an infiltration rate of 5 inches per hour for a duration of 2.5 hours, the volume of treated runoff = $210 \text{ square feet} \times 5 \text{ inches/hour} \times (1 \text{ foot}/12 \text{ inches}) \times 2.5 \text{ hours} = 219 \text{ cubic feet}$. (Note: when calculating ponding depth, the mulch layer is not included in the calculation.)

6. Initial Adjustment of Depth of Surface Ponding Area

- Calculate the portion of the required capture volume **remaining after treatment is accomplished by filtering** through the treatment soil. The result is the amount that must be stored in the ponding area above the reduced bioretention area assumed in Step 6. For example, the amount remaining to be stored comparing Step 3 and Step 5 is $292 \text{ cubic feet} - 219 \text{ cubic feet} = 73 \text{ cubic feet}$. If this volume

is stored over a surface area of 210 square feet, the **average ponding depth** would be 73 cubic feet ÷ 210 square feet = 0.35 feet or 4.2 inches.

- Check to see if the **average ponding depth is between 6 and 12 inches**, which is the recommended allowance for ponding in a bioretention facility or flow-through planter.

7. Optimize the Size of the Treatment Measure

- If the ponding depth is greater than 12 inches, a larger surface area will be required. (In the above example, the optimal size of the bioretention area is 190 square feet with a ponding depth of 6 inches.) In order to build conservatism into this sizing method, the Countywide Program recommends that municipalities not approve the design of any bioretention areas or rain gardens that have a surface area that is less than 3 percent of the effective impervious area within the DMA.

Please note that Appendix C of the C.3 Stormwater Technical Guidance includes an example of sizing bioretention areas using the combination flow- and volume-based method.

C1.2 Alternate Sizing Approach for Constrained Street Projects

Provision C.3.j.i.(2)(g) of the MRP allows the jurisdictions subject to the MRP (MRP Permittees) to develop an alternate sizing approach for street projects that are not subject to Provision C.3.b.ii. (non-Regulated Projects) in which project constraints preclude fully meeting the C.3.d sizing requirements. This approach, developed by the Bay Area Stormwater Management Agencies Association, is described as follows.

Instructions for Section C1.2

Section C1.2 template text will be provided separately. This section of your Green Infrastructure Plan will present the alternate sizing approach that is currently being developed by BASMAA, which will apply to street projects that are not subject to Provision C.3.b.ii. (non-Regulated Projects) in which project constraints preclude fully meeting the C.3.d sizing requirements. When the BASMAA guidance is available, template text for Section C1.2 will be provided, and should be placed here.

[Copy the template text for Section C1.2 here.]

Attachment C-2: Worksheet for Calculating the Combination Flow and Volume Method

The worksheet for calculating the combination flow and volume method is provided on the following page. [When the GI Plan is converted to a PDF file, convert the Worksheet for Calculating the Combination Flow and Volume Method (which is available on the Clean Water Program's website as an Excel spreadsheet) to PDF and insert on the following page.]

Attachment C-3: Mean Annual Precipitation Map

The Mean Annual Precipitation Map for Alameda County is provided on the following page.

[When the GI Plan is converted to a PDF file, insert the Mean Annual Precipitation Map (which is available on the Clean Water Program's website as a PDF file) on the following page.]

Attachment C-4: Standard Specifications and Typical Designs

Standard specifications and typical design drawings for GI projects are provided on the following pages, as indicated in Table C4-1.

i Instructions for Table C4-1

Table C4-1 lists the City of Dublin's GI typical design drawings. If your agency will include all of these drawings, you may remove the yellow highlighting from the table and otherwise include the table as-is. You may also add additional rows to the table if you will include additional drawings/standard specifications.

Table C4-1: GI Typical Designs/Standard Specifications

Sheet No.	Title of Drawing/Standard Specifications	Site Characteristics		
		Land Use	Street Classification	Other
GI-2A	Bioretention area: Plan view with street parking	Commercial, industrial, or residential	Arterial, collector, or local streets	Parking lane
GI-2B	Bioretention area: Bulbout plan view	Commercial, industrial, or residential	Arterial, collector, or local streets	Intersection with sidewalks
GI-XX	Bioretention area with bike lane plan view	Commercial, industrial, or residential	Arterial, collector, or local streets	Bike lane
GI-3A	Bioretention Area: Sloped Sides Cross Section	Commercial, industrial, or residential	Arterial, collector, or local streets	Sidewalk
GI-3B	Bioretention Area: Vertical Side Wall Cross Section	Commercial, industrial, or residential	Arterial, collector, or local streets	Parking lane and sidewalk
GI-4	Bioretention Components: Outlet Detail	Commercial, industrial, or residential	Arterial, collector, or local streets	--
GI-5	Bioretention Components: Edge Treatment Detail	Commercial, industrial, or residential	Arterial, collector, or local streets	No parking
GI-6A	Bioretention Components: Gutter Curb Cut Inlet Detail	Commercial, industrial, or residential	Arterial, collector, or local streets	--

Sheet No.	Title of Drawing/Standard Specifications	Site Characteristics		
		Land Use	Street Classification	Other
GI-6B	Bioretention Components: Trench Drain Curb Cut Inlet Detail	Commercial, industrial, or residential	Arterial, collector, or local streets	Parking lane and sidewalk
GI-6C	Bioretention Components: Curb Cut At Bulbout Inlet Detail	Commercial, industrial, or residential	Arterial, collector, or local streets	Intersection with Sidewalks
GI-7	Bioretention Components: Check Dam Detail	Commercial, industrial, or residential	Arterial, collector, or local streets	Slope requiring check dams

Source: City of Dublin, 2018

Attachment C-5: Capital Improvement Projects Sign-off Form

The Clean Water Program's Capital Improvement Projects Sign-off Form is provided on the following page. This form is used by the agency to document whether a Regulated Project (as defined in Provision C.3.b) has complied with Provision C.3 requirements, and whether a non-Regulated Project has been evaluated for GI potential. [When the GI Plan is converted to a PDF file, insert the Capital Improvement Projects Sign-off Form (which is available on the Clean Water Program's website as a PDF file) on the following page.]

Appendix D

MWH Evaluation of Stormwater Program Funding Options

MEMORANDUM



To: Timothy Burroughs, Chief Resilience Officer, City of Berkeley

Date: February 10, 2016

From: Loren Labovitch, MWH Global

Coauthors Matthew Freiberg, Daniel Cheng, Mark Hildebrand

Subject: Berkeley Stormwater Financing Memo

1. Introduction

In 2015 MWH formed a platform partnership with the 100 Resilient Cities Initiative (100RC), sponsored by the Rockefeller Foundation. As part of this partnership, MWH and its management consulting subsidiary, Hawksley Consulting, is assisting the City of Berkeley (City) with developing resilience around its Stormwater Program. A portion of this work involves the identification of funding options for the City's Stormwater Program.

Problem Statement - Berkeley's Stormwater Program, like many such programs in California, has become increasingly expensive as NPDES permits require increasingly restrictive pollutant discharge limits. These new limits are requiring most stormwater utilities to invest in infrastructure and provide higher service levels. The City's ability to satisfy these new regulatory requirements is undermined by regular budgetary shortfalls in the City's Clean Stormwater Fund. The financial constraints have made meeting basic operation and maintenance (O&M) requirements and regulatory standards challenging, as well as impacting the City's ability to manage and address flooding, water pollution, road and trail washout, and other infrastructure upkeep.¹ Often funding only comes on the heels of an emergency or a mandate which forces a community to take action. In the City of Berkeley, the issue of managing a sustainable stormwater program is complicated by slowly growing revenues and increasing regulatory demands.

The current financial state of the City's Stormwater Program is placing Berkeley in a precarious position for meeting its regulatory requirements and achieving its overall resiliency goals. Deferred maintenance of stormwater infrastructure makes the city vulnerable to flooding and could lead to degradation of water quality.

As such, the City's Stormwater Program is faced with the challenge of either continuing to defer maintenance and risk noncompliance with new regulations, creating a new source of funding, or

¹ Personal communication with Timothy Burroughs, City of Berkeley Chief Resilience Officer on 9/30/15



“doing more with less”. This memorandum provides a financial snapshot of the City’s Stormwater Program and explores available options for securing additional funding in the future.

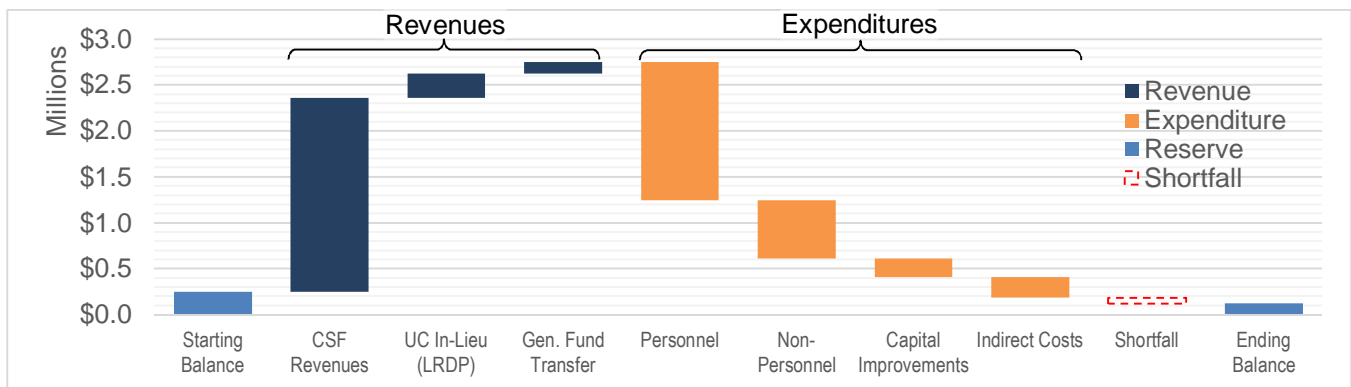
2. Current Stormwater Program Funding

The City’s storm drain system and watersheds are managed by the Department of Public Works. Maintenance of the 78 miles of Stormwater system infrastructure is managed by the Streets and Utilities Division. Any capital improvements are delivered by the Engineering Division’s Stormwater and Creeks/Watershed Management unit². The City’s Clean Stormwater Fund (CSF), which provides funding for the maintenance and improvement of the City’s storm water drainage system, is currently funded from three sources³:

1. **Clean Stormwater Fund Revenues** – Fees are assessed to property owners that contribute to stormwater runoff. The fee is currently set at a flat \$34 annual rate (collected annually on property tax bills), as adopted by voters in 1996 through a Proposition 218 (Prop. 218) process.
2. **UC Long Range Development Plan** – The University of California at Berkeley currently contributes approximately \$250,000 as part of its Long Range Development Plan (LRDP).
3. **General Fund Transfer** – In the past the City has provided a \$700,000 annual transfer from its General Fund to support the Stormwater Program. This practice ended in FY 2013, but the City has proposed plans to reinstate \$130,000 annually starting in FY 2016⁴.

Figure 1 shows the CSF cash flow in FY 2016. The Clean Stormwater Fund revenues are balanced through FY 2017 to support basic storm drain maintenance; however, multiple years of annual revenue shortfalls will result in a negative program balance in FY 2018⁴.

Figure 1: City of Berkeley Clean Stormwater Fund Balance (FY 2016)⁴



² Proposed Biennial Budget (FY 2016-2017), City of Berkeley

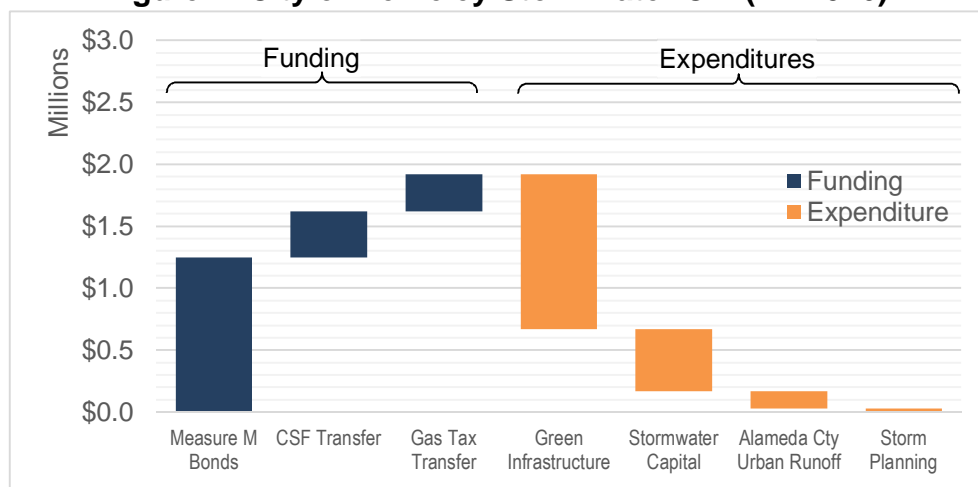
³ Proposed Capital Improvement Program (FY 2016-2017), City of Berkeley

⁴ Proposed Biennial Budget (FY 2016-2017), City of Berkeley



As shown in Figure 1, only a fraction of the CSF is used to fund the City’s Stormwater Capital Improvement Program (CIP)⁵. Currently the CIP is largely funded by proceeds from Measure M bonds, as well as a surplus gas tax transfer from the Streets Program. Figure 2 shows the FY 2016 sources of funding and spending for the Stormwater CIP. It should be noted that Measure M funding will be exhausted in 2019. Measure M, passed during the 2012 voting cycle is currently in effect, and includes funding for green infrastructure projects that provide stormwater management benefits. While the City has been able to implement some green infrastructure projects using Measure M funding, the majority of the funding has been utilized by the Streets Program to address much-needed pavement condition improvement needs.

Figure 2: City of Berkeley Stormwater CIP (FY 2016)⁶



The City’s current Watershed Management Plan⁷ (WMP) was adopted by City Council in 2012. The WMP establishes an integrated and sustainable strategy for managing urban water resources and addresses water quality, flooding, and the preservation of local creek habitat and the San Francisco Bay. The WMP also identifies capital improvement projects and projected revenue needs for all City watersheds, totaling ~\$37 million over the next 5 years to fully fund the envisioned plan (\$7.5 million in FY 2016 alone).

The WMP proposed a scaled approach to funding the City’s Stormwater Program. The size of programs and projects would be tailored to match four levels of available funding, with Level 4 corresponding to the largest available budget and most comprehensive scope of work. Between 2012 and 2015 funding for the Stormwater Program has stayed *near the most basic level*. Consequently, most of the maintenance for the existing stormwater infrastructure has been

⁵ Proposed Capital Improvement Program (FY 2016-2017), City of Berkeley

⁶ Proposed Capital Improvement Program (FY 2016-2017), City of Berkeley

⁷ 2012 Watershed Management Plan (City of Berkeley)

[https://www.cityofberkeley.info/uploadedFiles/Public_Works/Level_3 - Sewers - Storm/WatershedMgtPlan_2011October_Version1.0.pdf](https://www.cityofberkeley.info/uploadedFiles/Public_Works/Level_3_-_Sewers_-_Storm/WatershedMgtPlan_2011October_Version1.0.pdf)



deferred. Going forward, the availability of secured funding deteriorates as the Measure M Bond is set to expire in 2019.

3. Stormwater Funding Options

Funding stormwater programs is a challenge throughout the US, but in California the challenge is further complicated by Prop. 218, a constitutional amendment adopted in 1996 that has procedural and substantive requirements for property-related fees, such as stormwater management fees. The procedural element requires that new or increased property-related fees for services (other than water, sanitary sewer and trash services) be approved by a super majority of property owners (or 2/3 of registered participating voters). Prior to the election, a majority protest hearing, after 45 days' mailed notice to affected property owners, is also required.

Obtaining voter approval for fee increases poses a particular challenge to stormwater utilities because, unlike many other utility services, it cannot be metered and the service often goes unseen to the untrained eye. Since customers often do not understand the need for this service and may even view it as a “rain tax,” it is often a challenge to get voter support for new or increased stormwater fees.

There is no “silver bullet” to obtaining stormwater funding. However, the following sections provide a list of rate, grant, and debt financing mechanisms that if used alone or in combination may increase the funding of the CSF and Stormwater CIP.

3.1. Funding Sources

The following sections provide a list of funding mechanisms for the CSF. While not all of these options are necessarily recommended, they have been included to demonstrate the breadth of the options that were considered, as well as to give context to the final recommendation

We have assumed that, at a minimum, the City will retain the \$34 Clean Stormwater Fund Flat Fee that is currently assessed to property owners.

3.1.1. Increase Existing Clean Stormwater Fund Flat Fee

A new stormwater fee, adopted within the requirements of Prop. 218, could replace the existing Stormwater Charge. The new rate structure would be supported by an Engineers Report, which would demonstrate that the charge complies with Prop. 218 proportionality requirements, such as assigning the stormwater charges based on the impervious surface of each parcel.

There are multiple approaches to designing stormwater fees that are consistent with Prop. 218 requirements. One example is to allocate costs based on the type and concentration of pollutants that is typically found in the runoff from certain types of land use. This approach would require a complex cost-of service analysis that would consider the specific costs of the Stormwater Program's elements, including the costs associated with remediating each of the



NPDES' pollutants of concern. Less complex approaches could include allocating costs based on impervious surface, property size, or simply by parcel.

Pro & Cons – A new stormwater fee, vetted through the Prop. 218 process, would establish a charge that has a clear nexus with the cost of providing stormwater service to each respective property owner. If adopted, the new fee could include automatic annual rate adjustments based on cost indices for up to 5 years. The drawback to this option, and any option where a new fee is created, is the requirement for voter approval, the cost of designing the new rates, the cost carrying out the election process, and the risk of the expenses if voters do not approve the proposed rates.

Examples – Los Angeles County Flood Control District Clean Water, Clean Beaches Measure and Santa Monica Clean Beaches and Ocean Parcel Tax. In Southern California, many cities and counties are using the Prop. 218 process to generate new revenue to fund their Stormwater Programs. These two examples levied property related water quality fees to finance water quality improvement projects and programs. Their core messaging linked the Stormwater Program to the protection of their shoreline. The City of Berkeley could use a similar approach to promote the multiple benefits of their Stormwater Program⁸.

3.1.2. Transfers from the General Fund

The City has the option to increase its CSF funding with money from the City's General Fund. The General Fund's source of revenue includes property taxes, local income tax, general sales tax, franchise fees and other miscellaneous sources. The previous General Fund supplement for the CSF which ended in FY 2013 could be reinstated. This would be in addition to the City's plans to begin an annual transfer of \$130,000 in FY 2016 for emergency storm response⁹.

Pro & Cons – We assume that relying on additional General Fund monies is not feasible. The City's priorities may evolve over time, resulting in future transfers away from the Stormwater Program. In addition, General Fund allocations are often subject to an annual budgetary process, and are therefore not a secure source of revenue.

3.1.3. Transfers from Other City Utilities and Funds

Fund transfers from other utilities are lawful to the extent that it can be shown that the operations of a utility impose costs on, or receive benefits from, related Stormwater Program services. The transfers cannot exceed those designated costs/benefits. In theory, such utilities may include potable water, solid waste (trash), sewer, and others. For example, it could be argued that the solid waste utility bears responsibility, at least in part, for the litter that needs to

⁸ Stormwater Funding Options, Providing Sustainable Water Quality Funding in Los Angeles County. May 21, 2014. Ken Farfaring, City of Signal Hill and Richard Watson, Richard Watson & Associates, Inc.

⁹ Proposed Biennial Budget (FY 2016-2017), City of Berkeley



be cleared from storm drains. This can be justified because activities such as street sweeping provide a dual benefit for streets and storm drain maintenance. Similarly, the sewer system benefits from repairs to the storm drains since stormwater infiltration can increase the cost of operating and maintaining both the collection system and the sewer treatment plant.

Pro & Cons – While passing-through the cost of storm drain maintenance to the sewer utility may be feasible, transfers between programs inherently may limit the City’s ability to perform other essential functions.

Example – Currently, the City of Berkeley uses a gas tax to partially fund road improvements. A small percentage of this tax (approximately \$300,000 annually) is transferred to the Stormwater Program. To boost transfer funding, the City could leverage the annual surplus currently held by the Measure B Sales Tax Fund. Measure B was developed to fund capital projects for local streets and roads and is currently projecting an annual surplus of over \$300,000 a year between FY 2016 and 2018. Measure B funds could be transferred to the Stormwater Program to fund in street LID capital improvement projects, meeting the needs of both the Road and the Stormwater Programs.

3.1.4. Special Tax

The City could opt to create a special tax that would specifically be used to finance the Stormwater Management Program. Special taxes require a 2/3 majority approval by registered voters. Due to Proposition 13, special taxes cannot be imposed based on property value; in this case, it would be a "per parcel" tax, apportioned according to property square footage, estimated impervious surface, or as a flat charge.

Pro & Cons – While implementing a special tax to fund the CSF is viable, the conditions of approval are not as favorable as Prop. 218 requirements. While the voting dynamics in the City may be unique, it is likely that it would be easier to obtain a simple majority (i.e., 50%) approval from property-owners than 2/3 majority approval of all registered voters. In addition, the proceeds of a special tax count toward a local government’s Gann appropriations limit.

Examples – Commercial Trash Impact Fee– A 2011 analysis of street litter in 4 Bay Area Cities (Oakland, Richmond, San Jose, and South San Francisco) found that ~49% of street litter comes from fast food or convenience stores. Application of a trash impact fee would apply pressure to the source of the waste¹⁰. The fee can be used to help fund trash collection projects or City O&M activities aimed at tackling the trash TMDL. The Fee could be waived for companies that embrace waste reduction strategies that can be defined by the City.

In 2006, the City of Oakland assessed such a tax on businesses. An annual tax of \$230 to \$3,815 is collected annually from businesses using tiered rates that assess fees based on the

¹⁰ Clean Water Fund. December 2011. "Taking Out the Trash: Identifying Sources of Trash in the Bay Area."



annual gross receipts of the business. The fees are used to hire small crews to pick up litter in commercial areas and other trash hot spots in the city. The ordinance allows for reduction in fees for businesses that are already providing trash clean-up in their neighborhoods^{11,12}.

The City of Berkeley, following the successful ballot measure on sugar-sweetened beverage products, seems well-positioned to propose a similar General or Special Tax for take-out food, liquor stores, convenience markets, and gasoline station markets to defray the cost of litter and trash clean-ups resulting from their operations. This tax can be used to pay for the trash exclusion devices in storm drains, increased city staff to clean waste, or O&M activities to reduce trash from city streets.

3.1.5. General Tax with Special Advisory

The City could opt to seek approval for a general tax (requiring simple majority approval from registered voters) along with an “advisory measure” (a so called “Measure A-Measure B Strategy”). This involves accompanying the tax measure with an additional measure that provides guidance on how the public feels the funds should be spent. The advisory measure would be non-binding since a general tax, by definition, cannot be legally earmarked for a particular purpose. The idea is that adoption of the advisory measure would hopefully create sufficient political pressure to guarantee that the tax increase will always be used for stormwater management purposes despite being deposited into the general fund.

Pro & Cons – It is not clear whether the terms for voter approval of a general tax are more favorable than enacting a new stormwater fee (a Prop. 218 vote). Distinguishing between the two would require a clear understanding of the opinion of all registered voters versus the opinion of all property owners, which require a comprehensive survey. In the event that no such survey is conducted, enacting a new standalone Prop. 218 compliant user fee is preferable since the revenue would be guaranteed to benefit the Stormwater Program. Like the Special Tax above, the proceeds of a general tax would count toward the City’s Gann appropriations limit.

Example – Orange County, California has instituted a half-cent sales tax to fund the Orange County Transportation Authority’s transportation improvements funding measure. The funds from this sales tax are set aside to fund water quality and environmental clean-up projects with a transportation nexus. This funding allows for both capital and operations improvements.

Similarly, the City of Berkeley could expand on the gas tax to fund new projects designed to offset the contribution of roads and cars to runoff and pollution. If a gas tax is not politically feasible, a similar tax could be applied to other vehicular purchases such as oil changes, tire replacements, or other equipment or repair purchases.

¹¹ <http://www.oaklandnet.com/government/fwawebwebsite/revenue/pdf/WEBPAGEELF92206.pdf>

¹² “Oakland first city to tax fast-food trash.” USA today. February 8, 2006.

http://usatoday30.usatoday.com/news/nation/2006-02-08-fast-food-tax_x.htm



3.1.6. Benefit Assessment

A Benefit Assessment is a charge on properties that receive a “special benefit” from public programs. In other words, Benefit Assessments link the cost of public improvements to those properties which receive a specific benefit from those improvements¹³. Approval requires a simple majority of affected property owners *weighted by financial obligation*.

Benefit Assessments are popular for funding park maintenance efforts and flood programs, but they are less common in funding stormwater programs. A comprehensive engineer’s report is required as the legal basis for the assessment, which may require the creation of separate assessments charges by watershed, based on the relative cost of the Stormwater Program within each watershed. For example, if structural stormwater treatment technologies are required to remediate a particular pollutant of concern that exists in one watershed, but not another, the rules of special assessment may require that those costs should be borne by only those properties within that watershed since only they contribute to the problem.

Pro & Cons – The advantage of a Benefit Assessment is the fact that property owners would pay based on the benefit received. This, however, may not be significantly different from the rate structure of a property-related fee, which charges based on the cost of providing service. It is not clear which is more likely to obtain voter approval: a Benefit Assessment or a Prop. 218 vote. With a Benefit Assessment, the commercial, industrial and institutional (CII) customers would generally pay more and therefore receive a more heavily weighted vote. CII customers would represent a considerable hurdle if they decided to oppose the fee.

3.1.7. Stormwater Impact Fee

Stormwater Impact Fees are assessments on new development and redevelopment projects. They are one-time fees whereby developers “buy into” the existing stormwater infrastructure or pay for the costs of any new infrastructure that is required to accommodate the addition of the development project. California Government Code Sections 66000 through 66009 requires that impact fee revenue only fund capacity-related capital projects. As such, the revenue from the Stormwater Impact Fees could not be used to fund O&M or repair and rehabilitation (R&R) activities. In California, impact fees need to be related to the impact created by the development project, otherwise the fee may fall under a different category, such as a special tax (and thereby require a two-thirds majority voter approval).

¹³ Publicly owned parcels are not exempt from assessments unless the parcels receive no special benefit from the program, which is unlikely given the nature of the stormwater program. Also, because assessments are not defined as taxes, they are not subject to Proposition 13 limitations.



Cities and municipalities that assess stormwater impact fees may provide fee reductions or waivers for developers that incorporate stormwater capture and treatment systems onsite¹⁴.

Pros and Cons – Creating a Stormwater Impact Fee would provide some funding, albeit not reliable, for growth-related CIP projects and allow a larger portion of other stormwater revenue sources to be used for O&M and R&R of existing infrastructure. While impact fees are subject to the provisions and limitation of CA Government Code Sections 66000 et. seq., they are not taxes or special assessments and therefore do not require voter approval to be enacted¹⁵. That being said, the revenues from these fees are unpredictable since the rate of development depends on the economy or the availability of land for growth or redevelopment. Currently, there are 16 large development projects in Berkeley that are being built or are in the building application process¹⁶. At the current rate of development, an impact fee could make a material contribution to funding growth-related capital projects.

3.1.8. In-Lieu Fee

Currently, the City of Berkeley complies with the San Francisco Bay Municipal Regional Permit (MRP) Provision C.3¹⁷ requirements by requiring development and re-development projects to complete a stormwater checklist as one requirement for obtaining a zoning permit. Projects that do not meet C.3 requirements are denied either a building permit or a Certificate of Occupancy¹⁸.

In-Lieu Fees¹⁹ are an alternative compliance option¹⁹ for Provision C.3 stormwater capture/treatment requirements for regulated projects, whereby developers can opt out of installing the required on-site stormwater retention BMPs by paying an “in-lieu” fee that is used to construct an equivalent stormwater project offsite²⁰.

Pros and Cons – In-lieu fees present another opportunity to fund growth-related capital projects, thereby allowing a larger portion of other stormwater revenue to be used for expenses such as O&M and R&R. In-lieu fees are not classified as a tax or special assessment, and therefore do not require voter approval to be enacted. Additionally, in-lieu fees confer

¹⁴ Stormwater Funding Options, Providing Sustainable Water Quality Funding in Los Angeles County. May 21, 2014. Ken Farfing, City of Signal Hill and Richard Watson, Richard Watson & Associates, Inc.

¹⁵ San Francisco Estuary Partnership. August 2015. Green Infrastructure Funding Mechanisms.

¹⁶ Projects range in size between ~24,000 - >180,000 sq. ft. Personal Communication with Timothy Burroughs, City of Berkeley Chief Resilience Officer, October 2015.

¹⁷ Provision C.3 of the San Francisco Municipal Regional Permit provides requirements for onsite stormwater retention/detention for regulated new and redevelopment projects.

¹⁸ Personal Communication with Timothy Burroughs, City of Berkeley Chief Resilience Officer, October 2015.

¹⁹ In-Lieu Fees are described in the latest draft of the Municipal Regional Stormwater Permit under Provision C.3.e, Alternative or In-Lieu Compliance with Provision C.3.b.

²⁰ California Regional Water Quality Control Board, San Francisco Bay Region, Municipal Regional Stormwater NPDES Permit.

http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stormwater/Municipal/TO_Order_Only.pdf



developers with the flexibility to build on parcels that are not well suited for onsite stormwater treatment as required by C.3, thus creating more opportunities for redevelopment.

Creating an in-lieu fee system will require a study to determine the appropriate fee structure and mitigation criteria. There is also an on-going effort that will be needed to administer and oversee the program. Additionally, the MRP has included a 2019 deadline for establishing such Alternative Compliance systems²¹. As with impact fees, the revenues from in-lieu fees are highly dependent on the rate of development, which is a function of the economy and the availability of land for development.

3.1.9. Grants

There are some grants available to stormwater utilities, however the competition to receive those grants is intense. In addition, the application process can be lengthy and there is no guarantee that funding will be granted upon the submission of an application package. Grants that are currently available tend to favor large-scale, multi-benefit projects. The following provides a partial list of grants that may be of interest to Berkeley.

- **California Proposition 1** - In 2014 voters passed California Proposition 1²², enacting the Water Quality, Supply, and Infrastructure Improvement Act of 2014, authorizing over \$7 billion of grants, among which are \$1.495 billion for multi-benefit ecosystem and watershed protection and restoration projects and \$395 million for statewide flood management projects and activities.
- **Clean Water Act Section 319**²³ - The Clean Water Act has a section that provides funds to “designated state and tribal agencies” to implement their approved “nonpoint source management programs”. While the City is ineligible to apply directly for these funds. Increased coordination with the Bay Area Integrated Regional Water Management Plan (IRWMP) may yield opportunities to benefit from regional grant-funded projects.
- **Alameda County Clean Water Program**²⁴ - The program includes an annual Community Stewardship Grant Program that funds community-based projects that “enhance and protect the health of local waterways”. Approximately \$25 thousand is available each year. The size of this grant is very small compared to the aggregate need for Stormwater funding. However, it can be a vehicle to engage community groups and create awareness of the need to properly manage the City’s watersheds.

Pros and Cons – Grants make sense as a piece of any city’s stormwater funding portfolio, but do not represent a sustainable source of funding for long term planning. Grants represent an excellent opportunity to advance the City’s Stormwater Program with a large infusion of funds for Capital Improvement projects. However, grants can often come with limitations for how

²¹ San Francisco Estuary Partnership. August 2015. Green Infrastructure Funding Mechanisms.

²² http://www.waterboards.ca.gov/water_issues/programs/grants_loans/swgp/prop1/

²³ <http://water.epa.gov/polwaste/nps/cwact.cfm#apply>

²⁴ <http://www.cleanwaterprogram.org/grants.html>



funds can be spent, involve a substantial amount of staff time to win, may involve more staff time for continual reporting to the funder, and due to the competitive nature of grant procurement, are not a reliable source of funding.

3.2. Debt

The following discusses debt as a mechanism to secure financing for large capital investments. While this strategy can be effective in avoiding the need for a one-time spike in revenue (by spreading those capital costs over a longer duration), it is important to point out that debt is a tool for managing money but not a *source* of money. The City will only be able to secure debt if a reliable (and adequate) source of long-term revenue is established.

3.2.1. General Obligation Debt Financing

With a current bond rating of Aa2, the proposed CIP says that the City is likely able to “generate new bond proceeds in the range of \$57-74 million” while keeping “the total tax rate near the current level over the next 30-years”. This suggests that the City has additional capacity to borrow money to finance capital improvements. New bonds however need to be approved by voters.

It is worth noting that any increase in annual revenues will result in the increased ability for the city to secure future debt financing.

3.2.2. Clean Water State Revolving Fund²⁵

A portion of the Clean Water State Revolving Fund (SRF) is allocated for financing stormwater projects. The 2015 rate from this program was approximately 3.07%. SRF funds are commonly used to finance large water and wastewater infrastructure projects, and can be pursued if a large stormwater project is identified. The application process is complicated and subject to various restrictions, so projects pursuing SRF funding should allocate additional time and up-front resources to secure the funding. The application process will require the applicant to demonstrate the ability to repay the loan, therefore it needs to be coupled with a rate financing mechanism to be successful.

4. Opportunity for Integrated Planning

Each of the funding strategies in Section 3 are accompanied by risks: increasing rates requires voter approval, grants lack dependability, and transfers between various City funds may only shift funding shortfalls to other City programs (Figure 3).

A promising alternative is to identify synergies between existing City programs. While most City services have separate funding and separate master plans, there are many cases where

²⁵ http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/



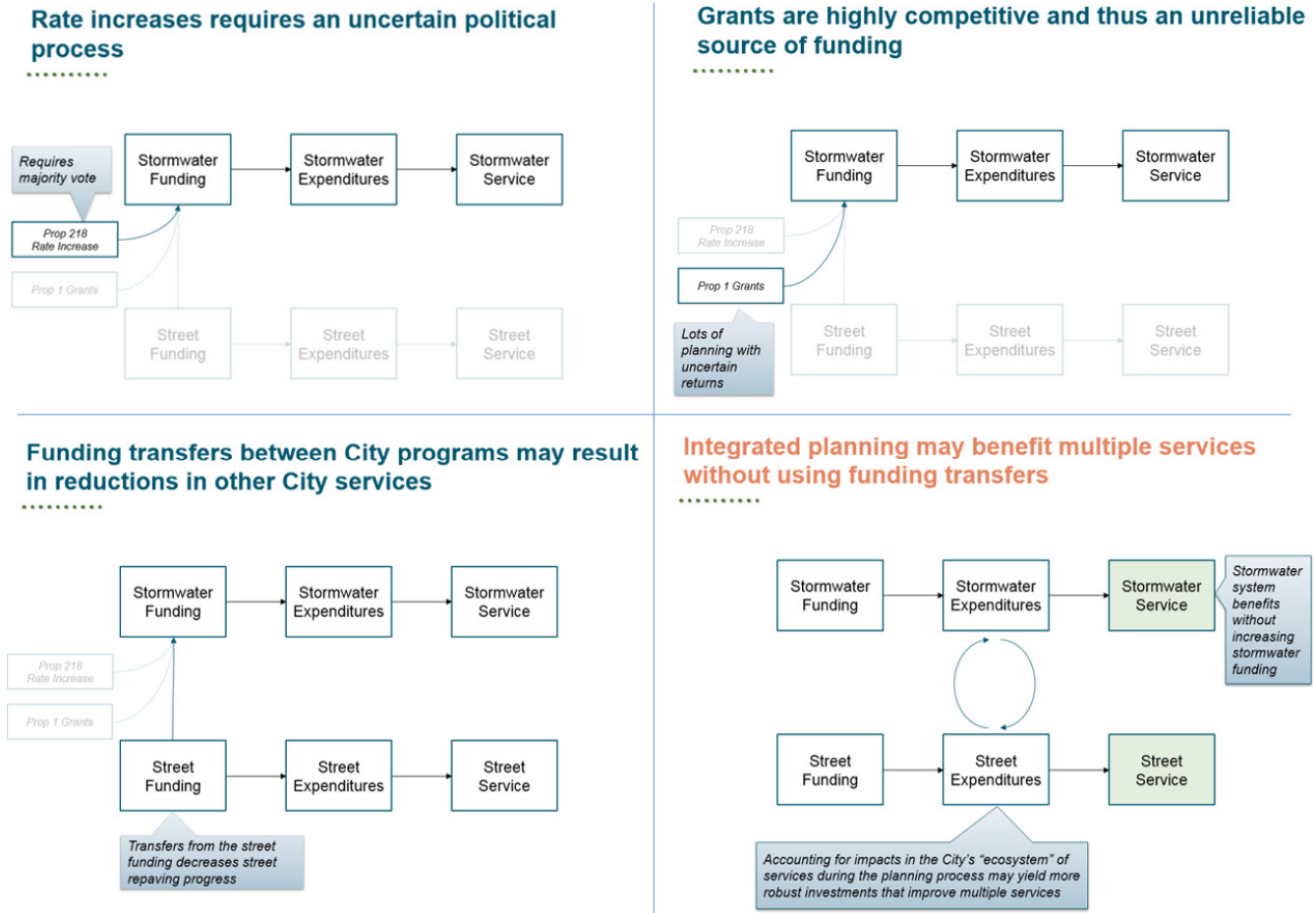
decisions made within one service are likely to affect the performance of another. Integrated planning approaches can be used to identify opportunities to implement projects and programs that serve the needs of multiple City programs. Successful implementation of integrated planning would allow for cost sharing among City programs to achieve equal or greater service at a lower marginal cost. This integrated approach requires a shift in viewing city services as a patchwork of different departments, to a coherent whole, where multiple services work together to produce a desirable environment.

Currently, a large portion of the City's capital expenditures are spent on rehabilitating its streets, which has corresponding (but unexplored) impacts on its stormwater system. Meanwhile the City's Stormwater Program lacks the funding to implement much needed capital improvement projects to manage the runoff from the City's impervious surfaces. An integrated planning approach could be used to identify opportunities for the Streets and Stormwater Program (and potentially other programs) to pool their resources to implement stormwater enhancement projects within the right-of-way (Figure 3). For example, some preliminary studies have shown that utilizing permeable pavers in roadways can reduce the quantity and improve the quality of stormwater runoff while also extending the life of the roadway when compared to traditional asphalt systems^{26, 27}. Projects like these can be implemented in strategic locations to achieve the needs of multiple programs while providing cost savings for each department.

²⁶ Wang, Ting, John T. Harvey, David Jones (2010) A Framework for Life-Cycle Cost Analyses and Environmental Life-Cycle Assessments for Fully Permeable Pavements. Institute of Transportation Studies, University of California, Davis, Research Report UCD-ITS-RR-10-48

²⁷ "Permeable Pavers Score a Triple Double in Bloomington's Cascades Park." Interlocking Concrete Paver Magazine. November 2005.

Figure 3: Integrated Planning May Create Benefits Across Multiple Services



5. Recommendation

The City’s Capital Improvement Program has identified \$37 million in unfunded liabilities over the next 5 years²⁸. Increased funding for the City’s Stormwater Program is needed to meet the City’s regulatory demands, as well as enhance the community’s general aesthetics, environmental protection, and resilience portfolio.

There is no silver bullet to stormwater financing, often stormwater programs remain overlooked and underfunded as communities struggle to allocate limited resources. As an “end game” strategy, we recommend that the City work towards increasing the level of funding from the Clean Stormwater Charge through the Prop. 218 voting process since this would clearly be the

²⁸ This includes \$5 million for unfunded maintenance needs and \$32 million for projected capital improvement projects. The total unfunded capital needs of the stormwater system are ~208 million total.



most reliable source of long-term funding. This process will require a rate study, a period of public outreach, and then the voting process, all of which will take time (1 – 2 years).

Obtaining Prop. 218 approval from voters will require a strong public outreach campaign as well as internal support from City Staff. We recommend building a foundation of public support by first establishing an integrated planning approach for other Public Works programs that allow the City to develop and demonstrate multi-benefit projects that efficiently meet city transportation, waste management, and stormwater demands while reducing flooding impacts, improving water quality, and local environmental health of streams and water ways.

This integrated planning mindset may be the best opportunity for the City to achieve long term fiscal sustainability and resiliency. Other stormwater programs across the US have found ways to “do more with less” by creating multi-benefit projects using green infrastructure to improve water quality and reduce the quantity of wet and dry weather runoff, preserve urban open space and reduce flooding risks by creating mixed use recreation and stormwater detention facilities, prepare for increased peak flow events, and enhance their resilience to water supply interruptions by enhancing groundwater infiltration^{29,30,31}.

By adopting (and demonstrating) an integrated planning process between the multiple Public Works programs (Stormwater, Streets, Trash, and Sewer) to achieve synergistic benefits, the City will be earning the confidence of decision-makers and voters, all of which will improve the chances of successful Prop. 218 campaign.

As a next step, we recommend the City develop an Integrated Stormwater Financing Plan that comprehensively evaluates the City’s revenue building and cost sharing options. Such a plan would evaluate the City’s operating and capital needs, assess current funding mechanisms, and identify the precise financial needs of the Stormwater Program. The final plan would provide a roadmap for increased revenues that will meet the programmatic demand and all regulatory requirements, as well as identify opportunities for multi-benefit projects that reduce the marginal costs of project implementation for the Stormwater Program and other Divisions of the Public Works Department. Implementation of this plan will result in greater financial stability for the Stormwater Program and put into motion a series of projects that will enhance the city’s resiliency portfolio.

²⁹ “Improving Community Resiliency with Green Infrastructure.” USEPA.

http://water.epa.gov/infrastructure/greeninfrastructure/upload/gi_resiliency.pdf

³⁰ “City of LA Releases Seismic Resilience Report and Plans.” <http://www.planningreport.com/2015/02/26/city-la-releases-seismic-resilience-report-and-plans>

³¹ “Managing Wet Weather with Green Infrastructure, Municipal Hand Book, Green Streets.” USEPA. December 2008

Appendix E

City of Berkeley 2018 Storm Drainage Fee Report and Resolution No. 68,483-N.S.



CITY OF BERKELEY

2018 STORM DRAINAGE FEE REPORT

JANUARY 2018

PURSUANT TO THE ARTICLES XIII C & D OF THE CALIFORNIA CONSTITUTION,
AND THE GOVERNMENT CODE SECTIONS 38900 – 38901 ET AL.

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INTRODUCTION AND EXECUTIVE SUMMARY

OVERVIEW

The City of Berkeley (“City”) has engaged SCI Consulting Group to study, make recommendations, and assist in the implementation of a funding approach for its municipal separate storm sewer system¹ (“MS4”) **including capital improvements, maintenance and operations, and compliance to all state and federal regulations associated with the National Pollutant Discharge Elimination System (“NPDES”).**

In 2012, Resolution 65,930 NS, the City adopted a Watershed Management Plan (“WMP”) that presented an integrated and sustainable strategy for managing urban water resources. It meant to guide further City efforts in promoting a healthier balance between the urban environment and the natural ecosystem. More specifically, it addressed water quality, flooding, and the preservation of creeks and habitats using multi-objective approaches where possible. The WMP concluded with a set of recommendations that included over \$207 **million in capital improvements spread across the City’s 10 watersheds.** The WMP also presented four funding scenarios ranging from existing revenue levels up to a \$30 million bond measure and/or a \$7.7 million fee program.

In 2017 the City engaged SCI Consulting Group to conduct a comprehensive storm drainage fee study that would **include recommendations to update the City’s storm** drainage fees and **the strategic plans to meet the City’s** storm drainage regulatory compliance requirements. This work was to be done in three phases: 1) Estimate preliminary user rates; 2) Conduct a public opinion survey of Berkeley property owners; and 3) Implement a funding mechanism. This Fee Report (“Report”) is the first task of Phase 3.

CITY’S FACILITIES

The City operates and maintains a storm drainage system, as it is empowered to do so per Government Code Sections 38900 and 38901. It is comprised of an integrated system of storm drain pipes, culverts and ditches. **Local creeks are not considered part of the City’s** storm drain system, although they receive most of the urban runoff and are impacted by how **the City’s storm drainage system functions.**

The Berkeley area began experiencing residential development over one hundred years ago. As the community grew, the storm drainage system was developed along with the neighborhoods and commercial areas while still maintaining many native creek segments. Although the City is highly urbanized, there are a large number of open creek segments that cross streets, private properties and roadways through numerous culvert sections.

¹ In this report, the terms “storm sewer”, “storm drainage”, and “stormwater” are used interchangeably, and are considered to be synonymous.

In the early 1990s, in response to the federal Clean Water Act amendment of 1987, municipalities were, for the first time, required to obtain an NPDES² permit from the California Regional Water Quality Control Board to address urban storm drainage runoff pollution. Under this permit, the City works to reduce stormwater pollution, protect and enhance its watersheds, preserve beneficial uses of local waterways, and implement State and federal water quality regulations within the limits of its jurisdiction. Over the years, the range of actions taken by the City has greatly increased in response to evolving regulatory requirements and community needs.

STORM DRAINAGE FUNDING

In response to the NPDES permit requirements, the City implemented a Clean Storm Water Fee in 1991 for all residences and businesses in the City. The City collects approximately \$2 million annually from this fee, which has not been increased since its 1991 inception. In **addition, the City receives an annual allocation from UC Berkeley's long range development plan ("LRDP") of approximately \$277,000. Initially these revenues were sufficient to fund** ongoing maintenance, operations and capital improvement projects. Today, those costs well exceed the available storm drainage funding.

Based on the current and projected revenue shortfalls for the City's storm drainage activities, SCI recommends that the City implement a property-related fee as the preferred mechanism³ to generate revenue for storm drainage services. This Report proposes a new fee structure, to be known as the 2018 Storm Drainage **Fee ("Storm Drainage Fee")**, that would be implemented without replacing or affecting the existing fee that has been in place for over 25 years.

IMPLEMENTATION PROCESS & LEGAL REQUIREMENTS OF STORM DRAINAGE FEE

Property-related fees are primarily defined by Articles XIII C and D of the State Constitution, which was approved by voters in 1996 through Proposition 218, as well as the Proposition 218 Omnibus Implementation Act (Government Code Sections 53750 – 53758). In particular, Article XIII D, Section 6 describes the procedures for a property-related fee. Once a proposed fee has been determined, there is a two-step process for approval:

- The City must mail a Notice of the proposed fee to all property owners subject to the fee at least 45 days before a public hearing on the matter. At that hearing, the City shall consider all protests against the fee. If written protests are presented by a majority of owners, the City shall not impose the fee. If a majority protest does not exist, the City may proceed to the next step.

² NPDES stands for the National Pollutant Discharge Elimination System as specified in the Federal Clean Water Act. The City is one of the co-permittees named on the Alameda County NPDES permit issued by the Regional Water Board. The most recent MRP was issued in November 2015, however, these permits typically are renewed every five years, with each new iteration containing additional requirements.

³ The only other practical option for funding storm drainage programs is a parcel tax, which requires a two-thirds majority as opposed to a 50% majority for a property-related fee.

- No property-related fee shall be imposed until it is submitted and approved by a majority vote of the property owners of the properties subject to the fee⁴. This election, or ballot proceeding, shall not be conducted less than 45 days after the public hearing.

The required public hearing is tentatively scheduled for April 3, 2018, which requires the Notices to be mailed before February 16, 2018. The tentative date for the election (or when mailed ballots are due) is May 29, 2018.

OTHER LEGAL REQUIREMENTS

Any property-related fee must also comply with other requirements of Article XIID, Section 6. These include the following:

6. These include the following:
 - Revenues derived from the fee shall not exceed the funds required to provide the property-related service.
 - Revenues derived from the fee shall not be used for any purpose other than that for which the fee was imposed.
 - The amount of a fee upon any parcel or person as an incident of property ownership shall not exceed the proportional cost of the service attributable to the parcel.
 - No fee may be imposed for a service unless that service is actually used by, or immediately available to, the owner of the property in question. Fees based on potential or future use of service are not permitted. Standby charges, whether characterized as charges or assessments, shall be classified as assessments and shall not be imposed without compliance with the assessment section of the code.
 - No fee may be imposed for general governmental services including, but not limited to, police, fire, ambulance or library services where the service is available to the public at large in substantially the same manner as it is to property owners.

HOWARD JARVIS TAXPAYERS ASSOCIATION V. CITY OF SALINAS (2002) 98 CAL. APP.4TH 1351
According to Article XIID, Section 6 property related fees for sewer, water and refuse collection services are exempt from the balloting requirement. In 1999, the City of Salinas adopted ordinances that implemented a property related fee to fund NPDES water quality services associated with storm drainage without a ballot proceeding, **by relying on “sewer” exemption from balloting.** They were legally challenged by the Howard Jarvis Taxpayers Association (the authors and proponents of Proposition 218) which argued that a balloting **was required because the services to be funded did not fall within the definition of “sewer”.** The Court of Appeal made two rulings pertinent to this Report: 1) Storm drainage services are property-related, and 2) Storm drainage does not qualify for the sewer exemption, and therefore must be balloted. However, in making these findings, the Salinas Court concluded **that the meaning of “sewer services” was ambiguous in the context of both Section 6c and in Proposition 218 as a whole. As such, the Court ruled in favor the voters’ intent to curb the**

⁴ Proposition 218 also allows approval by two-thirds of the electorate residing in the area. This is essentially the same requirement as a parcel tax, which was rejected by the City for lack of support.

rise in “excessive” taxes, assessments, and fees exacted by local governments with taxpayer consent.

COMPLIANCE WITH CURRENT LAW

This Fee Report is consistent with the *Salinas* decision and with the requirements of Article XIIC and D of the California Constitution because the Services to be funded are clearly defined and the City intends to follow both approval steps (including a ballot proceeding).

FACILITIES AND SERVICES

The City operates and maintains a “municipal separate storm sewer system” (“MS4”) within its boundaries. The MS4 is made of up man-made drainage systems including, but not limited to, curbs and gutters, ditches, culverts, pipelines, manholes, catch basins (inlets) and outfall structures.

There are about 93 miles of storm drain pipelines under the public right-of-way. There are approximately 8 miles of open creeks in the City, only 7% of which are on public lands. There are about 6.5 miles of creek culverts, with about 60% on public property. All the creeks and storm drains in Berkeley eventually drain to the San Francisco Bay. The rainfall varies generally with elevation. The Bay plain areas receive an average annual rainfall of approximately 18 inches per year, while the hills receive as much as 26 inches annually.

The open creeks and storm drain system serving the University of California at Berkeley (“UCB”) campus, located within the City, are owned and maintained by the University, but discharge downstream, primarily to Strawberry Creek. The Lawrence Berkeley National Laboratory, located on University property, also contributes storm drainage runoff to the City’s storm drainage system.

The primary storm drainage service provided by the City is the collection, conveyance, and overall management of the storm drainage runoff from improved parcels. By definition, all improved parcels that shed storm drainage into the City’s MS4, either directly or indirectly, utilize, or are served by, the City’s storm drainage system. The need and necessity of this service is derived from those property improvements, which historically have increased the amount of storm drainage runoff from the parcel by constructing impervious surfaces such as rooftops, concrete areas, and certain types of landscaping that restrict or retard the percolation of water into the soil beyond the conditions found in the natural, or unimproved, state. To the extent that a property is in a natural condition or includes features that hold any increased runoff, that property is exempted from any MS4 service. As such, open space land (in a natural condition), and agricultural lands that demonstrate storm drainage absorption equal to or greater than natural conditions, are typically exempt. The service area is concurrent with the City boundaries.

FINANCIAL NEEDS SUMMARY

SUMMARY OF STORM DRAINAGE SYSTEM NEEDS

As part of the 2018 Storm Drainage Fee implementation task, the SCI team conducted an **analysis of the City's storm drain system needs**. This analysis is contained in a technical memorandum from the firm of Larry Walker Associates, and is included in Appendix A of this Report. This analysis reviewed existing revenues and estimated the true costs of storm drainage to prevent local flooding and to remain in compliance with the current NPDES permit, commonly known as the **Municipal Regional Permit ("MRP") issued by the Water Board to all Phase 1 permittees in the San Francisco Bay area**. The first MRP was issued in 2009. The second MRP was issued in 2015, and is referred to as MRP 2.0.

STORM DRAINAGE PROGRAM REVENUES

The first step of the analysis was to review the revenues available to the City's storm drain system. Based on information provided by the City, the existing revenues are projected through Fiscal Year 2021-22 as shown in Table 1 below. The State Transportation Tax and a portion of the Measure M Bond funds were allocated to the Stormwater Capital Improvement Program ("CIP"). Other funds were dedicated to other operational activities.

TABLE 1 – SUMMARY OF STORM DRAINAGE PROGRAM REVENUE

Revenue Category	Shown in millions					
	Prior 2016-17	Current 2017-18	Future 2018-19	2019-20	2020-21	2021-22
Stormwater Fees	\$ 2.06	\$ 2.08	\$ 2.08	\$ 2.08	\$ 2.08	\$ 2.08
University in Lieu (LRDP)	0.27	0.28	0.29	0.29	0.30	0.31
General Fund Transfer In	0.13	-	-	-	-	-
Interest *	0.00	-	-	-	-	-
State Transportation Tax	-	0.30	0.30	0.30	0.30	0.30
Measure M Bonds	-	3.26	1.17	-	-	-
TOTAL Revenues	\$ 2.47	\$ 5.91	\$ 3.83	\$ 2.67	\$ 2.68	\$ 2.69

* Actual Interest revenue for FY 2016-17 was \$2,697

STORM DRAINAGE PROGRAM COSTS

The City's storm drainage program is influenced primarily by the requirements to prevent local flooding and to comply with the MRP 2.0. These estimates were based on budgetary and supplemental information provided by the City. In broadly assessing the City's storm drainage program's costs, three main categories were used: **Capital Costs ("CIP"); Operations and Maintenance ("O&M") Costs, and Water Quality (NPDES) Costs**. These categories reflect how the City generally allocates funds to implement its day-to-day storm drainage-related operations.

More detailed information can be found in Appendix A. The storm drainage program costs are summarized in Table 2 below. (Note: The CIP costs summarized in the table below reflect a relatively minor subset of overall storm drainage capital needs. The City will continue to pursue non-City funding sources to address large-scale CIP costs.)

TABLE 2 – SUMMARY OF STORM DRAINAGE PROGRAM COSTS

Category	<i>Shown in millions</i>						TOTAL
	Prior 16-17	Current 17-18	Future 18-19	19-20	20-21	21-22	
CIP	\$ 0.16	\$ 3.95	\$ 2.82	\$ 1.70	\$ 1.86	\$ 2.02	\$ 12.51
O & M	1.53	1.23	2.03	1.89	1.95	2.00	10.62
NPDES	0.93	1.05	1.27	1.32	1.37	1.42	7.36
TOTAL COSTS	\$ 2.61	\$ 6.23	\$ 6.12	\$ 4.91	\$ 5.18	\$ 5.44	\$ 30.49

ANNUAL REVENUE REQUIREMENT

The proposed fee is scheduled to begin in Fiscal Year 2018-19. Therefore, the data presented in Appendix A for prior years will not be considered. What remains for analysis is a four-year window in which existing revenue sources and projected costs are presented.

Over the four fiscal years, the projected costs exceed revenues by \$9.77 million. This is the amount that the proposed storm drainage fee would need to generate in order to bring the Stormwater Fund into balance. The resulting revenue requirement is therefore based on an annual revenue, estimated to be adjusted for inflation at 2.8%⁵ per year over the four-year period, that totals \$9.77 million over those four years. These projections are summarized in Table 3 below.

TABLE 3 – ESTIMATE OF ANNUAL REVENUE REQUIREMENT

Category	<i>Shown in millions</i>						TOTAL
	Prior 16-17	Current 17-18	Future 18-19	19-20	20-21	21-22	
Revenues	na	na	\$ 3.83	\$ 2.67	\$ 2.68	\$ 2.69	\$ 11.87
Expenditures	na	na	6.12	4.91	5.18	5.44	21.65
Shortfall	na	na	\$(2.29)	\$(2.24)	\$(2.49)	\$(2.75)	\$ (9.77)
Fee Revenues *			\$ 2.34	\$ 2.41	\$ 2.48	\$ 2.55	\$ 9.77

* Revenues are increased by 2.8% annually for inflation

⁵ This Fee Report includes an Annual Cost Indexing factor (see next section) that is equal to the Consumer Price Index ("CPI"), but is capped at 3% in any single year. Since the CPI may not reach 3% in any of the coming four years, a value of 2.8% is used in this analysis.

RATE STRUCTURE ANALYSIS

All properties which generate storm and urban runoff which flow into the City's MS4 are served by the system. The amount of use attributed to each parcel is proportional to the amount of storm and urban runoff flow contributed by the parcel, which is proportional to the amount of impervious surface area (e.g. building roofs, pavement, etc.) on a parcel.

In this Report, the median single-family residential parcel is used as the basic unit of measure, called the single-family equivalent, or "SFE." Accordingly, since the primary quantifiable attribute for this fee structure is impervious surface area, the amount of impervious surface area on the median SFR parcel serves as the basic unit of impervious area.

The basic unit of impervious area can be expressed by the following formula:

$$\begin{aligned} & \textit{Median SFR Parcel Area} \\ & \times \textit{Average SFR Impervious Percentage} \\ & = \textit{SFE Impervious Area} \end{aligned}$$

The median SFR parcel is 0.11 acres (4,792 square feet). Careful analysis⁶ revealed that the average **percentage of impervious area ("%IA") of the** medium class of SFR parcels is 44.82%. Therefore, the amount of impervious area for the SFE is 2,148 square feet. This becomes the basis for calculating the SFEs for all other types of land uses. In order to accomplish this, a representative sample of each land use category was studied through aerial photographs to measure the actual impervious area, which was, in turn, used to calculate the %IA for each land use category (see Appendix B).

SINGLE-FAMILY RESIDENTIAL PARCELS

Berkeley has a wide range of sizes of SFR parcels, which have varying levels of %IA. Generally, smaller parcels tend to have a higher proportion of impervious area than larger parcels, which tend to have a lower percentage of impervious area. (This can be best visualized by the fact that larger residential properties tend to have a larger proportion of pervious landscaping, and therefore *less impervious* area.) Therefore, the range of SFRs were broken into three size categories as shown in Table 4 below. Since the size of a parcel is considered in finite groups, the resultant SFEs were calculated on a per-parcel basis for each size category using the formula above.

It should be noted that the SFR category also includes multiplex parcels of two, three or four units, since their lot development characteristics do not vary significantly from the SFR parcels of similar size. In all, this includes the approximately 3,400 multiplex parcels in the

⁶ Appendix B includes a summary of results of parcels sampled in each category

City. Any residential structure with five or more units is categorized as multi-family residential (“MFR”), which is calculated separately. For parcels with multiple SFRs, analysis showed that those parcels contained 22% more impervious area than single-home SFRs within the same size category. Therefore, multiple-SFR parcels are computed separately.

SPECIAL NOTES ON CONDOMINIUMS

Condominium units are particularly difficult to categorize as they are often on very small individual parcels, yet share larger common areas that are made up of landscaped (pervious) areas; parking lots and shared roofs (impervious); and other recreational uses (either pervious or impervious). The data for these variables are not readily available, so it is assumed that overall their characteristics were most similar to the small lot make up. Overall, condominium units are smaller than the average SFR, and may include two or more stories of residences in some cases. When combined with the various common areas (which were exempted from the SFE process), the overall effect would be less runoff impact than the median size SFR. Thus, the Small SFR rate was used.

TABLE 4 – SUMMARY OF SINGLE-FAMILY RESIDENTIAL PARCELS

Lot Type	Parcel Size Range	Total Parcels	Total Acres	Median	% Imperv	Median	SFE per Parcel	
				Parcel Size	Area	Imperv Area	Single Home	Multiple Homes
				Square Footage		SF		
Small	under 3,200	2,358	142	2,614	65.73%	1,718	0.80	0.98
Medium	3,200 to 7,200	16,371	1,861	4,792	44.82%	2,148	1.00	1.22
Large	7,200 and over	2,677	680	8,712	29.81%	2,597	1.21	1.48
Condos	na	2,260	23	na	na	na	0.80	na
		23,666	2,706					

* Total Parcels and Acres do not factor into the basis of the SFE calculation; they are shown for informational purposes only.

NON-SINGLE-FAMILY RESIDENTIAL PARCELS

Unlike the SFR parcels, the non-SFR parcels can vary widely in size as well as characteristics. For this reason, the parcels have been grouped into land use categories according their %IA characteristics (as shown in Appendix B) so that SFE per acre can be computed for each category using the following formula:

$$\frac{(43,560 \text{ sf / acre}) \times \%IA}{2,148 \text{ sf / SFE}} = \text{SFE per Acre}$$

where 2,148 square feet is the amount of the impermeable area in one SFE.

Table 5 below shows a summary of the non-single-family parcel SFEs for each non-SFR land use category.

TABLE 5 – SUMMARY OF NON-SFR PARCELS

Land Use Category	Total Parcels	Total Acres	% Imperv Area	SFE per Acre
Multi-Family (Apartments)	1,417	291	86%	17.44
Commercial / Retail / Industrial	1,740	630	96%	19.47
Office	236	87	90%	18.25
Institutional / Church	274	94	82%	16.63
School / Hospital	34	432	75%	15.21
Recreational	22	53	58%	11.76
Park	73	91	6%	1.22
Vacant (developed)	620	114	5%	1.01
Open Space / Agricultural	na	na	Exempt	
TOTAL	4,416	1,792		

* Total Parcels and Acres do not factor into the basis of the SFE calculation; they are shown for informational purposes only.

Each individual parcel's SFE is then calculated by multiplying the parcel size (in acres) times the SFE per acre for that land use category, as shown in the following formula:

$$\text{Parcel Size (acres)} \times \text{SFE per Acre} = \text{SFE}$$

DEVELOPED VACANT PARCELS

Developed vacant parcels are distinguished from undeveloped vacant land by one of several characteristics. Typically, a developed vacant parcel has been graded to be ready for building construction (possibly as part of the original subdivision or adjacent street grading). In some cases, the parcel was previously improved, but the improvement has been removed. Although developed vacant parcels may have significant vegetative cover, the underlying soil conditions resulting from grading work can usually cause some rainfall to run off into the storm drainage system. The %IA for developed vacant parcels is conservatively assumed to be 5%.⁷ Vacant parcels that have significant impervious paving remaining from prior improvements may be classified as Commercial or some other classification best representing the %IA of the parcel.

OPEN SPACE AND AGRICULTURAL PARCELS ARE EXEMPT

The City's MS4 was developed in response to land development over the past several decades. Tracts of land that have not yet been developed, or have been used primarily for

⁷ For instance, the City of Sacramento in 2015 used a %IA of 20% for vacant parcels.

agricultural purposes, have not created an impact on the drainage system beyond the natural condition, and are therefore considered to receive no service from the MS4. In practical terms, these parcels generate no additional storm runoff beyond the natural condition. For these reasons, open space and agricultural parcels are exempt from the storm drainage fee.

Berkeley is a City with some open space land, which can be situated on portions of developed parcels. For parcels that have a significant portion that is considered open space (or agricultural), those portions have been taken into consideration in the calculations of the %IA and SFEs. For SFR parcels, these open space lands have been included in the sampled lots size when calculating the average %IA, which produced a lower %IA for the large parcel category, and, thus, a lower SFE and Fee to accommodate the open space areas. For non-SFR parcels the fees are calculated on individual acreage. However, the open space portion has been deducted from the acreage prior to all analyses including %IA as well as SFE and fee calculation.

EFFECTS OF LOW IMPACT DEVELOPMENT

The current NPDES Permit requires certain properties to construct storm drainage treatment **and attenuation facilities, also known as low impact development ("LID")**. These facilities often are designed to capture a portion of the storm flows, retain them, and enable them to infiltrate into the ground. While this is intended to help filter pollutants from the water, it also **can reduce the parcel's** storm drainage runoff quantity to some extent. However, LID is designed to capture, retain and treat frequent, but low intensity storms. Conversely, the MS4 is designed around the infrequent, high intensity storms, those storms which will typically overflow most LID facilities. For this reason, no discount in the storm drainage fees is made available for parcels with LID facilities.

STORM DRAINAGE FEE CALCULATION

The primary metric in this analysis is the SFE as illustrated above. To arrive at the fee amount for the various land use categories, the total SFEs must be divided into the total revenue requirement to arrive at the rate per SFE. That calculation is represented by the following formula:

$$\frac{\textit{Total Revenue Requirement}}{\textit{Total SFEs}} = \textit{SFE Rate}$$

Or, using numbers from the analysis, the SFE rate is:

$$\frac{\$2,343,041}{54,629.085 \textit{ SFEs}} = \$42.89 \textit{ per SFE}$$

This SFE rate amount is then multiplied by the SFE per parcel or SFE per acre for the various land use categories to arrive at the Storm Drainage Fee Rate Schedule shown in Table 6 below.

TABLE 6 – STORM DRAINAGE FEE SCHEDULE

Land Use Category	SFE Rate	Proposed Fee	Unit
Single-Family Residential *			
Small <i>Under 3,200 sf</i>	0.79992	\$ 34.31	parcel
Medium <i>3,200 to 7,200 sf</i>	1.00000	\$ 42.89	parcel
Large <i>over 7,200 sf</i>	1.20933	\$ 51.87	parcel
Condominium	0.79992	\$ 34.31	parcel
Multiple SFR on a single parcel pay 22% higher rate			
Non-Single-Family Residential			
Multi-Family Residential	17.44360	\$ 748.16	acre
Comm / Industrial / Parking	19.47193	\$ 835.15	acre
Office	18.25493	\$ 782.95	acre
Institutional / Church	16.63227	\$ 713.36	acre
School / Hospital	15.21244	\$ 652.46	acre
Recreational	11.76429	\$ 504.57	acre
Park	1.21700	\$ 52.20	acre
Vacant (developed)	1.01416	\$ 43.50	acre
Open Space / Agricultural	exempt		

* Single-Family Residential category also includes duplex, triplex and four-plex units

The proposed \$42.89 SFR rate is well within the range of storm drainage rates adopted by other municipalities. For a listing of rates adopted by other municipalities, see Appendix C.

ANNUAL COST INDEXING

The storm drainage fees are subject to an annual adjustment tied to the Consumer Price Index-U for the San Francisco Bay Area as of December of each succeeding year (the "CPI"), with a maximum annual adjustment not to exceed 3%. Any increase in the CPI in excess of 3% shall be cumulatively reserved as the "Unused CPI" and shall be used to increase the maximum authorized rate in years in which the CPI is less than 3%. The maximum authorized rate is equal to the maximum rate in the first fiscal year the Fee was approved adjusted annually by the lower of either 3% or the increase in the CPI plus any Unused CPI as described above. **Note: In order for the City's dedicated** storm drainage revenue sources to satisfy costs requirement into the future, the annual adjustment for each property may be calculated based upon the sum of the storm drainage fee and the existing Clean Storm Water Fee.

COLLECTION, MANAGEMENT AND USE OF STORM DRAINAGE FUNDS

The City shall collect the 2018 Storm Drainage Fees in the same manner as the annual property taxes on each parcel subject to the Fee. The City shall also deposit into a separate account(s) all 2018 Storm Drainage Fee revenues collected, and shall appropriate and

expend such funds only for the purposes authorized by this Report. The specific assumptions utilized in this Report, the specific CIP projects listed, and the division of revenues and expenses between the three primary categories (CIP, O&M and NPDES) are used as a reasonable model of future revenue needs, and not intended to be binding on future use of funds.

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APPENDICES

APPENDIX A – FINANCIAL PLANNING AND FUNDING OPTIONS REPORT

On the following pages is regulatory assessment and cost and revenue analyses, drawn from a technical memorandum prepared for this project by Larry Walker Associates. The information contained in this Appendix forms a partial basis for the fee calculations in the main body of this Fee Report, and is referenced as appropriate.

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APPENDIX B – RESULTS OF PERCENTAGE OF IMPERVIOUS AREA SAMPLING

For each land use category, a sample of parcels were analyzed using aerial photography and other data to determine the average percentage of impervious area (“%IA”). Table 7 below shows the results of that analysis.

TABLE 7 – RESULTS OF PERCENTAGE OF IMPERVIOUS AREA SAMPLING

Land Use Category	No. of Parcels	No. of Parcels Analyzed	Total Acres Sampled	Total Acres Impervious Area	Average % IA
Residential					
Small Under 3,200 sf	2,333	94	5.69	3.74	65.73%
Medium 3,200 to 7,200 sf	15,819	401	44.11	19.77	44.82%
Extra Large over 7,200 sf	2,590	100	23.28	6.94	29.81%
Multiple Home Lots	664	29	3.77	2.06	54.64%
Condominium	2,260		not sampled		
Non-Residential					
Apartments	1,417	50	8.30	7.16	86.27%
Comm / Industrial / Parking	1,740	79	20.74	19.85	95.71%
Office	236	23	8.69	7.56	89.87%
Institutional / Church	274	32	10.86	8.95	82.41%
School / Hospital	34	28	78.64	59.02	75.05%
Recreational	22	21	51.02	29.76	58.33%
Park	73	15	23.84	1.50	6.29%
Vacant (developed)	620		not sampled		
TOTAL	28,082	872	278.94	166.31	

APPENDIX C – STORM DRAINAGE RATES FROM OTHER MUNICIPALITIES

There have been relatively few voter-approved local revenue mechanisms in the past 15 years to support storm drainage programs in California. A summary of those efforts plus some others in process or being studied is shown in Table 8 below, in roughly chronological order. Amounts are annualized and are for single family residences or the equivalent.

TABLE 8 – RECENT STORM DRAIN MEASURES

Municipality	Status	Annual Rate	Year	Mechanism
San Clemente	Successful	\$ 60.15	2002	Balloted Property Related Fee
Carmel	Unsuccessful	\$ 38.00	2003	Balloted Property Related Fee
Palo Alto	Unsuccessful	\$ 57.00	2003	Balloted Property Related Fee
Los Angeles	Successful	\$ 28.00	2004	Special Tax - G. O. Bond
Palo Alto	Successful	\$ 120.00	2005	Balloted Property Related Fee
Rancho Palos Verde	Successful , then recalled and reduced	\$ 200.00	2005, 2007	Balloted Property Related Fee
Encinitas	Unsuccessful	\$ 60.00	2006	Non-Balloted Property Related Fee adopted in 2004, challenged, ballot and failed in 2006
Ross Valley	Successful, Overturned by Court of Appeals, Decertified by Supreme Court	\$ 125.00	2006	Balloted Property Related Fee
Santa Monica	Successful	\$ 87.00	2006	Special Tax
San Clemente	Successfully renewed	\$ 60.15	2007	Balloted Property Related Fee
Solana Beach	Non-Balloted, Threatened by lawsuit, Balloted, Successful	\$ 21.84	2007	Non-Balloted & Balloted Property Related Fee
Woodland	Unsuccessful	\$ 60.00	2007	Balloted Property Related Fee
Del Mar	Successful	\$ 163.38	2008	Balloted Property Related Fee
Hawthorne	Unsuccessful	\$ 30.00	2008	Balloted Property Related Fee
Santa Cruz	Successful	\$ 28.00	2008	Special Tax
Burlingame	Successful	\$ 150.00	2009	Balloted Property Related Fee
Santa Clarita	Successful	\$ 21.00	2009	Balloted Property Related Fee
Stockton	Unsuccessful	\$ 34.56	2009	Balloted Property Related Fee
County of Contra Costa	Unsuccessful	\$ 22.00	2012	Balloted Property Related Fee
Santa Clara Valley Water District	Successful	\$ 56.00	2012	Special Tax
City of Berkeley	Successful	varies	2012	Measure M - GO Bond
County of LA	Deferred	\$ 54.00	2012	NA
Vallejo San & Flood	Successful	\$ 23.00	2015	Balloted Property Related Fee
Culver City	Successful	\$ 99.00	2016	Special Tax
County of El Dorado	Studying	NA	NA	NA
County of Orange	Studying	NA	NA	NA
County of San Mateo	In Process	NA	NA	NA
City of Sacramento	In Process	NA	NA	Balloted Property Related Fee
Town of Moraga	In Process	NA	NA	Balloted Property Related Fee
City of Santa Clara	In Process	NA	NA	Balloted Property Related Fee
Town of Los Altos	In Process	NA	NA	Balloted Property Related Fee
County of San Joaquin	In Process	NA	NA	Balloted Property Related Fee
County of Ventura	Studying	NA	NA	Balloted Property Related Fee

In addition to the agencies listed above in Table 8 that have gone to the ballot for new or increased storm drainage fees, there are several other municipalities throughout the State that have existing storm drainage fees in place. Some of these rates are summarized in Table 9 below. Amounts are annualized and are for single family residences or the equivalent.

The City's proposed \$42.89 SFR rate is well within the range of storm drainage rates adopted by other municipalities. When coupled with the existing 2018 Storm Drainage Fee (with an average SFR rate of \$47.66), the rates are still within the reasonable range for municipal rates.

TABLE 9 – LOCAL STORM DRAINAGE FEES

Municipality	Annual Rate	Type of Fee
Bakersfield	\$ 200.04	Property Related Fee
Culver City	\$ 99.00	Special tax
Davis	\$ 84.94	Property Related Fee
Elk Grove	\$ 70.08	Property Related Fee
	\$ 190.20	Property Related Fee
Hayward	\$ 28.56	Property Related Fee
Los Angeles	\$ 27.00	Special tax
Palo Alto	\$ 136.80	Property Related Fee
Redding	\$ 15.84	Property Related Fee
Sacramento (City)	\$ 135.72	Property Related Fee
Sacramento (County)	\$ 70.08	Property Related Fee
San Bruno	\$ 46.16	Property Related Fee
San Clemente	\$ 60.24	Property Related Fee
San Jose	\$ 91.68	Property Related Fee
Santa Cruz	\$ 109.08	Special Tax
Stockton *	\$ 221.37	Property Related Fee
Vallejo Sanitation and Flood Control District	\$ 23.64	Property Related Fee
West Sacramento	\$ 144.11	Property Related Fee
Woodland	\$ 5.76	Property Related Fee

* This is the calculated average rate for the City of Stockton, which has 15 rate zones with rates ranging from \$3.54 to \$651.68 per year.

RESOLUTION NO. 68,483-N.S.

APPROVING THE FEE REPORT, ACCEPTING THE BALLOT TABULATION RESULTS, AND ORDERING THE LEVY OF THE CITY OF BERKELEY'S 2018 CLEAN STORMWATER FEE (CALIFORNIA CONSTITUTION, ARTICLE XIII D, § 6)

WHEREAS, the City Council ("Council") of the City of Berkeley ("City") has previously authorized the initiation of proceedings to conduct a ballot proceeding to obtain approval of a proposed property-related fee, called the "2018 Clean Stormwater Fee" consistent with the procedures established in Article XIII D of the California Constitution. If approved, the 2018 Clean Stormwater Fee would raise revenue to pay for services and improvements provided by the City that are necessary to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) stormwater permit issued to the City. NPDES stormwater permits require the public agency permittee to take certain prescribed measures to keep pollutants from entering storm drain systems and being discharged into other bodies of water, such as our local creeks and the San Francisco Bay; and

WHEREAS, the City is responsible for installing, operating, and maintaining its catch basins, pipes, and channels, including cleaning them of debris in order to prevent trash and pollutants from entering the creeks and Bay, as well as to prevent local flooding; and

WHEREAS, the City seeks to prevent the formation of sink holes caused, in part, by the failure of old pipes, and which are a hazard to drivers, bicycle riders and pedestrians; and

WHEREAS, on February 13, 2018, the Council adopted Resolution No. 68,334-N.S., to initiate the property related fee process and Resolution No. 68,335-N.S. on February 13, 2018, to establish the balloting procedures for the proposed 2018 Clean Stormwater Initiative consistent with California Constitution Article XIII-D; and

WHEREAS, on April 3, 2018, the Council conducted a public hearing at which a majority protest was not achieved, and subsequently adopted Resolution No. 68,381-N.S. directing the mailing of fee ballots to all property owners of properties within the City subject to the fee; and

WHEREAS, pursuant to the provisions of California Constitution Article XIII-D, the Council has provided a ballot to each record owner of parcels of real property located within the boundaries of the City subject to the fee, and the returned ballots have been received and tabulated.

NOW, THEREFORE BE IT RESOLVED, by the Council of the City of Berkeley, as follows:

SECTION 1. Tabulation of the Ballots. The canvass of the fee ballots submitted by property owners is complete and certified by the City Clerk, and the votes cast are as follows:

Total Number of Valid Ballots Processed:	9,378
Total Number of Votes of Valid Ballots Processed:	10,614
Total Number of "Yes" Ballots Processed:	5,933
Total Number of Votes of "Yes" Votes Processed:	6,448
Percentage of "Yes" Ballots:	63.27%
Total Percentage of "Yes" Votes:	<u>60.75%</u>
Total Number of "No" Votes Processed:	3,445
Total Number of Votes of "No" Votes Processed:	4,166
Percentage of "No" Votes, unweighted	36.73%
Total Percentage of "No" Votes:	39.25%
Total Number of "Invalid" Ballots Processed:	219
Total Number of Votes of "Invalid" Ballots Processed:	246

SECTION 2. Invalid Ballots. 9,597 fee ballots were returned and received prior to the close of the public input portion of the public hearing on May 29, 2018. This represents a 38.7% ballot return rate on the 24,800 ballots mailed. Of the fee ballots returned, 219 ballots were declared invalid, in that they were either not marked with a "Yes" or "No", were marked with both a "Yes" and a "No," were not signed, or the property ownership and barcode information was illegible.

SECTION 2. Ballots Results. As determined by ballots cast, 60.75% of the votes cast by property owners were in support of the measure. Since a majority protest, as defined by Article XIII D of the California Constitution, did not exist, this Council thereby acquired jurisdiction to order the levy of the 2018 Clean Stormwater Fee.

SECTION 3. Findings. The City Council finds that the 2018 Clean Stormwater Fee is being implemented in compliance with the requirements of Proposition 218, as codified in Article XIII D of the California Constitution. Based on the oral and documentary evidence, including the 2018 Storm Drainage Fee Report, received by the Council, the Council expressly finds and determines that it is in the best interest of the City and the public to order the fee to be levied.

SECTION 4. Ordering of the Levies. The Council hereby orders the fees for fiscal year 2018-19 shall be levied at the rates specified in the 2018 Storm Drainage Fee Report.

SECTION 5. CPI. The authorized maximum fee amount to be levied in future fiscal years shall be increased annually based on the San Francisco-Oakland-Hayward Consumer Price Index (CPI), not to exceed 3% per year. The maximum annual CPI adjustment for each property shall be calculated by adding the existing 1991 Clean Stormwater Fee amount to the new 2018 Clean Stormwater Fee amount, and multiplying the sum by the CPI or 3%, whichever is lower. The resulting maximum authorized adjustment will be applied only to the 2018 Clean Stormwater Fee. The fee amount charged in any year cannot exceed the cost to provide the stormwater services and improvements.

SECTION 6. Filing this Resolution. Shortly after the adoption of this Resolution, but in no event later than August 10 following such adoption, the City Clerk shall file a certified copy of this Resolution and a fee levy roll with the Auditor of Alameda County ("County Auditor"). Upon such filing, the County Auditor shall enter on the County assessment roll opposite each lot or parcel of land the amount of fee thereupon as shown in the levy roll. The fees shall be collected at the same time and in the same manner as County taxes are collected and all laws providing for the collection and enforcement of County taxes shall apply to the collection and enforcement of the fees. After collection by the County, the net amount of the fees, after deduction of any compensation due the County for collection, shall be paid to the City of Berkeley.

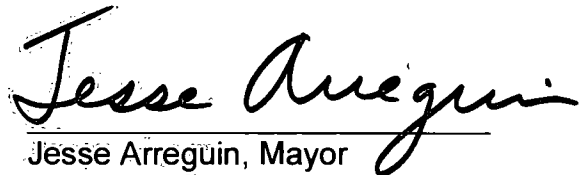
SECTION 7. Corrections. The 2018 Clean Stormwater Fee, as it applies to any parcel, may be corrected, cancelled or a refund granted as appropriate, by order of the City Council or its designee, by a determination from the City Council or its designee that the fee for that parcel should be revised to be consistent with the fee method established in the Fee Report. Any such corrections, cancellations or refunds shall be limited to the current fiscal year in which the correction, cancellation or refund was requested.

The foregoing Resolution was adopted by the Berkeley City Council on June 12, 2018 by the following vote:

Ayes: Davila, Droste, Hahn, Harrison, Maio and Arreguin.

Noes: None.

Absent: Bartlett, Wengraf and Worthington.


Jesse Arreguin, Mayor

Attest: 
Mark Numainville, City Clerk



Kate Harrison
Councilmember District 4

ACTION CALENDAR
June 18, 2019

To: Honorable Mayor and Members of the City Council
 From: Councilmembers Harrison, Davila, and Robinson
 Subject: Mandatory and Recommended Green Stormwater Infrastructure in New and Existing Redevelopments or Projects

RECOMMENDATION

Refer to the City Manager to develop an ordinance on green stormwater infrastructure according to recommendations from the Facilities, Infrastructure, Transportation, and Environmental Sustainability Committee.

POLICY COMMITTEE RECOMMENDATION

On May 2, 2019, the Facilities, Infrastructure, Transportation, Environment and Sustainability Committee adopted the following action: M/S/C (Harrison/Davila) to send the amended version of the Mayor's supplemental item to the Community Environmental Advisory Commission's report to the full Council with a Positive Recommendation. Vote: All Ayes.

BACKGROUND

Green Stormwater Infrastructure is a form of drainage control that uses permeable pavement, bioswales, green roofs, cisterns, and other rain catchment systems to filter and reuse rainwater. Berkeley has already implemented green stormwater infrastructure in strategic places around the City, including the permeable pavement on Allston Way and parts of Shattuck and bioswales across the City.

In September 2015 Mayor Arreguin wrote a referral to the Planning Commission and the Community Environmental Advisory Commission to develop an ordinance requiring large residential developments to incorporate green stormwater infrastructure into new projects. Following CEAC's referral response, Mayor Arreguin made some edits and referred the item to the Facilities and Infrastructure policy committee. After some deliberation and presentations from Planning staff on current and proposed green stormwater infrastructure projects in Berkeley, the committee made the following changes to the item as referred:

- Ask the City Manager to develop an ordinance mandating these regulations
- Remove the unit requirement for residential developments. Stormwater runoff is an environmental issue on large stretches of hardscape, and the number of units or height of the building do not have an effect.

- Develop infrastructure requirements while keeping in mind that State and Alameda County requirements are expected to expand very soon, and Berkeley ought to comply beyond the state and county requirements
- Allow developments to pay an in-lieu fee to fund green infrastructure elsewhere in the City if their project is between 5,000 and 10,000 square feet. Projects of 10,000 square feet or more produce enough hardscape to make green stormwater infrastructure needed onsite, but below 10,000 square feet there may be areas elsewhere in the City that are more strategic.

FINANCIAL IMPLICATIONS

Staff Time

ENVIRONMENTAL SUSTAINABILITY

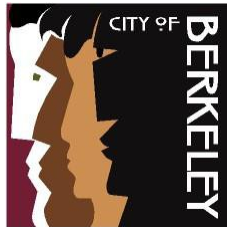
Green Stormwater Infrastructure is a necessity given California's historic drought and West Berkeley's flooding experiences during any sizeable storm. GSI helps in preserving the natural flow of storm runoff which is often obstructed in urban areas. GSI has the ability to retain water, prevent runoff which leads to flooding, and remove pollutants among other environmentally beneficial factors.

CONTACT PERSON

Kate Harrison, Councilmember, District 4 510-981-7140

Attachments:

1: Item Fa, December 11, 2018, with changes in Track Changes



Office of the Mayor

03a

SUPPLEMENTAL AGENDA MATERIAL for Supplemental Packet 2

Meeting Date: December 11, 2018

Item Number: Fa

Item Description: Referral Response: Mandatory and Recommended Green Stormwater Infrastructure in New and Existing Redevelopments or Projects

Submitted by: Mayor Jesse Arreguín

On September 15, 2015, the City Council referred Item 39 “Mandatory Green Stormwater Infrastructure in New Developments” to the City Manager, Planning Commission and Community Environmental Advisory Committee (see attachment). The proposal was modeled after ordinances adopted in San Francisco and Seattle requiring the instillation of stormwater infrastructure in larger projects.

The CEAC has brought its recommendations back to the City Council in response to this referral. Many of the recommendations proposed by CEAC are worth further study, however a key question is what projects should they apply to? My original referral only recommended that these requirements apply to projects of 100 units or more, or commercial developments that result in 5,000 square feet of new or replaced impervious surface.

I am proposing a modification to the CEAC recommendation as follows:

Refer to the City Manager ~~and Planning Commission~~ to develop measures an ordinance to incorporate Green Stormwater Infrastructure and water conservation features in new projects. The regulations should apply to large ~~residential developments of 50 units or more or commercial~~ developments that result in 5,000 square feet of new or replaced impervious surface. The City Manager and Planning Commission should consider the legislation adopted in San Francisco and Seattle and the following recommendations from the CEAC:

- Comply beyond the most recent State and Alameda County current requirements;

- Encourage the treating and detaining of runoff up to approximately the 85th percentile of water deposited in a 24-hour period;
- Establish site design measures that include minimizing impervious surfaces;
- Offer option(s) for property owners to fund in-lieu centralized off-site storm-water retention facilities that would hold an equivalent volume of runoff **if their property is between 5,000 and 10,000 square feet;**
- Require abatements for newly paved areas over a specific size;
- Make exceptions for properties that offer significantly below-market rent or sale prices;
- Incorporate these measures for private property with similar measures for Public Works [City projects], while coordinating with EBMUD, BUSD, UCB and LBNL.



Jesse Arreguín
City Councilmember, District 4

CONSENT CALENDAR
September 15, 2015

To: Honorable Mayor and Members of the City Council

From: Councilmember Jesse Arreguín

Subject: Mandatory Green Stormwater Infrastructure in New Developments

RECOMMENDATION

Refer to the City Manager and Planning and Community Environmental Advisory Commissions to develop an ordinance requiring large residential developments of 100 units or more or commercial developments that result in 5,000 square feet of new or replaced impervious surface, to incorporate Green Stormwater Infrastructure (GSI) and water conservation features into new projects.

BACKGROUND

Green Stormwater Infrastrucutre (GSI) is a form of drainage control that uses infiltration, evapotranspiration, or stormwater reuse. Examples of this include permeable pavement, bio swales, green roofs, rain gardens, cisterns and other rain catchment systems.

Cities such as San Francisco and Seattle (which like Berkeley, are bordered by a body of water) have regulations requiring the treatment of stormwater onsite. In April 2010, San Francisco passed an ordinance requiring developments that disturb 5,000 square feet of surface to include stormwater management controls (San Francisco Public Works Code, Article 4.2, Section 147-147.6). Seattle's Stormwater Code (Seattle Municipal Code Section 22.800-22.808) requires the implementation of GSI on developments that add or replace 2,000 square feet of impervious surfaces to the maximum extent possible with the purpose of infiltration, retention, and dispersal.

The City of Berkeley has already taken some steps to promote the use of Green Infrastructure as a way to mitigate negative impacts to our City's watersheds. On June 23, 2009, the City Council passed Resolution No. 64,507, which implemented Bay-Friendly Landscaping policies under the Alameda County Waste Management Authority. The City also complies with the Alameda County Clean Water Program, as passed in Resolution No. 66,004 on February 5, 2013, which aims at reducing pollutants from urban storm runoff. In addition, Measure M funds have supported a number of publicly-funded green infrastructure projects throughout the city. However in order to make a measurable difference to reduce storm water runoff and to conserve water, and to better implement the city's adopted Watershed Management Plan, private developments should install green infrastructure features at the time of construction.

Requiring GSI in developments will help the City better achieve these goals and help mitigate environmental impacts on our watersheds and Bay.

FINANCIAL IMPLICATIONS

Staff Time

ENVIRONMENTAL SUSTAINABILITY

Green Stormwater Infrastructure is a necessity given California's historic drought and West Berkeley's flooding experiences during any sizeable storm. GSI helps in preserving the natural flow of storm runoff which is often obstructed in urban areas. GSI has the ability to retain water, prevent runoff which leads to flooding, and remove pollutants among other environmentally beneficial factors.

CONTACT PERSON

Jesse Arreguin, Councilmember, District 4 510-981-7140

Attachments:

- 1: San Francisco Public Works Code, Article 4.2, Section 147-147.6
- 2: Seattle Municipal Code Section 22.800-22.808

FILE NO. 100102

ORDINANCE NO.

1 [Requiring the Development and Maintenance of Stormwater Management Controls]

2

3 **Ordinance amending the San Francisco Public Works Code by repealing Article 4.2,**
4 **sections 140 -149.4, and adding Article 4.2, sections 147 -147.6, requiring the**
5 **development and maintenance of stormwater management controls for specified**
6 **activities that disturb 5,000 square feet or more of the ground surface, and are subject**
7 **to building, planning and subdivision approvals.**

8

9 Note: Additions are single-underline italics Times New Roman;
10 deletions are ~~strik-Othnm.gh italics Times, Vew Roman~~.
11 Board amendment additions are double underlined.
12 Board amendment deletions are ~~strikethrough normal~~.

12 Be it ordained by the People of the City and County of San Francisco:

13 Section 1. Environmental Findings. The Planning Department has determined that the
14 actions contemplated in this Ordinance are in compliance with the California Environmental
15 Quality Act (California Public Resources Code sections 21000 et seq.). Said determination is
16 on file with the Clerk of the Board of Supervisors in File No. _____ 1_00_1_0_2 _____ and is
17 incorporated herein by reference.

18 Section 2. The San Francisco Public Works Code is hereby amended by repealing
19 Sections 140 - 149.4 of Article 4.2.

20 Section 3. The San Francisco Public Works Code is hereby amended by adding
21 Sections 147 -147.6, to Article 4.2, to readas follows:

22 Article 4.2. SEWER SYSTEM MANAGEMENT.

23 Section 147. Stormwater Management

24 (a) The intent of Sections 147 - 147.6 is to protect and enhance the water quality in the
25 City and County of San Francisco's sewer system, stormwater collection system and receiving

1' waters pursuant to, and consistent with Federal and State laws, lawful standards and orders
2' applicable to stormwater and urban runoff control, and the City's authority to manage and
31 operate its drainage systems.

4 (b) Urban runoff is a significant cause of pollution throughout California. Pollutants of
5 concern found in urban runoff include sediments, non-sediment solids, nutrients, pathogens,
6 oxygen-demanding substances, petroleum hydrocarbons, heavy metals, floatables, polycyclic
7 aromatic hydrocarbons (PAHs), trash, and pesticides and herbicides.

81 (c) During urban development, two important changes occur. First, where no urban
9 development has previously occurred, natural vegetated pervious ground cover is converted
10 to impervious surfaces such as paved highways, streets, rooftops, and parking lots. Natural
11 vegetated soil can both absorb rainwater and remove pollutants, providing a very effective
12 purification process. Because pavement and concrete can neither absorb water nor remove
13 pollutants, the natural purification characteristics of the land are lost. Second, urban
14 development creates new pollutant sources, including vehicle emissions, vehicle maintenance
15 wastes, pesticides, household hazardous wastes, pet wastes, trash, and other contaminants
16 that can be washed into the City's stormwater collection systems.

17 (d) A high percentage of impervious area correlates to a higher rate of stormwater
18 runoff, which generates greater pollutant loadings to the stormwater collection system,
19 resulting in turbid water, nutrient enrichment, bacterial contamination, toxic compounds,
20 temperature increases, and increases of trash or debris.

21 (e) When water quality impacts are considered during the planning stages of a project,
22 new development and redevelopment projects can more efficiently incorporate measures to
23 protect water quality.

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25

1 (f) Sections 147 - 147.6 protect the health, safety and general welfare of the City's
2 residents by:

3 (1) minimizing increases in pollution caused by stormwater runoff from development
4 that would otherwise degrade local water quality;

5 (3) controlling the discharge to the City's sewer and drainage systems from spills,
6 dumping or disposal of pollutants; and

7 (4) reducing stormwater run-off rates, volume, and nonpoint source pollution
8 whenever possible, through stormwater management controls, and ensuring that
9 these management controls are safe and properly maintained.

10 Section 147.1. Definitions.

11 In addition to the definitions provided in section 119 of Article 4.1 of this Code, the
12 following definitions shall apply:

13 (a) Best management practices or "BMPs." Structural devices, measures, or programs
14 used to reduce pollution in stormwater runoff. BMPs manage the quantity and improve the
15 quality of stormwater runoff in accordance with the Guidelines and applicable state and
16 federal regulatory requirements.

17 (b) Department. The San Francisco Public Utilities Commission. With regard to
18 stormwater management in areas of the City under the jurisdiction of the Port Commission,
19 "Department" means the San Francisco Port Commission until the Port Commission adopts
20 its own standards and procedures.

21 (c) Development Project. Any activity disturbing 5,000 square feet or more of the
22 ground surface, measured cumulatively from the effective date of this Article. Activities that
23 disturb the ground surface include, but are not limited to, the construction, modification,
24 conversion, or alteration of any building or structure and associated grading, filling,

1 excavation, change in the existing topography, and the addition or replacement of impervious
2 surface. All sidewalks, parking, driveways, and landscaped and irrigated areas constructed in
3 conjunction with the Development Project are included in the project area. Development
4 Projects do not include interior remodeling projects, maintenance activities such as top-layer
5 grinding, repaving, and re-roofing, or modifications, conversions or alterations of buildings or
6 structures that does not increase the ground surface footprint of the building or structure.

7 (d) Development runoff requirements. The performance standards set forth in the
8 Guidelines to address both the construction and post-construction phase impacts of new
9 Development Projects on stormwater quality.

10 (e) General Manager. The General Manager of the Public Utilities Commission of the
11 City, or a designated representative of the General Manager. With regard to stormwater
12 management in areas of the City under the jurisdiction of the Port Commission, the Executive
13 Director of the San Francisco Port Commission or a designated representative of the
14 Executive Director shall have the same authority under this Article as the General Manager
15 until the Port Commission adopts it own standards and procedures regarding stormwater
16 management in all areas under Port Commission jurisdiction.

17 (f) Guidelines. The Stormwater Design Guidelines adopted by the San Francisco Public
18 Utilities Commission or the San Francisco Port Commission. The Guidelines contain
19 requirements pertaining to the type, design, sizing, and maintenance of post-construction
20 stormwater BMPs.

21 (g) Low Impact Design (LID). A stormwater management approach that promotes the
22 use of ecological and landscape-based systems that mimic pre-development drainage
23 patterns and hydrologic processes by increasing retention, detention, infiltration, and
24 treatment of stormwater at its source.

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1 (h) Non-Stormwater Discharge. Any discharge to the City's Stormwater Collection
2 System that is not composed entirely of Stormwater.

3 (i) Pollutant. Any substance listed in sec. 119(aa) of Article 4.1 of the Public Works
4 Code or any substance described as a pollutant in the Guidelines.

5 U) Separate Stormwater/sewer System. Stormwater and sanitary sewage collection
6 facilities that convey, treat and discharge stormwater and sewage in separated catchbasins,
7 pipelines, treatment facilities, outfalls, and other facilities, and do not combine stormwater and
8 sewage in the same facilities.

9 (k) Stormwater. Water that originates from atmospheric moisture (rainfall or snowfall)
10 and that falls onto land, water or other surfaces.

11 (l) Stormwater Collection System. All City facilities operated by the San Francisco
12 Public Utilities Commission or the Port of San Francisco for collecting, transporting, treating
13 and disposing of stormwater. For purposes of this Article, the Stormwater Collection System
14 includes facilities owned and operated by public entities other than the City, where such
15 facilities direct stormwater into the Stormwater Collection System and are subject to the
16 jurisdiction of the San Francisco Public Utilities Commission or the Port of San Francisco as
17 defined by law, contract, or interjurisdictional agreement.

18 (m) Stormwater Control. A device designed to remove pollution in stormwater runoff
19 through detention, retention, filtration, direct plant uptake, or infiltration.

20 (n) Stormwater Control Plan. A plan that meets all applicable criteria, performance
21 standards and other requirements contained in this Article and the Guidelines.

22 Section 147.2. Stormwater Control Plan

23 (a) Development Projects. Every application for a Development Project, including, but
24 not limited to, a building or encroachment permit conditional use permit, variance, site permit,
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1 or design review, shall be accompanied by a Stormwater Control Plan that meets the
21 stormwater control criteria provided by the Guidelines. No City department shall approve or
3 issue a conditional use permit, variance, site permit, design review approval, building or
4 encroachment permit unless and until a Stormwater Control Plan developed in accordance
5 with this Article and the Guidelines has been approved by the General Manager. All projects
6 subject to the stormwater management requirements of Chapter 13C of the San Francisco
7 Building Code shall comply with the requirements of the Guidelines.

8 (b) Subdivision Approvals.

9 (1) Parcel Map or Tentative Subdivision Map Conditions. The Director of Public
10 Works shall not approve a tentative subdivision map or a parcel map for any property unless
11 a condition is imposed requiring compliance with all applicable Stormwater Control Plans to
12 serve the potential uses of the property covered by the parcel map or tentative subdivision
13 map, as may be further specified in the provisions of this Article or the Guidelines.

14 (2) Subdivision Regulations. The Director of Public Works shall adopt regulations
15 as necessary, consistent with and in furtherance of this Article, to ensure that all subdividers
16 of property subject to the provisions of this ordinance provide a Stormwater Control Plan in
17 compliance with this Article and the Guidelines.

18 (3) Final Maps. The Director of Public Works shall not endorse and file a final map
19 for property within the boundaries of the City and County of San Francisco without first
20 determining whether:

21 (A) The subdivider has complied with the conditions imposed on the tentative
22 subdivision map or parcel map, pursuant to this Article and the Guidelines; and

1 (B) For any such conditions not fully satisfied prior to the recordation of the final
2 map, the subdivider has signed a certificate of agreement and/or improvement agreement, to
3 ensure compliance with such conditions.

4 (4) This Subsection (b) shall not apply to tentative subdivision maps or parcel
5 maps submitted solely for the purposes of condominium conversion, as defined in San
6 Francisco Subdivision Code Section 1308(d).

7 Sec. 147.3. Limitations and Prohibited Discharges.

8 (a) The establishment, use, maintenance or continuation of any unauthorized drainage
9 connections to the Stormwater Collection System is prohibited.

10 (b) The discharge of Pollutants and Non-stormwater Discharges into the stormwater
11 collection facilities located in the Separate Stormwater/sewer System portions of the
12 Stormwater Collection System is prohibited, except as provided in this section.

13 (c) The following discharges are exempt from the prohibitions set forth subsection (b)
14 above if the Regional Water Quality Control Board approves the exempted category under
15 section C. 11. of the City's NPDES permit: uncontaminated pumped groundwater, foundation
16 drains, water from crawl space pumps, footing drains, air conditioning condensate, irrigation
17 water, landscape irrigation, lawn or garden watering, planned and unplanned discharges from
18 i potable water sources, water line and hydrant flushing, individual residential car washing,
19 i discharges or flows from emergency fire fighting activities, dechlorinated swimming pool
20 discharges.

21 Section 147.4. Compliance with Maintenance and Inspection Requirements.

22 (a) All Stormwater Controls shall be maintained according to the Guidelines and the
23 operation and maintenance plan included in the approved Stormwater Control Plan. The
24 person(s) or organization(s) responsible for maintenance shall be designated in the plan.

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1 Those persons responsible for maintenance shall inspect the Stormwater Controls at least
2 annually and shall maintain the Stormwater Controls as required by the Guidelines and
3 described in the Stormwater Control Plan.

4 (b) Operation and Maintenance Inspection and Certificates. Every person who owns,
5 leases or operates any Stormwater Control or Controls must provide annual self-certification
6 for inspection and maintenance, as set forth in the Guidelines.

7 (c) The General Manager may perform routine or scheduled inspections, as may be
8 deemed necessary in the General Manager's sole discretion to carry out the intent of this
9 Article and the Guidelines, including, but not limited to, random sampling or sampling in areas
10 with evidence of Stormwater contamination, evidence of the discharge of Non-stormwater to
11 the Stormwater Collection System, or similar activities.

12 (d) Authority to Sample and Establish Sampling Devices. The General Manager may
13 require any person discharging Stormwater to the Stormwater Collection System to provide
14 devices or locations necessary to conduct sampling or metering operations.

15 (e) Notification of Spills. All persons in charge of the Stormwater Controls shall
16 provide immediate notification to the General Manager of any suspected, confirmed or
17 unconfirmed release of pollutants creating a risk of non-stormwater discharge into the
18 Stormwater Collection System. Such persons shall take all necessary steps to ensure the
19 detection and containment and clean up of such release. This notification requirement is in
20 addition to and not in lieu of other required notifications.

21 (f) Requirement to Test or Monitor. The General Manager may require that any person
22 responsible for Stormwater Controls undertake such monitoring activities or analysis and
23 furnish such reports as the General Manager may specify.

24 Section 147.5 Enforcement and Cost Reimbursement.

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1 Any violation of this Article may be enforced by the General Manager pursuant to section 132
2 /of Article 4.1 of the Public Works Code. Persons violating any provision of this Article, the
3 | Guidelines, or department regulations may be subject to penalties and abatement in
4 accordance with the Guidelines and sections 133 and 134 of Article 4.1 of the Public Works
5 Code.

6 Section 147.6 Severability

7 If any section, subsection, subdivision, paragraph, sentence, clause, or phrase of this
8 Article, is for any reason held to be unconstitutional, invalid or ineffective by any court of
9 competent jurisdiction, such decision shall not affect the validity or effectiveness of the
10 | remaining portions of this Article. The Board of Supervisors declares that it would have
11 passed each section, subsection, subdivision, paragraph, sentence, clause, or phrase of this
12 Article irrespective of the fact that any one or more sections, subsections, subdivisions,
13 paragraphs, sentences, clauses, or phrases could be declared unconstitutional, invalid or
14 ineffective.

17 APPROVED AS TO FORM:
18 DENNIS A. HERRERA, City Attorney

19 By: 
20 JOHN RODDY
21 Deputy City Attorney

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City and County of San Francisco
Tails
Ordinance

City Hall
1 Dr. Carlton B. Goodlet Place
San Francisco, CA 94102-4689

File Number: 100102

Date Passed: April 13, 2010

Ordinance amending the San Francisco Public Works Code by repealing Article 4.2, Sections 140 - 149.4, and adding Article 4.2, Sections 147 -147.6, requiring the development and maintenance of stormwater management controls for specified activities that disturb 5,000 square feet or more of the ground surface, and are subject to building, planning and subdivision approvals.

April 06, 2010 Board of Supervisors - PASSED, ON FIRST READING

Ayes: 10 - Avalos, Campos, Chiu, Chu, Daly, Dufty, Elsbernd, Mar, Maxwell and Mirkarimi
Excused: 1 - Alioto-Pier


April 13, 2010 Board of Supervisors - FINALLY PASSED

Ayes: 11 - Alioto-Pier, Avalos, Campos, Chiu, Chu, Daly, Dufty, Elsbernd, Mar, Maxwell and Mirkarimi

File No. 100102

I hereby certify that the foregoing Ordinance was FINALLY PASSED on 4/13/2010 by the Board of Supervisors of the City and County of San Francisco.



Mayor Gavin Newsom

Angela Calvillo
Clerk of the Board

4/22/2010
Date approved

Subtitle VIII. - Stormwater Code^[17]

Footnotes:

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Cross reference— For provisions regarding emergency control of drainage problems, mud flows and earth slides, see Chapter 10.06 of this Code.

Chapter 22.800 - TITLE, PURPOSE, SCOPE AND AUTHORITY

Sections:

22.800.010 - Title

This subtitle, comprised of Chapters 22.800 through 22.808, shall be known as the "Stormwater Code" and may be cited as such.

(Ord. 123105, § 2, 2009.)

22.800.020 - Purpose

- A. The provisions of this subtitle shall be liberally construed to accomplish its remedial purposes, which are:
1. Protect, to the greatest extent practicable, life, property and the environment from loss, injury and damage by pollution, erosion, flooding, landslides, strong ground motion, soil liquefaction, accelerated soil creep, settlement and subsidence, and other potential hazards, whether from natural causes or from human activity;
 2. Protect the public interest in drainage and related functions of drainage basins, watercourses and shoreline areas;
 3. Protect receiving waters from pollution, mechanical damage, excessive flows and other conditions in their drainage basins which will increase the rate of downcutting, streambank erosion, and/or the degree of turbidity, siltation and other forms of pollution, or which will reduce their low flows or low levels to levels which degrade the environment, reduce recharging of groundwater, or endanger aquatic and benthic life within these receiving waters and receiving waters of the state;
 4. Meet the requirements of state and federal law and the City's municipal stormwater National Pollutant Discharge Elimination System ("NPDES") permit;
 5. To protect the functions and values of environmentally critical areas as required under the state's Growth Management Act and Shoreline Management Act;
 6. To protect the public drainage system from loss, injury and damage by pollution, erosion, flooding, landslides, strong ground motion, soil liquefaction, accelerated soil creep, settlement and subsidence, and other potential hazards, whether from natural causes or from human activity; and
 7. Fulfill the responsibilities of the City as trustee of the environment for future generations.
- B. It is expressly the purpose of this subtitle to provide for and promote the health, safety and welfare of the general public. This subtitle is not intended to create or otherwise establish or designate any particular class or group of persons who will or should be especially protected or benefited by its terms.
- C. It is expressly acknowledged that water quality degradation can result either directly from one discharge or through the collective impact of many small discharges. Therefore, the water quality protection measures in this subtitle are necessary to protect the health, safety and welfare of the residents of Seattle and the integrity of natural resources for the benefit of all and for the purposes of this subtitle. Such water quality protection measures are required under the federal Clean Water Act, 33 U.S.C. Section 1251, et seq., and in response to the obligations of the City's municipal

stormwater discharge permit, issued by the State of Washington under the federal National Pollutant Discharge Elimination System program.

(Ord. 123105, § 2, 2009.)

22.800.30 - Scope and Applicability

This subtitle applies to:

- A. All grading and drainage and erosion control, whether or not a permit is required;
- B. All land disturbing activities, whether or not a permit is required;
- C. All discharges directly or indirectly to a public drainage system;
- D. All discharges directly or indirectly into receiving waters within or contiguous to Seattle city limits;
- E. All new and existing land uses; and
- F. All real property.

(Ord. 123105, § 2, 2009.)

22.800.40 - Exemptions, Adjustments, and Exceptions

A. Exemptions.

- 1. The following land uses are exempt from the provisions of this subtitle:
 - a. Commercial agriculture, including only those activities conducted on lands defined in RCW 84.34.020(2), and production of crops or livestock for wholesale trade; and
 - b. Forest practices regulated under Title 222 Washington Administrative Code, except for Class IV general forest practices, as defined in WAC 222-16-050, that are conversions from timber land to other uses.
- 2. The following land disturbing activities are not required to comply with the specific minimum requirements listed below.
 - a. Maintenance, repair, or installation of underground or overhead utility facilities, such as, but not limited to, pipes, conduits and vaults, and that includes replacing the ground surface with in-kind material or materials with similar runoff characteristics are not required to comply with Section 22.805.080 (Minimum Requirements for Flow Control) or Section 22.805.090 (Minimum Requirements for Treatment), except as modified as follows:
 - 1) Installation of a new or replacement of an existing public drainage system, public combined sewer, or public sanitary sewer in the public right-of-way shall comply with Section 22.805.060 (Minimum requirements for Roadway Projects) when these activities are implemented as publicly bid capital improvement projects funded by Seattle Public Utilities; and
 - 2) Installation of underground or overhead utility facilities that are integral with and contiguous to a road-related project shall comply with Section 22.805.060 (Minimum requirements for Roadway Projects).
 - b. Road maintenance practices limited to the following activities are not required to comply with Section 22.805.060 (Minimum requirements for Roadway Projects), Section 22.805.080 (Minimum Requirements for Flow Control), or Section 22.805.090 (Minimum Requirements for Treatment):
 - 1) Pothole and square cut patching;
 - 2) Overlaying existing asphalt or concrete or brick pavement with asphalt or concrete without expanding the area of coverage;

- 3) Shoulder grading;
 - 4) Reshaping or regrading drainage ditches;
 - 5) Crack sealing; and
 - 6) Vegetation maintenance.
3. Sites that produce no runoff as determined by a licensed civil engineer using a continuous runoff model approved by the Director are not required to comply with Section 22.805.080 (Minimum Requirements for Flow Control).
 4. When a portion of the site being developed discharges only to the public combined sewer, that portion is not required to comply with the provision of subsection 22.805.020.K (Install Source Control BMPs) unless the Director determines that these activities pose a hazard to public health, safety or welfare; endanger any property; adversely affect the safety and operation of city right-of-way, utilities, or other property owned or maintained by the City; or adversely affect the functions and values of an environmentally critical area or buffer.
 5. Residential activities are not required to comply with the provision of subsection 22.805.020.K (Install Source Control BMPs) unless the Director determines that these activities pose a hazard to public health, safety or welfare; endanger any property; adversely affect the safety and operation of city right-of-way, utilities, or other property owned or maintained by the City; or adversely affect the functions and values of an environmentally critical area or buffer.
 6. With respect to all state highway right-of-way under WSDOT control within the jurisdiction of the City of Seattle, WSDOT shall use the current, approved Highway Runoff Manual (HRM) for its existing and new facilities and rights-of-way, as addressed in WAC 173-270-030(1) and (2). Exceptions to this exemption, where more stringent stormwater management requirements apply, are addressed in WAC 173-270-030(3)(b) and (c).
 - a. When a state highway is located in the jurisdiction of a local government that is required by Ecology to use more stringent standards to protect the quality of receiving waters, WSDOT shall comply with the same standards to promote uniform stormwater management.
 - b. WSDOT shall comply with standards identified in watershed action plans for WSDOT rights-of-way, as required by WAC 400-12-570.
 - c. Other instances where more stringent local stormwater standards apply are projects subject to tribal government standards or to the stormwater management-related permit conditions imposed under Chapter 25.09 to protect environmentally critical areas and their buffers (under the Growth Management Act), an NPDES permit, or shoreline master programs (under the Shoreline Management Act). In addition, WSDOT shall comply with local jurisdiction stormwater standards when WSDOT elects, and is granted permission, to discharge stormwater runoff into a municipality's stormwater system or combined sewer system.
- B. Adjustments.
1. The Director may approve a request for adjustments to the requirements of this subtitle when the Director finds that:
 - a. The adjustment provides substantially equivalent environmental protection; and
 - b. The objectives of safety, function, environmental protection, and facility maintenance are met, based on sound engineering practices.
 2. During construction, the Director may require, or the applicant may request, that the construction of drainage control facilities and associated project designs be adjusted if physical conditions are discovered on the site that are inconsistent with the assumptions upon which the approval was based, including but not limited to unexpected soil and/or water conditions, weather generated problems, or changes in the design of the improved areas.

3. A request by the applicant for adjustments shall be submitted to the Director for approval prior to implementation. The request shall be in writing and shall provide facts substantiating the requirements of subsection 22.805.080.B1, and if made during construction, the factors in subsection B2. Any such modifications made during the construction of drainage control facilities shall be recorded on the final approved drainage control plan, a revised copy of which shall be filed by the Director.

C. Exceptions.

1. The Director may approve a request for an exception to the requirements of this subtitle when the applicant demonstrates that the exception will not increase risks in the vicinity and/or downstream of the property to public health, safety and welfare, or to water quality, or to public and private property, and:
 - a. The requirement would cause a severe and unexpected financial hardship that outweighs the requirement's benefits, and the criteria for an adjustment cannot be met; or
 - b. The requirement would cause harm or a significant threat of harm to public health, safety and welfare, the environment, or public and private property, and the criteria for an adjustment cannot be met; or
 - c. The requirement is not technically feasible, and the criteria for an adjustment cannot be met; or
 - d. An emergency situation exists that necessitates approval of the exception.
2. An exception shall only be granted to the extent necessary to provide relief from the economic hardship, to alleviate the harm or threat of harm, to the degree that compliance with the requirement becomes technically feasible, or to perform the emergency work that the Director determines exists.
3. An applicant is not entitled to an exception, whether or not the criteria allowing approval of an exception are met.
4. The Director may require an applicant to provide additional information at the applicant's expense, including, but not limited to an engineer's report or analysis.
5. When an exception is granted, the Director may impose new or additional requirements to offset or mitigate harm that may be caused by granting the exception, or that would have been prevented if the exception had not been granted.
6. Public notice of an application for an exception and of the Director's decision on the application shall be provided in the manner prescribed for Type II land use decisions, as set forth in Chapter 23.76.
7. The Director's decision shall be in writing with written findings of fact. Decisions approving an exception based on severe and unexpected economic hardship shall address all the factors in subsection 22.805.080.C.8.
8. An application for an exception on the grounds of severe and unexpected financial hardship must describe, at a minimum, all of the following:
 - a. The current, pre-project use of the site; and
 - b. How application of the requirement(s) for which an exception is being requested restricts the proposed use of the site compared to the restrictions that existed prior to the adoption of this current subtitle; and
 - c. The possible remaining uses of the site if the exception were not granted; and
 - d. The uses of the site that would have been allowed prior to the adoption of this subtitle; and

- e. A comparison of the estimated amount and percentage of value loss as a result of the requirements versus the estimated amount and percentage of value loss as a result of requirements that existed prior to adoption of the requirements of this subtitle; and
 - f. The feasibility of the owner or developer to alter the project to apply the requirements of this subtitle.
9. In addition to rights under Chapter 3.02 of the Seattle Municipal Code, any person aggrieved by a Director's decision on an application for an exception may appeal to the Hearing Examiner's Office by filing an appeal, with the applicable filing fee, as set forth in Section 23.76.022. However, appeals of a Notice of Violation, Director's order, or invoice issued pursuant to this subtitle shall follow the required procedure established in Chapter 22.808 of this subtitle.
 10. The Hearing Examiner shall affirm the Director's determination on the exception unless the examiner finds the determination is clearly erroneous based on substantial evidence. The applicant for the exception shall have the burden of proof on all issues related to justifying the exception.
 11. The Director shall keep a record, including the Director's written findings of fact, on all approved requests for exceptions.

(Ord. [124758](#), § 1, 2015; Ord. 123105, § 2, 2009.)

22.800.050 - Potentially Hazardous Locations

- A. Any site on a list, register, or data base compiled by the United States Environmental Protection Agency or the Washington State Department of Ecology for investigation, cleanup, or other action regarding contamination under any federal or state environmental law shall be a potentially hazardous location under this subtitle. When EPA or Ecology removes the site from the list, register or data base, or when the Director of DPD determines the owner has otherwise established the contamination does not pose a present or potential threat to human health or the environment, the site will no longer be considered a potentially hazardous location.
- B. The following property may also be designated by the Director of DPD as potentially hazardous locations:
 1. Existing and/or abandoned solid waste disposal sites;
 2. Hazardous waste treatment, storage, or disposal facilities, all as defined by the federal Solid Waste Disposal Act, 42 U.S.C. section 6901, et seq.

(Ord. 123105, § 2, 2009.)

22.800.060 - Compliance With Other Laws

- A. The requirements of this subtitle are minimum requirements. They do not replace, repeal, abrogate, supersede or affect any other more stringent requirements, rules, regulations, covenants, standards, or restrictions. Where this subtitle imposes requirements that are more protective of human health or the environment than those set forth elsewhere, the provisions of this subtitle shall prevail. When this subtitle imposes requirements that are less protective of human health or the environment than those set forth elsewhere, the provisions of the more protective requirements shall prevail.
- B. Approvals and permits granted under this subtitle are not waivers of the requirements of any other laws, nor do they indicate compliance with any other laws. Compliance is still required with all applicable federal, state and local laws and regulations, including rules promulgated under authority of this subtitle.
- C. Compliance with the provisions of this subtitle and of regulations and manuals adopted by the City in relation to this subtitle does not necessarily mitigate all impacts to the environment. Thus, compliance with this subtitle and related regulations and manuals should not be construed as mitigating all drainage water or other environmental impacts, and additional mitigation may be

required to protect the environment. The primary obligation for compliance with this subtitle, and for preventing environmental harm on or from property, is placed upon responsible parties as defined by this subtitle.

(Ord. 123105, § 2, 2009.)

22.800.070 - Minimum Requirements for City Agency Projects

A. Compliance. City agencies shall comply with all the requirements of this subtitle except as specified below:

1. City agencies are not required to obtain permits and approvals under this subtitle, other than inspections as set out in subsection B of this section, for work performed within a public right-of-way or for work performed for the operation and maintenance of park lands under the control or jurisdiction of the Department of Parks and Recreation. Where the work occurs in a public right-of-way, it shall also comply with Seattle Municipal Code Title 15, Street and Sidewalk Use, including the applicable requirements to obtain permits or approvals.
2. A City agency project, as defined in Section 22.801.170, that is not required to obtain permit(s) and approval(s) per subsection 22.800.070.A.1 and meets all of the conditions set forth below, is not required to comply with Section 22.805.080 (Minimum Requirements for Flow Control) or Section 22.805.090 (Minimum Requirements for Treatment).
 - a. The project begins land disturbing activities within 18 months of the effective date of this subtitle, and;
 - b. The project complies with subsections 22.802.015.C.4, 22.802.016. B.1, and 22.802.016.B.2 of the Stormwater, Grading and Drainage Control Code that was made effective July 5, 2000 by Ordinance 119965, and
 - c. The project meets one or more of the following criteria:
 - 1) Project funding was appropriated as identified in Ordinance 122863 titled, "An ordinance adopting a budget, including a capital improvement program and a position list, for the City of Seattle for 2009"; or
 - 2) Project received or will receive voter approval of financing before January 1, 2009; or
 - 3) Project received or will receive funds based on grant application(s) submitted before January 1, 2009.

B. Inspection.

1. When the City conducts projects for which review and approval is required under Chapter 22.807 (Drainage Control Review and Application Requirements) the work shall be inspected by the City agency conducting the project or supervising the contract for the project. The inspector for the City agency shall be responsible for ascertaining that the grading and drainage control is done in a manner consistent with the requirements of this subtitle.
2. A City agency need not provide an inspector from its own agency provided either:
 - a. The work is inspected by an appropriate inspector from another City agency; or
 - b. The work is inspected by an appropriate inspector hired for that purpose by a City agency; or
 - c. The work is inspected by the licensed civil or geotechnical engineer who prepared the plans and specifications for the work; or
 - d. A permit or approval is obtained from the Director of DPD, and the work is inspected by the Director.

- C. Certification of Compliance. City agencies shall meet the same standards as non-City projects, except as provided in subsection 22.800.070.A, and shall certify that each individual project meets those standards.

(Ord. 123105, § 2, 2009.)

22.800.075 - Compliance by Public Agencies

Whether or not they are required to obtain permits or submit documents, public agencies are subject to the substantive requirements of this subtitle, unless adjustments or exceptions are granted as set forth in Section 22.800.040 (Exemptions, Adjustments, and Exceptions) or the requirements have been waived under subsection 22.807.020.A.3.

(Ord. 123105, § 2, 2009.)

22.800.080 - Authority

- A. For projects not conducted in the public right-of-way, the Director of DPD has authority regarding the provisions of this subtitle pertaining to grading, review of drainage control plans, and review of construction stormwater control plans, and has inspection and enforcement authority pertaining to temporary erosion and sediment control measures.
- B. The Director of SPU has authority regarding all other provisions of this subtitle pertaining to drainage water, drainage, and erosion control, including inspection and enforcement authority. The Director of SPU may delegate authority to the Director of DPD or the Director of Seattle Department of Transportation regarding the provisions of this subtitle pertaining to review of drainage control plans, review of erosion control plans, and inspection and enforcement authority pertaining to temporary erosion and sediment control measures for projects conducted in the public right-of-way.
- C. The Directors of DPD, SDOT and SPU are authorized to take actions necessary to implement the provisions and purposes of this subtitle in their respective spheres of authority to the extent allowed by law, including, but not limited to, the following: promulgating and amending rules and regulations, pursuant to the Administrative Code, Chapter 3.02 of the Seattle Municipal Code; establishing and conducting inspection programs; establishing and conducting or, as set forth in Section 22.802.040, requiring responsible parties to conduct monitoring programs, which may include sampling of discharges to or from drainage control facilities, the public drainage system, or receiving waters; taking enforcement action; abating nuisances; promulgating guidance and policy documents; and reviewing and approving, conditioning, or disapproving required submittals and applications for approvals and permits. The Directors are authorized to exercise their authority under this subtitle in a manner consistent with their legal obligations as determined by the courts or by statute.
- D. The Director of SPU is authorized to develop, review, or approve drainage basin plans for managing receiving waters, drainage water, and erosion within individual basins. A drainage basin plan may, when approved by the Director of SPU, be used to modify requirements of this subtitle, provided the level of protection for human health, safety and welfare, the environment, and public or private property will equal or exceed that which would otherwise be achieved. A drainage basin plan that modifies the minimum requirements of this subtitle at a drainage basin level must be reviewed and approved by Ecology and adopted by City ordinance.
- E. The Director of SPU is authorized, to the extent allowed by law, to develop, review, or approve an Integrated Drainage Plan as an equivalent means of complying with the requirements of this subtitle, in which the developer of a project voluntarily enters into an agreement with the Director of SPU to implement an Integrated Drainage Plan that is specific to one or more sites where best management practices are employed such that the cumulative effect on the discharge from the site(s) to the same receiving water is the same or better than that which would be achieved by a less integrated, site-by-site implementation of best management practices.
- F. The Director of SPU is authorized, to the extent allowed by law, to enter into an agreement with the developer of a project for the developer to voluntarily contribute funds toward the construction of one

or more drainage control facilities that mitigate the impacts to the same receiving water that have been identified as a consequence of the proposed development.

- G. The Director of SPU is authorized, to the extent allowed by law, to enter into an agreement with the developer of a project for the developer to voluntarily construct one or more drainage control facilities at an alternative location, determined by the Director, to mitigate the impacts to the same receiving water that have been identified as a consequence of the proposed development.
- H. If the Director of SPU determines that a discharge from a site, real property, or drainage facility, directly or indirectly to a public drainage system, a private drainage system, or a receiving water within or contiguous to Seattle city limits, has exceeded, exceeds, or will exceed water quality standards at the point of assessment, or has caused or contributed, is causing or contributing, or will cause or contribute to a prohibited discharge or a known or likely violation of water quality standards in the receiving water or a known or likely violation of the City's municipal stormwater NPDES permit, and cannot be adequately addressed by the required best management practices, then the Director of SPU has the authority, to the extent allowed by law, to issue an order under Chapter 22.808 requiring the responsible party to undertake more stringent or additional best management practices. These best management practices may include additional source control or structural best management practices or other actions necessary to cease the exceedance, the prohibited discharge, or causing or contributing to the known or likely violation of water quality standards in the receiving water or the known or likely violation of the City's municipal stormwater NPDES permit. Structural best management practices may include but shall not be limited to: drainage control facilities, structural source controls, treatment facilities, constructed facilities such as enclosures, covering and/or berming of container storage areas, and revised drainage systems. For existing discharges as opposed to new projects, the Director may allow 12 months to install a new flow control facility, structural source control, or treatment facility after the Director notifies the responsible party in writing of the Director's determination pursuant to this subsection and of the flow control facility, structural source control, or treatment facility that must be installed.
- I. Unless an adjustment per subsection 22.800.040.B or an exception per subsection 22.800.040.C is approved by the Director, an owner or occupant who is required, or who wishes, to connect to a public drainage system shall be required to extend the public drainage system if a public drainage system is not accessible within an abutting public area across the full frontage of the property.
- J. The Director of DPD has the authority, to the extent allowed by law, to require sites with addition or replacement of less than 5,000 square feet of impervious surface or with less than one acre of land disturbing activity to comply with the requirements set forth in Section 22.805.080 or Section 22.805.090 when necessary to accomplish the purposes of this subtitle. In making this determination, the Director of DPD may consider, but not be limited to, the following attributes of the site: location within an Environmentally Critical Area; proximity and tributary to an Environmentally Critical Area; and proximity and tributary to an area with known erosion or flooding problems.

(Ord. 123105, § 2, 2009.)

22.800.090 - City Not Liable

- A. Nothing contained in this subtitle is intended to be nor shall be construed to create or form the basis for any liability on the part of the City, or its officers, employees or agents for any injury or damage resulting from the failure of responsible parties to comply with the provisions of this subtitle, or by reason or in consequence of any inspection, notice, order, certificate, permission or approval authorized or issued or done in connection with the implementation or enforcement of this subtitle, or by reason of any action or inaction on the part of the City related in any manner to the enforcement of this subtitle by its officers, employees or agents.
- B. The Director or any employee charged with the enforcement of this subtitle, acting in good faith and without malice on behalf of the City, shall not be personally liable for any damage that may accrue to persons or property as a result of any act required by the City, or by reason of any act or omission in the discharge of these duties. Any suit brought against the Director of DPD, Director of SPU or other

employee because of an act or omission performed in the enforcement of any provisions of this subtitle, shall be defended by the City.

- C. Nothing in this subtitle shall impose any liability on the City or any of its officers or employees for cleanup or any harm relating to sites containing hazardous materials, wastes or contaminated soil.

(Ord. 123105, § 2, 2009.)

Chapter 22.801 - DEFINITIONS

Sections:

22.801.10 - General

For the purpose of this subtitle, the words listed in this chapter have the following meanings, unless the context clearly indicates otherwise. Terms relating to pollutants and to hazardous wastes, materials, and substances, where not defined in this subtitle, shall be as defined in Washington Administrative Code Chapters 173-303, 173-304 and 173-340, the Seattle Building Code or the Seattle Fire Code, including future amendments to those codes. Words used in the singular include the plural, and words used in the plural include the singular.

(Ord. 123105, § 2, 2009.)

22.801.020 - "A"

"Agency" means any governmental entity or its subdivision.

"Agency, City" means "City agency" as defined in Section 25.09.520.

"Agency with jurisdiction" means those agencies with statutory authority to approve, condition or deny permits, such as the United States Environmental Protection Agency, the Washington State Department of Ecology or Public Health—Seattle & King County.

"Approved" means approved by the Director.

(Ord. 123668, § 1, 2011; Ord. 123105, § 2, 2009.)

22.801.030 - "B"

"Basin plan" means a plan to manage the quality and quantity of drainage water in a watershed or a drainage basin, including watershed action plans.

"Basic treatment facility" means a drainage control facility designed to reduce concentrations of total suspended solids in drainage water.

"Best management practice (BMP)" means a schedule of activities, prohibitions of practices, operational and maintenance procedures, structural facilities, or managerial practice or device that, when used singly or in combination, prevents, reduces, or treats contamination of drainage water, prevents or reduces soil erosion, or prevents or reduces other adverse effects of drainage water on receiving waters. When the Directors develop rules and/or manuals prescribing best management practices for particular purposes, whether or not those rules and/or manuals are adopted by ordinance, BMPs prescribed in the rules and/or manuals shall be the BMPs required for compliance with this subtitle.

"Building permit" means a document issued by the Department of Planning and Development authorizing construction or other specified activity in accordance with the Seattle Building Code (Chapter 22.100) or the Seattle Residential Code (Chapter 22.150).

(Ord. 123105, § 2, 2009.)

22.801.040 - "C"

"Capacity-constrained system" means a drainage system that the Director of SPU has determined to have inadequate capacity to carry drainage water.

"Cause or contribute to a violation" means and includes acts or omissions that create a violation, that increase the duration, extent or severity of a violation, or that aid or abet a violation.

"Certified Erosion and Sediment Control Lead (CESCL)" means an individual who has current certification through an approved erosion and sediment control training program that meets the minimum training standards established by the Washington State Department of Ecology.

"Civil engineer, licensed" means a person who is licensed by the State of Washington to practice civil engineering.

"City agency" means "City agency" as defined in Section 25.09.520.

"Combined sewer." See "public combined sewer."

"Construction Stormwater Control Plan" means a document that explains and illustrates the measures to be taken on the construction site to control pollutants on a construction project.

"Compaction" means the densification of earth material by mechanical means.

"Containment area" means the area designated for conducting pollution-generating activities for the purposes of implementing source controls or designing and installing source controls or treatment facilities.

"Contaminate" means the addition of sediment, any other pollutant or waste, or any illicit or prohibited discharge.

"Creek" means a Type 2-5 water as defined in WAC 222-16-031 and is used synonymously with "stream."

(Ord. 123105, § 2, 2009.)

22.801.050 - "D"

"Damages" means monetary compensation for harm, loss, costs, or expenses incurred by the City, including, but not limited, to the following: costs of abating or correcting violations of this subtitle; fines or penalties the City incurs as a result of a violation of this subtitle; and costs to repair or clean the public drainage system as a result of a violation. For the purposes of this subtitle, damages do not include compensation to any person other than the City.

"Designated receiving water" means the Duwamish River, Puget Sound, Lake Washington, Lake Union, Elliott Bay, Portage Bay, Union Bay, the Lake Washington Ship Canal, and other receiving waters determined by the Director of SPU and approved by Ecology as having sufficient capacity to receive discharges of drainage water such that a site discharging to the designated receiving water is not required to implement flow control.

"Detention" means temporary storage of drainage water for the purpose of controlling the drainage discharge rate.

"Development" means land disturbing activity or the addition or replacement of impervious surface.

"Director" means the Director of the Department authorized to take a particular action, and the Director's designees, who may be employees of that department or another City department.

"Director of DPD" means the Director of the Department of Planning and Development of The City of Seattle and/or the designee of the Director of Planning and Development, who may be employees of that department or another City department.

"Director of SDOT" means the Director of Seattle Department of Transportation of The City of Seattle and/or the designee of the Director of Seattle Department of Transportation, who may be employees of that department or another City department.

"Director of SPU" means the Director of Seattle Public Utilities of The City of Seattle and/or the designee of the Director of Seattle Public Utilities, who may be employees of that department or another City department.

"Discharge point" means the location from which drainage water from a site is released.

"Discharge rate" means the rate at which drainage water is released from a site. The discharge rate is expressed as volume per unit of time, such as cubic feet per second.

"DPD" means the Department of Planning and Development.

"Drainage basin" means the tributary area or subunit of a watershed through which drainage water is collected, regulated, transported, and discharged to receiving waters.

"Drainage control" means the management of drainage water. Drainage control is accomplished through one or more of the following: collecting, conveying, and discharging drainage water; controlling the discharge rate from a site; controlling the flow duration from a site; and separating, treating or preventing the introduction of pollutants.

"Drainage control facility" means any facility, including best management practices, installed or constructed for the purpose of controlling the discharge rate, flow duration, quantity, and/or quality of drainage water.

"Drainage control plan" means a plan for collecting, controlling, transporting and disposing of drainage water falling upon, entering, flowing within, and exiting the site, including designs for drainage control facilities.

"Drainage system" means a system intended to collect, convey and control release of only drainage water. The system may be either publicly or privately owned or operated, and the system may serve public or private property. It includes constructed and/or natural components such as pipes, ditches, culverts, streams, creeks, or drainage control facilities.

"Drainage water" means stormwater and all other discharges that are permissible per subsection 22.802.030.A.

(Ord. 123105, § 2, 2009.)

22.801.060 - "E"

"Earth material" means any rock, gravel, natural soil, fill, or re-sedimented soil, or any combination thereof, but does not include any solid waste as defined by RCW 70.95.

"Ecology" means the Washington State Department of Ecology.

"Effective impervious surface" means those impervious surfaces that are connected via sheet flow or discrete conveyance to a drainage system.

"Enhanced treatment facility" means a drainage control facility designed to reduce concentrations of dissolved metals in drainage water.

"Environmentally critical area" means an area designated in Section 25.09.020.

"EPA" means the United States Environmental Protection Agency.

"Erosion" means the wearing away of the ground surface as a result of mass wasting or of the movement of wind, water, ice, or other geological agents, including such processes as gravitational creep. Erosion also means the detachment and movement of soil or rock fragments by water, wind, ice, or gravity.

"Excavation" means the mechanical removal of earth material.

"Exception" means relief from a requirement of this subtitle to a specific project.

(Ord. 123105, § 2, 2009.)

22.801.070 - "F"

"Fill" means a deposit of earth material placed by artificial means.

"Flow control" means controlling the discharge rate, flow duration, or both of drainage water from the site through means such as infiltration or detention.

"Flow control facility" means a drainage control facility for controlling the discharge rate, flow duration, or both of drainage water from a site.

"Flow-critical receiving water" means a surface water that is not a designated receiving water as defined in this subtitle.

"Flow duration" means the aggregate time that peak flows are at or above a particular flow rate of interest.

(Ord. 123105, § 2, 2009.)

22.801.080 - "G"

"Garbage" means putrescible waste.

"Geotechnical engineer" or "Geotechnical/civil engineer" means a professional civil engineer licensed by The State of Washington who has at least four years of professional experience as a geotechnical engineer, including experience with landslide evaluation.

"Grading" means excavation, filling, in-place ground modification, removal of roots or stumps that includes ground disturbance, stockpiling of earth materials, or any combination thereof, including the establishment of a grade following demolition of a structure.

"Green stormwater infrastructure" means a drainage control facility that uses infiltration, evapotranspiration, or stormwater reuse. Examples of green stormwater infrastructure include permeable pavement, bioretention facilities, and green roofs.

(Ord. 123105, § 2, 2009.)

22.801.090 - "H"

"High-use sites" means sites that typically generate high concentrations of oil due to high traffic turnover or the frequent transfer of oil. High-use sites include:

1. An area of a commercial or industrial site subject to an expected average daily traffic (ADT) count equal to or greater than 100 vehicles per 1,000 square feet of gross building area;
2. An area of a commercial or industrial site subject to petroleum storage and transfer in excess of 1,500 gallons per year, not including routinely delivered heating oil;
3. An area of a commercial or industrial site subject to parking, storage or maintenance of 25 or more vehicles that are over 10 tons gross weight (trucks, buses, trains, heavy equipment, etc.);
4. A road intersection with a measured ADT count of 25,000 vehicles or more on the main roadway and 15,000 vehicles or more on any intersecting roadway, excluding projects proposing primarily pedestrian or bicycle use improvements.

(Ord. 123105, § 2, 2009.)

22.801.100 - "I"

"Impervious Surface" means any surface exposed to rainwater from which most water runs off. Common impervious surfaces include, but are not limited to, roof tops, walkways, patios, driveways, formal planters, parking lots or storage areas, concrete or asphalt paving, permeable paving, gravel surfaces subjected to vehicular traffic, compact gravel, packed earthen materials, and oiled macadam or other surfaces which similarly impede the natural infiltration of stormwater. Open, uncovered retention/detention facilities shall not be considered as impervious surfaces for the purposes of

determining whether the thresholds for application of minimum requirements are exceeded. Open, uncovered retention/detention facilities shall be considered impervious surfaces for purposes of stormwater modeling.

Impervious surface, replaced. See "replaced or replacement of impervious surface."

"Infiltration" means the downward movement of water from the surface to the subsoil.

"Infiltration facility" means a drainage control facility that temporarily stores, and then percolates drainage water into the underlying soil.

"Integrated Drainage Plan" means a plan developed, reviewed, and approved per subsection 22.800.080.E.

"Interflow" means that portion of rainfall and other precipitation that infiltrates into the soil and moves laterally through the upper soil horizons until intercepted by a stream channel or until it returns to the surface.

"Inspector" means a City inspector, their designee, or licensed civil engineer performing the inspection work required by this subtitle.

(Ord. 123105, § 2, 2009.)

22.801.110 - "J"

"Joint project" means a project that is both a parcel-based project and a roadway project.

(Ord. 123105, § 2, 2009.)

22.801.130 - "L"

"Land disturbing activity" means any activity that results in a movement of earth, or a change in the existing soil cover, both vegetative and nonvegetative, or the existing topography. Land disturbing activities include, but are not limited to, clearing, grading, filling, excavation, or addition of new or the replacement of impervious surface. Compaction, excluding hot asphalt mix, that is associated with stabilization of structures and road construction shall also be considered a land disturbing activity. Vegetation maintenance practices are not considered land disturbing activities.

"Large project" means a project including 5,000 square feet or more of new impervious surface or replaced impervious surface, individually or combined, or one acre or more of land disturbing activity.

"Listed creek basins" means Blue Ridge Creek, Broadview Creek, Discovery Park Creek, Durham Creek, Frink Creek, Golden Gardens Creek, Kiwanis Ravine/Wolfe Creek, Licton Springs Creek, Madrona Park Creek, Mee-Kwa-Mooks Creek, Mount Baker Park Creek, Puget Creek, Riverview Creek, Schmitz Creek, Taylor Creek, or Washington Park Creek.

(Ord. 123105, § 2, 2009.)

22.801.140 - "M"

"Master use permit" means a document issued by DPD giving permission for development or use of land or street right-of-way in accordance with Chapter 23.76.

"Maximum extent feasible" means the requirement is to be fully implemented, constrained only by the physical limitations of the site, practical considerations of engineering design, and reasonable considerations of financial costs and environmental impacts.

"Municipal stormwater NPDES permit" means the permit issued to the City under the federal Clean Water Act for public drainage systems within the City limits.

(Ord. 123105, § 2, 2009.)

22.801.150 - "N"

"Native vegetation" means "native vegetation" as defined in Section 25.09.520.

"Nutrient-critical receiving water" means a surface water or water segment that that has been listed as Category 5 (impaired) under Section 303(d) of the Clean Water Act for total phosphorus through the State of Washington's Water Quality Assessment program and approved by EPA.

"NPDES" means National Pollutant Discharge Elimination System, the national program for controlling discharges under the federal Clean Water Act.

"NPDES permit" means an authorization, license or equivalent control document issued by the United States Environmental Protection Agency or the Washington State Department of Ecology to implement the requirements of the NPDES program.

(Ord. 123105, § 2, 2009.)

22.801.160 - "O"

"Oil control treatment facility" means a drainage control facility designed to reduce concentrations of oil in drainage water.

"Owner" means any person having title to and/or responsibility for, a building or property, including a lessee, guardian, receiver or trustee, and the owner's duly authorized agent.

(Ord. 123105, § 2, 2009.)

22.801.170 - "P"

"Parcel-based project" means any project that is not a roadway project, single-family residential project, sidewalk project, or trail project.

"Person" means an individual, receiver, administrator, executor, assignee, trustee in bankruptcy, trust estate, firm, partnership, joint venture, club, company, joint stock company, business trust, municipal corporation, the State of Washington, political subdivision or agency of the State of Washington, public authority or other public body, corporation, limited liability company, association, society or any group of individuals acting as a unit, whether mutual, cooperative, fraternal, nonprofit or otherwise, and the United States or any instrumentality thereof.

"Pervious surface" means a surface that is not impervious. See also, "impervious surface".

"Phosphorus treatment facility" means a drainage control facility designed to reduce concentrations of phosphorus in drainage water.

"Plan" means a graphic or schematic representation, with accompanying notes, schedules, specifications and other related documents, or a document consisting of checklists, steps, actions, schedules, or other contents that has been prepared pursuant to this subtitle, such as a drainage control plan, construction stormwater control plan, stormwater pollution prevention plan, and integrated drainage plan.

"Pollution-generating activity" means any activity that is regulated by the joint SPU/DPD Directors' Rule titled, "Source Control Technical Requirements Manual" or activities with similar impacts on drainage water. These activities include, but are not limited to: cleaning and washing activities; transfer of liquid or solid material; production and application activities; dust, soil, and sediment control; commercial animal care and handling; log sorting and handling; boat building, mooring, maintenance, and repair; logging and tree removal; mining and quarrying of sand, gravel, rock, peat, clay, and other materials; cleaning and maintenance of swimming pool and spas; deicing and anti-icing operations for airports and streets; maintenance and management of roof and building drains at manufacturing and commercial buildings; maintenance and operation of railroad yards; maintenance of public and utility corridors and facilities; and maintenance of roadside ditches.

"Pollution-generating impervious surface" means those impervious surfaces considered to be a significant source of pollutants in drainage water. Such surfaces include those that are subject to:

vehicular use; certain industrial activities; or storage of erodible or leachable materials, wastes, or chemicals, and which receive direct rainfall or the run-on or blow-in of rainfall. Erodible or leachable materials, wastes, or chemicals are those substances which, when exposed to rainfall, measurably alter the physical or chemical characteristics of the drainage water. Examples include: erodible soils that are stockpiled; uncovered process wastes; manure; fertilizers; oily substances; ashes; kiln dust; and garbage dumpster leakage. Metal roofs are also considered to be PGIS unless they are coated with an inert, non-leachable material (e.g., baked-on enamel coating).

A surface, whether paved or not, shall be considered subject to vehicular use if it is regularly used by motor vehicles. The following are considered regularly-used surfaces: roads; unvegetated road shoulders; permeable pavement; bike lanes within the traveled lane of a roadway; driveways; parking lots; unfenced fire lanes; vehicular equipment storage yards; and airport runways.

The following are not considered regularly-used surfaces: paved bicycle pathways separated from and not subject to drainage from roads for motor vehicles; fenced fire lanes; and infrequently used maintenance access roads.

"Pollution-generating pervious surface" means any non-impervious surface subject to use of pesticides and fertilizers or loss of soil, and typically includes lawns, landscaped areas, golf courses, parks, cemeteries, and sports fields.

"Pre-developed condition" means the vegetation and soil conditions that are used to determine the allowable post-development discharge peak flow rates and flow durations, such as pasture or forest.

"Project" means the addition or replacement of impervious surface or the undertaking of land disturbing activity on a site.

"Public combined sewer" means a publicly owned and maintained system which carries drainage water and wastewater and flows to a publicly owned treatment works.

"Public drainage system" means a drainage system owned or used by the City of Seattle.

"Public place" means and includes streets, avenues, ways, boulevards, drives, places, alleys, sidewalks, and planting (parking) strips, squares, triangles and right-of-way for public use and the space above or beneath its surface, whether or not opened or improved.

"Public sanitary sewer" means the sanitary sewer that is owned or operated by a City agency.

"Public storm drain" means the part of a public drainage system that is wholly or partially piped, owned or operated by a City agency, and designed to carry only drainage water.

(Ord. 123105, § 2, 2009.)

22.801.190 - "R"

"Real property" means "real property" as defined in Section 3.110.

"Receiving water" means the surface water or wetland receiving drainage water.

"Repeat Violation" means a prior violation of this subtitle within the preceding five years that became a final order or decision of the Director or a court. The violation does not need to be the same nor occur on one site to be considered repeat.

"Replaced impervious surface" or "replacement of impervious surface" means for structures, the removal and replacement of impervious surface down to the foundation. For other impervious surface, the impervious surface that is removed down to earth material and a new impervious surface is installed.

"Responsible party" means all of the following persons:

1. Owners, operators, and occupants of property; and,
2. Any person causing or contributing to a violation of the provisions of this subtitle.

"Right-of-way" means "right-of-way" as defined in Section 23.84A.032.

"Roadway" means "roadway" as defined in Section 23.84A.032.

"Roadway project" means a project located in the public right-of-way, that involves the creation of a new or replacement of an existing roadway, or that involves the creation of new or replacement of existing impervious surface.

"Runoff" means the portion of rainfall or other precipitation that becomes surface flow and interflow.

(Ord. 123105, § 2, 2009.)

22.801.200 - "S"

"SPU" means Seattle Public Utilities.

"Sanitary sewer" means a system that conveys wastewater and is not designed to convey stormwater.

"SDOT" means the Seattle Department of Transportation.

"Service drain" means "service drain" as defined in Section 21.16.030.

"Side sewer" means "side sewer" as defined in Section 21.16.030.

"Sidewalk" means "sidewalk" as defined in Section 23.84A.036.

"Sidewalk project" means a project that exclusively involves the creation of a new or replacement of an existing sidewalk, including any associated planting strip, curb, or gutter.

"Single-family residential project" means a project, that constructs one Single-family Dwelling Unit per Section 23.44.006.A located in land classified as being Single-family Residential 9,600 (SF 9600), Single-family Residential 7,200 (SF 7200), or Single-family Residential 5,000 (SF 5000) per Section 23.30.010, and the total new plus replaced impervious surface is less than 10,000 square feet and the total new plus replaced pollution-generating impervious surface is less than 5,000 square feet.

"Site" means the lot or parcel, or portion of street, highway or other right-of-way, or contiguous combination thereof, where a permit for the addition or replacement of impervious surface or the undertaking of land disturbing activity has been issued or where any such work is proposed or performed. For roadway projects, the length of the project site and the right-of-way boundaries define the site.

"Slope" means an inclined ground surface.

"Small project" means a project with:

1. Less than 5,000 square feet of new and replaced impervious surface; and
2. Less than one acre of land disturbing activities.

"SMC" means the Seattle Municipal Code.

"Soil" means naturally deposited non-rock earth materials.

"Solid waste" means "solid waste" as defined in Section 21.36.016.

"Source controls" mean structures or operations that prevent contaminants from coming in contact with drainage water through physical separation or careful management of activities that are known sources of pollution.

"Standard design" is a design pre-approved by the Director for drainage and erosion control available for use at a site with pre-defined characteristics.

"Storm drain" means both public storm drain and service drain.

"Stormwater" means that portion of precipitation and snowmelt that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes and other features of a drainage system into a receiving water or a constructed infiltration facility.

"Stream" means a Type 2-5 water as defined in WAC 222-16-031. Used synonymously with "creek."

(Ord. 123105, § 2, 2009.)

22.801.210 - "T"

"Topsoil" means the weathered surface soil, including the organic layer, in which plants have most of their roots.

"Trail" means a path of travel for recreation and/or transportation within a park, natural environment, or corridor that is not classified as a highway, road, or street.

"Trail project" means a project that exclusively involves creating a new or replacement of an existing trail, and which does not contain pollution-generating impervious surfaces.

"Treatment facility" means a drainage control facility designed to remove pollutants from drainage water.

(Ord. 123105, § 2, 2009.)

22.801.220 - "U"

"Uncontaminated" means surface water or groundwater not containing sediment or other pollutants or contaminants above natural background levels and not containing pollutants or contaminants in levels greater than City-supplied drinking water when referring to potable water.

(Ord. 123105, § 2, 2009.)

22.801.230 - "V"

"Vegetation" means "vegetation" as defined in Section 25.09.520.

(Ord. 123105, § 2, 2009.)

22.801.240 - "W"

"Wastewater" means "wastewater" as defined in Section 21.16.030.

"Water Quality Standards" means Surface Water Quality Standards, Chapter 173-201A WAC, Ground Water Quality Standards, Chapter 173-200 WAC, and Sediment Management Standards, Chapter 173-204 WAC.

"Watercourse" means the route, constructed or formed by humans or by natural processes, generally consisting of a channel with bed, banks or sides, in which surface waters flow. Watercourse includes small lakes, bogs, streams, creeks, and intermittent artificial components (including ditches and culverts) but does not include designated receiving waters.

"Watershed" means a geographic region within which water drains into a particular river, stream, or other body of water.

"Wetland" means a wetland designated under Section 25.09.020.

"Wetland function" means the physical, biological, chemical, and geologic interactions among different components of the environment that occur within a wetland. Wetland functions can be grouped into three categories: functions that improve water quality; functions that change the water regime in a watershed, such as flood storage; and functions that provide habitat for plants and animals.

"Wetland values" means wetland processes, characteristics, or attributes that are considered to benefit society.

(Ord. 123105, § 2, 2009.)

Chapter 22.802 - PROHIBITED AND PERMISSIBLE DISCHARGES

Sections:

22.802.010 - General

- A. No discharge from a site, real property, or drainage facility, directly or indirectly to a public drainage system, private drainage system, or a receiving water within or contiguous to Seattle city limits, may cause or contribute to a prohibited discharge or a known or likely violation of water quality standards in the receiving water or a known or likely violation of the City's municipal stormwater NPDES permit.
- B. Every permit issued to implement this subtitle shall contain a performance standard requiring that no discharge from a site, real property, or drainage facility, directly or indirectly to a public drainage system, private drainage system, or a receiving water within or contiguous to Seattle city limits, cause or contribute to a prohibited discharge or a known or likely violation of water quality standards in the receiving water or a known or likely violation of the City's municipal stormwater NPDES permit.

(Ord. 123105, § 2, 2009.)

22.802.020 - Prohibited Discharges

- A. Prohibited Discharges. The following common substances are prohibited to enter, either directly or indirectly, a public drainage system, a private drainage system, or a receiving water within or contiguous to Seattle city limits, including but not limited to when entering via a service drain, overland flow, or as a result of a spill or deliberate dumping:
 - 1. acids;
 - 2. alkalis including cement wash water;
 - 3. ammonia;
 - 4. animal carcasses;
 - 5. antifreeze, oil, gasoline, grease and all other automotive and petroleum products;
 - 6. chemicals not normally found in uncontaminated water;
 - 7. chlorinated swimming pool or hot tub water;
 - 8. chlorine;
 - 9. commercial and household cleaning materials;
 - 10. detergent;
 - 11. dirt;
 - 12. domestic or sanitary sewage;
 - 13. drain cleaners;
 - 14. fertilizers;
 - 15. flammable or explosive materials;
 - 16. food and food waste;
 - 17. gravel.
 - 18. herbicides;
 - 19. human and animal waste;
 - 20. industrial process wastewater,
 - 21. ink;
 - 22. laundry waste;
 - 23. metals in excess of naturally occurring amounts, whether in liquid or solid form;

24. painting products;
 25. pesticides;
 26. sand;
 27. soap;
 28. solid waste;
 29. solvents and degreasers;
 30. steam-cleaning waste; and,
 31. yard waste.
- B. Prohibited Discharges to Public and Private Drainage System. Except as provided in Section 22.802.030, any discharge to a public drainage system or to a private drainage system that is not composed entirely of stormwater is prohibited.
- C. Prohibited Discharges to Receiving Waters. Except as provided in Section 22.802.030, any discharge, either directly or indirectly to receiving waters within or contiguous to Seattle city limits or to a public drainage system that is not composed entirely of stormwater is prohibited.

(Ord. 123105, § 2, 2009.)

22.802.30 - Permissible Discharges

Permissible Discharges to Drainage Systems and Receiving Waters. Discharges from the sources listed below are permissible discharges unless the Director of SPU determines that the type of discharge, directly or indirectly to a public drainage system, private drainage system, or a receiving water within or contiguous to Seattle city limits, whether singly or in combination with others, is causing or contributing to a violation of the City's NPDES stormwater permit or is causing or contributing to a water quality problem:

1. Discharges from potable water sources, including flushing of potable water lines, hyperchlorinated water line flushing, fire hydrant system flushing, and pipeline hydrostatic test water. Planned discharges shall be de-chlorinated to a concentration of 0.1 ppm or less, pH- adjusted if necessary, and volumetrically and velocity controlled to prevent resuspension of sediments in the drainage system;
2. Discharges from washing or rinsing of potable water storage reservoirs, dechlorinated as above;
3. Discharges from surface waters, including diverted stream flows;
4. Discharges of uncontaminated groundwater, including uncontaminated groundwater infiltration (as defined at 40 CFR 35.2005(2), uncontaminated pumped groundwater, and rising ground waters;
5. Discharges of air conditioning condensation;
6. Discharges from springs;
7. Discharges of uncontaminated water from crawl space pumps;
8. Discharges from lawn watering;
9. Discharges from irrigation runoff, including irrigation water from agricultural sources that is commingled with stormwater and that does not contain prohibited substances;
10. Discharges from riparian habitats and wetlands;
11. Discharges from approved footing drains and other subsurface drains or, where approval is not required, installed in compliance with this subtitle and rules promulgated pursuant to this subtitle;
12. Discharges from foundation drains;

13. Discharges from swimming pools, hot tubs, fountains, or similar aquatic recreation facilities and constructed water features, provided the discharges have been de-chlorinated to a concentration of 0.1 ppm or less, pH-adjusted and reoxygenated if necessary, and volumetrically and velocity controlled to prevent resuspension of sediments in the drainage control system;
 14. Discharges of street and sidewalk wash-water that does not use detergents or chemical additives;
 15. Discharges of water used to control dust;
 16. Discharges of water from routine external building washdown that does not use detergents or chemical additives;
 17. Discharges that are in compliance with a separate individual or general NPDES permit;
 18. Discharges that are from emergency fire fighting activities; and
 19. Other non-stormwater discharges, provided these discharges are in compliance with the requirements of an approved stormwater pollution prevention plan that addresses such discharges.
- B. Permissible Discharges to Sanitary Sewers. In consultation with the local sewage treatment agency, the Director of SPU may approve discharges of drainage water to a sanitary sewer if the discharging party demonstrates to the satisfaction of the Director of SPU that other methods of controlling pollutants in the discharge are not adequate or reasonable, the discharging party certifies that the discharge will not harm the environment, and the discharging party certifies that the discharge will not overburden or otherwise harm the sanitary sewer. Connections to the sanitary sewer shall be made in accordance with Chapter 21.16 (Side Sewer Code). The Director of SPU shall condition approval of such a discharge on compliance with local pretreatment regulations and on maintaining compliance with the required certifications given by the discharging party.
- C. Permissible Discharges to Public Combined Sewers. In consultation with the local sewage treatment agency, the Director of SPU may approve discharges of drainage water to a public combined sewer if the discharging party certifies that the discharge will not harm the environment, and the discharging party certifies that the discharge will not overburden or otherwise harm the public combined sewers. Connections to the public combined sewers shall be made in accordance with Chapter 21.16 (Side Sewer Code). The Director of SPU shall condition approval of such a discharge on compliance with local pretreatment regulations and on maintaining compliance with the required certifications given by the discharging party.

(Ord. 123105, § 2, 2009.)

22.802.040 - Testing for Prohibited Discharges

When the Director of SPU has reason to believe that any discharge is a prohibited discharge, the Director of SPU may sample and analyze the discharge and recover the costs from a responsible party in an enforcement proceeding. When the discharge is likely to be a prohibited discharge on a recurring basis, the Director of SPU may conduct, or may require the responsible party to conduct, ongoing monitoring at the responsible party's expense.

(Ord. 123105, § 2, 2009.)

Chapter 22.803 - MINIMUM REQUIREMENTS FOR ALL DISCHARGES AND ALL REAL PROPERTY Sections:

22.803.010 - General

- A. All responsible parties are required to comply with this chapter, even where no development is occurring.

- B. No discharge from a site, real property, or drainage facility, directly or indirectly to a public drainage system, private drainage system, or a receiving water within or contiguous to Seattle city limits, may cause or contribute to a prohibited discharge or a known or likely violation of water quality standards in the receiving water or a known or likely violation of the City's municipal stormwater NPDES permit.
- C. Every permit issued to implement this subtitle shall contain a performance standard requiring that no discharge from a site, real property, or drainage facility, directly or indirectly to a public drainage system, private drainage system, or a receiving water within or contiguous to Seattle city limits, cause or contribute to a prohibited discharge or a known or likely violation of water quality standards in the receiving water or a known or likely violation of the City's municipal stormwater NPDES permit.

(Ord. 123105, § 3, 2009.)

22.803.020 - Minimum Requirements for All Discharges and Real Property

- A. Requirement to provide documentation. The owner is required to make plans, procedures, and schedules required by this subsection available to the Director of SPU when requested.
- B. Requirement to report spills, releases, or dumping. A responsible party is required to, at the earliest possible time, but in any case within 24 hours of discovery, report to the Director of SPU, a spill, release, dumping, or other situation that has contributed or is likely to contribute pollutants to a public drainage system, a private drainage system, or a receiving water. This reporting requirement is in addition to, and not instead of, any other reporting requirements under federal, state or local laws.
- C. Requirements to maintain facilities. All treatment facilities, flow control facilities, drainage control facilities, and drainage systems shall be maintained as prescribed in rules promulgated by the Director in order for these facilities and systems to be kept in continuous working order.
- D. Requirements for disposal of waste from maintenance activities. Disposal of waste from maintenance of drainage control facilities shall be conducted in accordance with federal, state and local regulations, including the Minimum Functional Standards for Solid Waste Handling, Chapter 173-304 WAC, guidelines for disposal of waste materials, and, where appropriate, Dangerous Waste Regulations, Chapter 173-303 WAC.
- E. Requirements to maintain records of installation and maintenance activities. When a drainage control facility is installed, the party having the facility installed shall make records of the installation and shall identify the party (or parties) responsible for maintenance and operations. The parties shall retain a continuous record of all maintenance and repair activities, and shall retain the records for at least ten years. If a transfer of ownership occurs, these records of installation, repair, and maintenance shall be transferred to the new property owner. These records shall be made available to the Director of SPU during inspection of the facility and at other reasonable times upon request of the Director of SPU.

(Ord. 123105, § 3, 2009.)

22.803.30 - Minimum Requirements for Source Controls for All Real Property

For all discharges, responsible parties shall implement and maintain source controls to prevent or minimize pollutants from leaving a site or property. Source controls that are required for all real property include, but are not limited to, the following, as further described in rules promulgated by the Director:

- A. Eliminate Illicit or Prohibited Connections to Storm Drains. It is the responsibility of the property owner to ensure that all plumbing connections are properly made and that only connections conveying stormwater or permissible discharges per Section 22.802.030 are connected to the drainage system.
- B. Perform Routine Maintenance for Stormwater Drainage System. All drainage system components, including, but not limited to catch basins, flow control facilities, treatment facilities, green stormwater infrastructure, and unimproved drainage pathways shall be kept in continuously working order.

- C. Dispose of Fluids and Wastes Properly. Solid and liquid wastes must be disposed of in a manner that minimizes the risk of contaminating stormwater.
- D. Proper Storage of Solid Wastes. Solid wastes must be stored of in a manner that minimizes the risk of contaminating stormwater.
- E. Spill Prevention and Cleanup. All property owners having the potential to spill pollutants shall take measures to the maximum extent feasible to prevent spills of pollutant and to properly clean up spills that may occur.
- F. Provide Oversight and Training for Staff. Train at least annually all employees responsible for the operation, maintenance, or inspection of BMPs.

(Ord. 123105, § 3, 2009.)

22.803.040 - Minimum Requirements for Source Controls For All Businesses and Public Entities

- A. Source controls shall be implemented, to the extent allowed by law, by all businesses and public entities for specific pollution-generating activities as specified in the joint SPU/DPD Directors' Rule, "Source Control Technical Requirements Manual," to the extent necessary to prevent prohibited discharges as described in subsection 22.802.020.A through subsection 22.802.020.C, and to prevent contaminants from coming in contact with drainage water. Source controls include, but are not limited to, segregating or isolating wastes to prevent contact with drainage water; enclosing, covering, or containing the activity to prevent contact with drainage water; developing and implementing inspection and maintenance programs; sweeping; and taking management actions such as training employees on pollution prevention.
- B. Spill prevention shall be required for all businesses and public entities, as further defined in rules promulgated by the Director:
 - 1. Develop and implement plans and procedures to prevent spills and other accidental releases of materials that may contaminate drainage water. This requirement may be satisfied by a Stormwater Pollution Prevention Plan prepared in compliance with an NPDES industrial stormwater permit for the site; and
 - 2. Implement procedures for immediate containment and other appropriate action regarding spills and other accidental releases to prevent contamination of drainage water; and
 - 3. Provide necessary containment and response equipment on-site, and training of personnel regarding the procedures and equipment to be used.

(Ord. 123105, § 3, 2009.)

Chapter 22.805 - MINIMUM REQUIREMENTS FOR ALL PROJECTS

Sections:

22.805.010 - General

- A. All projects are required to comply with this chapter, even where drainage control review is not required.
- B. No discharge from a site, real property, or drainage facility, directly or indirectly to a public drainage system, private drainage system, or a receiving water within or contiguous to Seattle city limits, may cause or contribute to a prohibited discharge or a known or likely violation of water quality standards in the receiving water or a known or likely violation of the City's municipal stormwater NPDES permit.
- C. Every permit issued to implement this subtitle shall contain a performance standard requiring that no discharge from a site, real property, or drainage facility, directly or indirectly to a public drainage system, private drainage system, or a receiving water within or contiguous to Seattle city limits,

cause or contribute to a prohibited discharge or a known or likely violation of water quality standards in the receiving water or a known or likely violation of the City's municipal stormwater NPDES permit.

(Ord. 123105, § 3, 2009.)

22.805.020 - Minimum requirements for all projects

- A. Minimum Requirements for Maintaining Natural Drainage Patterns. For all projects, natural drainage patterns shall be maintained and discharges shall occur at the natural location to the maximum extent feasible and consistent with subsection 22.805.020.B. Drainage water discharged from the site shall not cause a significant adverse impact to receiving waters or down-gradient properties. Drainage water retained on the site shall not cause significant adverse impact to up-gradient properties.
- B. Minimum Requirements for Discharge Point. The discharge point for drainage water from each site shall be selected using criteria that shall include, but not be limited to, preservation of natural drainage patterns and whether the capacity of the drainage system is adequate for the flow rate and volume. For those projects meeting the drainage review threshold, the proposed discharge point shall be identified in the drainage control plan required by this subtitle, for review and approval or disapproval by the Director.
- C. Minimum Requirements for Flood-prone Areas. On sites within flood prone areas, responsible parties are required to employ procedures to minimize the potential for flooding on the site and to minimize the potential for the project to increase the risk of floods on adjacent or nearby properties. Flood control measures shall include those set forth in other titles of the Seattle Municipal Code and rules promulgated thereunder, including, but not limited to, Chapter 23.60 (Shoreline Master Program), Chapter 25.06 (Floodplain Development) and Chapter 25.09 (Environmentally Critical Areas) of the Seattle Municipal Code.
- D. Minimum Requirements for Construction Site Stormwater Pollution Prevention Control. Temporary and permanent construction controls shall be used to accomplish the following minimum requirements. All projects are required to meet each of the elements below or document why an element is not applicable. Additional controls may be required by the Director when minimum controls are not sufficient to prevent erosion or transport of sediment or other pollutants from the site.
 - 1. Mark Clearing Limits and Environmentally Critical Areas. Within the boundaries of the project site and prior to beginning land disturbing activities, including clearing and grading, clearly mark all clearing limits, easements, setbacks, all environmentally critical areas and their buffers, and all trees, and drainage courses that are to be preserved within the construction area.
 - 2. Retain Top Layer. Within the boundaries of the project site, the duff layer, topsoil, and native vegetation, if there is any, shall be retained in an undisturbed state to the maximum extent feasible. If it is not feasible to retain the top layer in place, it should be stockpiled on-site, covered to prevent erosion, and replaced immediately upon completion of the ground disturbing activities to the maximum extent feasible.
 - 3. Establish Construction Access. Limit construction vehicle access, whenever possible, to one route. Stabilize access points and minimize tracking sediment onto public roads. Promptly remove any sediment tracked off site.
 - 4. Protect Downstream Properties and Receiving Waters. Protect properties and receiving waters downstream from the development sites from erosion due to increases in the volume, velocity, and peak flow rate of drainage water from the project site. If it is necessary to construct flow control facilities to meet this requirement, these facilities shall be functioning prior to implementation of other land disturbing activity. If permanent infiltration ponds are used to control flows during construction, these facilities shall be protected from siltation during the construction phase of the project.
 - 5. Prevent Erosion and Sediment Transport from the Site. Pass all drainage water from disturbed areas through a sediment trap, sediment pond, or other appropriate sediment removal BMP

before leaving the site or prior to discharge to an infiltration facility. Sediment controls intended to trap sediment on site shall be constructed as one of the first steps in grading and shall be functional before other land disturbing activities take place. BMPs intended to trap sedimentation shall be located in a manner to avoid interference with the movement of juvenile salmonids attempting to enter off-channel areas or drainages.

6. Prevent Erosion and Sediment Transport from the Site by Vehicles. Whenever construction vehicle access routes intersect paved roads, the transport of sediment onto the paved road shall be minimized. If sediment is transported onto a paved road surface, the roads shall be cleaned thoroughly at the end of each day. Sediment shall be removed from paved roads by shoveling or sweeping and shall be transported to a controlled sediment disposal area. If sediment is tracked off site, roads shall be cleaned thoroughly at the end of each day, or at least twice daily during wet weather. Street washing is allowed only after sediment is removed and street wash wastewater shall be prevented from entering the public drainage system and receiving waters.
7. Stabilize Soils. Prevent on-site erosion by stabilizing all exposed and unworked soils, including stock piles and earthen structures such as dams, dikes, and diversions. From October 1 to April 30, no soils shall remain exposed and unworked for more than two days. From May 1 to September 30, no soils shall remain exposed for more than seven days. Soils shall be stabilized at the end of the shift before a holiday or weekend if needed based on the weather forecast. Soil stockpiles shall be stabilized from erosion, protected with sediment trapping measures, and be located away from storm drain inlets, waterways, and drainage channels. Before the completion of the project, permanently stabilize all exposed soils that have been disturbed during construction.
8. Protect Slopes. Erosion from slopes shall be minimized. Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Off-site stormwater run-on or groundwater shall be diverted away from slopes and undisturbed areas with interceptor dikes, pipes, and/or swales. Pipe slope drains or protected channels shall be constructed at the top of slopes to collect drainage and prevent erosion. Excavated material shall be placed on the uphill side of trenches, consistent with safety and space considerations. Check dams shall be placed at regular intervals within constructed channels that are cut down a slope.
9. Protect Storm Drains. Prevent sediment from entering all storm drains, including ditches that receive drainage water from the project. Storm drain inlet protection devices shall be cleaned or removed and replaced as recommended by the product manufacturer, or more frequently if required to prevent failure of the device or flooding. Storm drain inlets made operable during construction shall be protected so that drainage water does not enter the drainage system without first being filtered or treated to remove sediments. Storm drain inlet protection devices shall be removed at the conclusion of the project. When manufactured storm drain inlet protection devices are not feasible, inlets and catch basins must be cleaned as necessary to prevent sediment from entering the drainage control system.
10. Stabilize Channels and Outlets. All temporary on-site drainage systems shall be designed, constructed, and stabilized to prevent erosion. Stabilization shall be provided at the outlets of all drainage systems that is adequate to prevent erosion of outlets, adjacent stream banks, slopes, and downstream reaches.
11. Control Pollutants. Measures shall be taken to control potential pollutants that include, but are not limited to, the following measures:
 - a. All pollutants, including sediment, waste materials, and demolition debris, that occur onsite shall be handled and disposed of in a manner that does not cause contamination of drainage water and per all applicable disposal laws.
 - b. Containment, cover, and protection from vandalism shall be provided for all chemicals, liquid products, petroleum products, and other materials that have the potential to pose a threat to human health or the environment.

- c. On-site fueling tanks shall include secondary containment.
 - d. Maintenance, fueling, and repair of heavy equipment and vehicles involving oil changes, hydraulic system drain down, solvent and de-greasing cleaning operations, fuel tank drain down and removal, and other activities which may result in discharge or spillage of pollutants to the ground or into drainage water runoff shall be conducted using spill prevention and control measures.
 - e. Contaminated surfaces shall be cleaned immediately following any discharge or spill incident.
 - f. Wheel wash or tire bath wastewater shall be discharged to a separate on-site treatment system or to the sanitary sewer or combined sewer system with approval of the Director of SPU. Temporary discharges or connections to the public sanitary and combined sewers shall be made in accordance with Chapter 21.16 (Side Sewer Code).
 - g. Application of fertilizers and pesticides shall be conducted in a manner and at application rates that will not result in loss of chemical to drainage water. Manufacturers' label requirements for application rates and procedures shall be followed.
 - h. BMPs shall be used to prevent or treat contamination of drainage water by pH-modifying sources. These sources include, but are not limited to, bulk cement, cement kiln dust, fly ash, new concrete washing and curing waters, waste streams generated from concrete grinding and sawing, exposed aggregate processes, and concrete pumping and mixer washout waters. Construction site operators may be required to adjust the pH of drainage water if necessary to prevent a violation of water quality standards. Construction site operators must obtain written approval from Ecology prior to using chemical treatment other than carbon dioxide (CO₂) or dry ice to adjust pH.
12. Control Dewatering. When dewatering devices discharge on site or to a public drainage system, dewatering devices shall discharge into a sediment trap, sediment pond, gently sloping vegetated area of sufficient length to remove sediment contamination, or other sediment removal BMP. Foundation, vault, and trench dewatering waters must be discharged into a controlled drainage system prior to discharge to a sediment trap or sediment pond. Clean, non- turbid dewatering water, such as well-point ground water, that is discharged to systems tributary to state surface waters must not cause erosion or flooding. Highly turbid or contaminated dewatering water shall be handled separately from drainage water. For any project with an excavation depth of 12 feet or more below the existing grade and for all large projects, dewatering flows must be determined and it must be verified that there is sufficient capacity in the public drainage system and public combined sewer prior to discharging.
 13. Maintain BMPs. All temporary and permanent erosion and sediment control BMPs shall be maintained and repaired as needed to assure continued performance of their intended function. All temporary erosion and sediment controls shall be removed within five days after final site stabilization is achieved or after the temporary controls are no longer needed, whichever is later. Trapped sediment shall be removed or stabilized on site. Disturbed soil areas resulting from removal shall be permanently stabilized.
 14. Inspect BMPs. BMPs shall be periodically inspected. For projects with 5,000 square feet or more of new plus replaced impervious surface or 7,000 square feet or more of land disturbing activity, site inspections shall be conducted by a Certified Erosion and Sediment Control Lead who shall be identified in the Construction Stormwater Control Plan and shall be present on-site or on-call at all times.
 15. Execute Construction Stormwater Control Plan. Construction site operators shall maintain, update, and implement their Construction Stormwater Control Plan. Construction site operators shall modify their Construction Stormwater Control Plan to maintain compliance whenever there is a change in design, construction, operation, or maintenance at the site that has, or could have, a significant effect on the discharge of pollutants to waters of the state.

16. Minimize Open Trenches. In the construction of underground utility lines, where feasible, no more than 150 feet of trench shall be opened at one time, unless soil is replaced within the same working day, and where consistent with safety and space considerations, excavated material shall be placed on the uphill side of trenches. Trench dewatering devices shall discharge into a sediment trap or sediment pond.
 17. Phase the Project. Development projects shall be phased to the maximum extent feasible in order to minimize the amount of land disturbing activity occurring at the same time and shall take into account seasonal work limitations.
 18. Install Permanent Flow Control and Water Quality Facilities. Development projects required to comply with Section 22.805.080 (Minimum Requirements for Flow Control) or Section 22.805.090 (Minimum Requirements for Treatment) shall install permanent flow control and water quality facilities.
- E. Minimum Requirement to Amend Soils. Prior to completion of the project all new, replaced, and disturbed topsoil shall be amended with organic matter per rules promulgated by the Director to improve onsite management of drainage water flow and water quality.
 - F. Implement Green Stormwater Infrastructure. All Single-family residential projects and all other projects with 7,000 square feet or more of land disturbing activity or 2,000 square feet or more of new plus replaced impervious surface must implement green stormwater infrastructure to infiltrate, disperse, and retain drainage water onsite to the maximum extent feasible without causing flooding, landslide, or erosion impacts.
 - G. Protect Wetlands. All projects discharging into a wetland or its buffer, either directly or indirectly through a drainage system, shall prevent impacts to wetlands that would result in a net loss of functions or values.
 - H. Protect Streams and Creeks. All projects, including projects discharging directly to a stream or creek, or to a drainage system that discharges to a stream or creek, shall maintain the water quality in any affected stream or creek by selecting, designing, installing, and maintaining temporary and permanent controls.
 - I. Protect Shorelines. All projects discharging directly or indirectly through a drainage system into the Shoreline District as defined in Chapter 23.60A shall prevent impacts to water quality and stormwater quantity that would result in a net loss of shoreline ecological functions as defined in WAC 173-26-020 (11).
 - J. Ensure Sufficient Capacity. All large projects, all projects with an excavation depth of 12 feet or more below the existing grade, and all projects with an excavation depth of less than 12 feet located in an area expected to have shallow groundwater depths shall ensure that sufficient capacity exists in the public drainage system and public combined sewer to carry existing and anticipated loads, including any flows from dewatering activities. Capacity analysis shall extend to at least ¼-mile from the discharge point of the site. Sites at which there is insufficient capacity may be required to install a flow control facility or improve the drainage system or public combined sewer to accommodate flow from the site. Unless approved otherwise by the Director as necessary to meet the purposes of this subtitle:
 1. Capacity analysis for discharges to the public drainage system shall be based on peak flows with a 4% annual probability (25-year recurrence interval); and
 2. Capacity analysis for discharges to the public combined sewer shall be based on peak flows with a 20% annual probability (5-year recurrence interval).
 - K. Install Source Control BMPs. Source control BMPs shall be installed for specific pollution-generating activities as specified in the joint SPU/DPD Directors' Rule, "Source Control Technical Requirements Manual," to the extent necessary to prevent prohibited discharges as described in Section 22.802.020, and to prevent contaminants from coming in contact with drainage water. This requirement applies to the pollution-generating activities that are stationary or occur in one primary

location and to the portion of the site being developed. Examples of installed source controls include, but are not limited to, the following:

1. A roof, awning, or cover erected over the pollution-generating activity area;
 2. Ground surface treatment in the pollution-generating activity area to prevent interaction with, or breakdown of, materials used in conjunction with the pollution-generating activity;
 3. Containment of drainage from the pollution-generating activity to a closed sump or tank. Contents of such a sump or tank must be pumped or hauled by a waste handler, or treated prior to discharge to a public drainage system.
 4. Construct a berm or dike to enclose or contain the pollution-generating activities;
 5. Direct drainage from containment area of pollution-generating activity to a closed sump or tank for settling and appropriate disposal, or treat prior to discharging to a public drainage system;
 6. Pave, treat, or cover the containment area of pollution-generating activities with materials that will not interact with or break down in the presence of other materials used in conjunction with the pollution-generating activity; and
 7. Prevent precipitation from flowing or being blown onto containment areas of pollution-generating activities.
- L. Do not obstruct watercourses. Watercourses shall not be obstructed.
- M. Comply with Side Sewer Code.
1. All privately owned and operated drainage control facilities or systems, whether or not they discharge to a public drainage system, shall be considered side sewers and subject to Chapter 21.16 (Side Sewer Code), SPU Director's Rules promulgated under Title 21, and the design and installation specifications and permit requirements of SPU and DPD for side sewer and drainage systems.
 2. Side sewer permits and inspections shall be required for constructing, capping, altering, or repairing privately owned and operated drainage systems as provided for in Chapter 21.16. When the work is ready for inspection, the permittee shall notify the Director of DPD. If the work is not constructed according to the plans approved under this subtitle, Chapter 21.16, the SPU Director's Rules promulgated under Title 21, and SPU and DPD design and installation specifications, then SPU, after consulting with DPD, may issue a stop work order under Chapter 22.808 and require modifications as provided for in this subtitle and Chapter 21.16.

(Ord. [124105](#), § 7, 2013; Ord. 123105, § 3, 2009.)

22.805.030 - Minimum Requirements for Single-Family Residential Projects

All single-family residential projects shall implement green stormwater infrastructure to the maximum extent feasible.

(Ord. 123105, § 3, 2009.)

22.805.040 - Minimum Requirements for Trail and Sidewalk Projects

All trail and sidewalk projects with 2,000 square feet or more of new plus replaced impervious surface or 7,000 square feet or more of land disturbing activity shall implement green stormwater infrastructure to the maximum extent feasible.

(Ord. 123105, § 3, 2009.)

22.805.050 - Minimum Requirements for Parcel-Based Projects

- A. Flow Control. Parcel-based projects shall meet the minimum requirements for flow control contained in Section 22.805.080, to the extent allowed by law, as prescribed below.

1. Discharges to Wetlands. Parcel-based projects discharging into a wetland shall comply with subsection 22.805.080.B.1 (Wetland Protection Standard) if:
 - a. The total new plus replaced impervious surface is 5,000 square feet or more; or
 - b. The project converts $\frac{3}{4}$ -acres or more of native vegetation to lawn or landscaped areas and from which there is a surface discharge into a natural or man-made conveyance system from the site; or
 - c. The project converts 2.5 acres or more of native vegetation to pasture and from which there is a surface discharge into a natural or man-made conveyance system from the site.
2. Discharges to Listed Creek Basins. Parcel-based projects discharging into Blue Ridge Creek, Broadview Creek, Discovery Park Creek, Durham Creek, Frink Creek, Golden Gardens Creek, Kiwanis Ravine/Wolfe Creek, Licton Springs Creek, Madrona Park Creek, Mee-Kwa-Mooks Creek, Mount Baker Park Creek, Puget Creek, Riverview Creek, Schmitz Creek, Taylor Creek, or Washington Park Creek shall:
 - a. Comply with subsection 22.805.080.B.2 (Pre-developed Forested Standard) if the existing impervious coverage is less than 35 percent and one or more of the following apply:
 - 1) The project adds 5,000 square feet or more of new impervious surface and the total new plus replaced impervious surface is 10,000 square feet or more; or
 - 2) The project converts $\frac{3}{4}$ acres or more of native vegetation to lawn or landscaped areas and from which there is a surface discharge into a natural or man-made conveyance system from the site; or
 - 3) The project converts 2.5 acres or more of native vegetation to pasture and from which there is a surface discharge into a natural or man-made conveyance system from the site; or
 - 4) The project adds 5,000 square feet or more of new impervious surface and, through a combination of effective impervious surfaces and converted pervious surfaces, causes a 0.1 cubic feet per second increase in the 100-year recurrence interval flow frequency as estimated using a continuous model approved by the Director.
 - b. Comply with subsection 22.805.080.B.3 (Pre-developed Pasture Standard) if the criteria in subsection 22.805.050.A.2.a do not apply and the total new plus replaced impervious surface is 2,000 square feet or more.
3. Discharges to Non-listed Creek Basins. Parcel-based projects discharging into a creek not listed in subsection 22.805.050.A.2 shall:
 - a. Comply with subsection 22.805.080.B.2 (Pre-developed Forested Standard) if the existing land cover is forested and one or more of the following apply:
 - 1) The project adds 5,000 square feet or more of new impervious surface and the total new plus replaced impervious surface is 10,000 square feet or more; or
 - 2) The project converts $\frac{3}{4}$ acres or more of native vegetation to lawn or landscaped areas and from which there is a surface discharge into a natural or man-made conveyance system from the site; or
 - 3) The project converts 2.5 acres or more of native vegetation to pasture and from which there is a surface discharge into a natural or man-made conveyance system from the site; or
 - 4) The project adds 5,000 square feet or more of new impervious surface and, through a combination of effective impervious surfaces and converted pervious surfaces, causes a 0.1 cubic feet per second increase in the 100-year recurrence interval flow frequency as estimated using a continuous model approved by the Director.

- b. Comply with subsection 22.805.080.B.3 (Pre-developed Pasture Standard) if the criteria in subsection 22.805.050.A.3.a do not apply and the total new plus replaced impervious surface is 2,000 square feet or more.
 - 4. Discharges to Small Lake Basins. Parcel-based projects discharging into Bitter Lake, Green Lake, or Haller Lake drainage basins shall comply with subsection 22.805.080.B.4 (Peak Control Standard) if the total new plus replaced impervious surface is 2,000 square feet or more.
 - 5. Discharges to Public Combined Sewer. Unless the Director of SPU has exercised its discretion to determine and has determined that the public combined sewer has sufficient capacity to carry existing and anticipated loads, parcel-based projects discharging into the public combined sewer shall comply with subsection 22.805.080.B.4 (Peak Control Standard) if the total new plus replaced impervious surface is 10,000 square feet or more.
 - 6. Discharges to a Capacity-constrained System. In addition to applicable minimum requirements for flow control in subsection 22.805.050.A.1 through subsection 22.805.050.A.5, parcel-based projects discharging into a capacity-constrained system shall also comply with subsection 22.805.080.B.4 (Peak Control Standard) if the total new plus replaced impervious surface is 2,000 square feet or more.
- B. Treatment. Parcel-based projects not discharging to the public combined sewer shall comply with the minimum requirements for treatment contained in Section 22.805.090, to the extent allowed by law, if:
- 1. The total new plus replaced pollution-generating impervious surface is 5,000 square feet or more; or
 - 2. The total new plus replaced pollution-generating pervious surfaces is $\frac{3}{4}$ of an acre or more and from which there is a surface discharge in a natural or man-made conveyance system from the site.

(Ord. [124758](#), § 2, 2015; Ord. 123105, § 3, 2009.)

22.805.060 - Minimum Requirements for Roadway Projects

- A. Flow Control. Roadway projects shall meet the minimum requirements for flow control contained in Section 22.805.080, to the extent allowed by law, as prescribed below.
- 1. Discharges to Wetlands. Roadway projects discharging into a wetland shall comply with subsection 22.805.080.B.1 (Wetland Protection Standard) if:
 - a. The total new plus replaced impervious surface is 5,000 square feet or more; or
 - b. The project converts $\frac{3}{4}$ acres or more of native vegetation to lawn or landscaped areas and from which there is a surface discharge into a natural or man-made conveyance system from the site; or
 - c. The project converts 2.5 acres or more of native vegetation to pasture and from which there is a surface discharge into a natural or man-made conveyance system from the site.
 - 2. Discharges to Listed Creek Basins. Roadway projects discharging into Blue Ridge Creek, Broadview Creek, Discovery Park Creek, Durham Creek, Frink Creek, Golden Gardens Creek, Kiwanis Ravine/Wolfe Creek, Licton Springs Creek, Madrona Park Creek, Mee-Kwa-Mooks Creek, Mount Baker Park Creek, Puget Creek, Riverview Creek, Schmitz Creek, Taylor Creek, or Washington Park Creek shall:
 - a. Comply with subsection 22.805.080.B.2 (Pre-developed Forested Standard) if the existing impervious coverage is less than 35 percent and one or more of the following apply:
 - 1) The project adds 5,000 square feet or more of new impervious surface and the total new plus replaced impervious surface is 10,000 square feet or more; or

- 2) The project converts $\frac{3}{4}$ acres or more of native vegetation to lawn or landscaped areas and from which there is a surface discharge into a natural or man-made conveyance system from the site; or
 - 3) The project converts 2.5 acres or more of native vegetation to pasture and from which there is a surface discharge into a natural or man-made conveyance system from the site; or
 - 4) The project adds 5,000 square feet or more of new impervious surface and, through a combination of effective impervious surfaces and converted pervious surfaces, causes a 0.1 cubic feet per second increase in the 100-year recurrence interval flow frequency as estimated using a continuous model approved by the Director.
- b. Comply with subsection 22.805.080.B.3 (Pre-developed Pasture Standard) if the criteria in subsection 22.805.060.A.2.a do not apply and the total new plus replaced impervious surface is 10,000 square feet or more.
3. Discharges to Non-listed Creek Basins. Roadway projects discharging into a creek not listed in subsection 22.805.060.A.2 shall:
 - a. Comply with subsection 22.805.080.B.2 (Pre-developed Forested Standard) if the existing land cover is forested and one or more of the following apply:
 - 1) The project adds 5,000 square feet or more of new impervious surface and the total new plus replaced impervious surface is 10,000 square feet or more; or
 - 2) The project converts $\frac{3}{4}$ acres or more of native vegetation to lawn or landscaped areas and from which there is a surface discharge into a natural or man-made conveyance system from the site; or
 - 3) The project converts 2.5 acres or more of native vegetation to pasture and from which there is a surface discharge into a natural or man-made conveyance system from the site; or
 - 4) The project adds 5,000 square feet or more of new impervious surface and, through a combination of effective impervious surfaces and converted pervious surfaces, causes a 0.1 cubic feet per second increase in the 100-year recurrence interval flow frequency as estimated using a continuous model approved by the Director.
 - b. Comply with subsection 22.805.080.B.3 (Pre-developed Pasture Standard) if the criteria in subsection 22.805.060.A.3.a do not apply and the total new plus replaced impervious surface is 10,000 square feet or more.
 4. Discharges to Small Lake Basins. Projects discharging into Bitter Lake, Green Lake, or Haller Lake drainage basins shall comply with subsection 22.805.080.B.4 (Peak Control Standard) if the total new plus replaced impervious surface is 10,000 square feet or more.
 5. Discharges to Public Combined Sewer. Unless the Director of SPU has exercised its discretion to determine and has determined that the public combined sewer has sufficient capacity to carry existing and anticipated loads, roadway projects discharging into the public combined sewer shall comply with subsection 22.805.080.B.4 (Peak Control Standard) if the total new plus replaced impervious surface is 10,000 square feet or more.
 6. Discharges to a Capacity-constrained System. In addition to applicable minimum requirements for flow control in subsection 22.805.060.A.1 through subsection 22.805.060.A.5, roadway projects discharging into a capacity-constrained system shall also comply with subsection 22.805.080.B.4 (Peak Control Standard) if the total new plus replaced impervious surface is 10,000 square feet or more.
- B. Treatment. Roadway projects not discharging to the public combined sewer shall, to the extent allowed by law:

1. If the site has less than 35 percent existing impervious surface coverage, and the project's total new plus replaced pollution-generating impervious surface is 5,000 square feet or more, comply with the minimum requirements for treatment contained in Section 22.805.090 for flows from the total new plus replaced pollution-generating impervious surface; and
2. If the site has greater than or equal to 35 percent existing impervious surface coverage and the project's total new pollution-generating impervious surface is 5,000 square feet or more, and
 - a. If the new pollution-generating impervious surface adds 50 percent or more to the existing impervious surfaces within the project limits, comply with the minimum requirements for treatment contained in Section 22.805.090 for flows from the total new plus replaced pollution-generating impervious surface. The project limits are defined by the length of the project and the width of the right-of-way; or
 - b. If the new pollution-generating impervious surface adds less than 50 percent to the existing impervious surfaces within the project limits, comply with the minimum requirements for treatment contained in Section 22.805.090 for flows from the total new plus replaced pollution-generating impervious surface. The project limits are defined by the length of the project and the width of the right-of-way; and
3. If the total new plus replaced pollution-generating pervious surfaces is three-quarters of an acre or more and from which there is a surface discharge in a natural or man-made conveyance system from the site, comply with the minimum requirements for treatment contained in Section 22.805.090 for flows from the total new plus replaced pollution-generating pervious surface.

(Ord. [124758](#), § 3, 2015; Ord. 123105, § 3, 2009.)

22.805.070 - Minimum Requirements for Joint Parcel-Based and Roadway Projects

The parcel-based portion of joint projects shall comply with the minimum requirements for parcel-based projects contained in Section 22.805.050. The roadway portion of joint projects shall comply with the minimum requirements roadway projects contained in Section 22.805.060. The boundary of the public right-of-way shall form the boundary between the parcel and roadway portions of the joint project for purposes of determining applicable thresholds.

(Ord. 123105, § 3, 2009.)

22.805.080 - Minimum Requirements for Flow Control

- A. Applicability. The requirements of this subsection apply to the extent required in Section 22.805.050 to Section 22.805.070.
- B. Requirements. Flow control facilities shall be installed to the extent allowed by law and maintained per rules promulgated by the Director to receive flows from that portion of the site being developed. Post-development discharge determination must include flows from dewatering activities. All projects shall use green stormwater infrastructure to the maximum extent feasible to meet the minimum requirements. Flow control facilities that receive flows from less than that portion of the site being developed may be installed if the total new plus replaced impervious surface is less than 10,000 square feet, the project site uses only green stormwater infrastructure to meet the requirement, and the green stormwater infrastructure provides substantially equivalent environmental protection as facilities not using green stormwater infrastructure that receive flows from all of the portion of the site being developed.
 1. Wetland Protection Standard. All projects discharging to wetlands or their buffers shall protect the hydrologic conditions, vegetative community, and substrate characteristics of the wetlands and their buffers to protect the functions and values of the affected wetlands. The introduction of sediment, heat and other pollutants and contaminants into wetlands shall be minimized through the selection, design, installation, and maintenance of temporary and permanent controls. Discharges shall maintain existing flows to the extent necessary to protect the functions and values of the wetlands. Prior to authorizing new discharges to a wetland, alternative discharge

locations shall be evaluated and infiltration options outside the wetland shall be maximized unless doing so will adversely impact the functions and values of the affected wetlands. If one or more of the flow control requirements contained in 22.805.080.B.2 through 22.805.080.B.4 also apply to the project, an analysis shall be conducted to ensure that the functions and values of the affected wetland are protected before implementing these flow control requirements.

2. Pre-developed Forested Standard. The post-development discharge peak flow rates and flow durations must be matched to the pre-developed forested condition for the range of pre-developed discharge rates from 50% of the 2-year recurrence interval flow up to the 50-year recurrence interval flow.
 3. Pre-developed Pasture Standard. The post-development discharge peak flow rates and flow durations must be matched to the pre-developed pasture condition for the range of pre-developed discharge rates from 50% of the 2-year recurrence interval flow up to the 2-year recurrence interval flow.
 4. Peak Flow Control Standard. The post-development peak flow with a 4% annual probability (25-year recurrence flow) shall not exceed 0.4 cubic feet per second per acre. Additionally, the peak flow with a 50% annual probability (2-year recurrence flow) shall not exceed 0.15 cubic feet per second per acre.
- C. Inspection and Maintenance Schedule. Temporary and permanent flow control facilities shall be inspected and maintained according to rules promulgated by the Director to keep these facilities in continuous working order.

(Ord. 123105, § 3, 2009.)

22.805.090 - Minimum Requirements for Treatment.

- A. Applicability. The requirements of this subsection apply to the extent required in Section 22.805.050 to Section 22.805.070.
- B. Requirements. Water quality treatment facilities shall be installed to the extent allowed by law and maintained per rules promulgated by the Director to treat flows from the pollution generating pervious and impervious surfaces on the site being developed. When stormwater flows from other areas, including non-pollution generating surfaces (e.g., roofs), dewatering activities, and offsite areas, cannot be separated or bypassed, treatment BMPs shall be designed for the entire area draining to the treatment facility. All projects shall use green stormwater infrastructure the maximum extent feasible to meet the minimum requirements.
 1. Runoff Volume. Stormwater treatment facilities shall be designed based on the stormwater runoff volume from the contributing area or a peak flow rate as follows:
 - a. The daily runoff volume at or below which 91 percent of the total runoff volume for the simulation period occurs, as determined using an approved continuous model. It is calculated as follows:
 - 1) Rank the daily runoff volumes from highest to lowest.
 - 2) Sum all the daily volumes and multiply by 0.09.
 - 3) Sequentially sum daily runoff volumes, starting with the highest value, until the total equals 9 percent of the total runoff volume. The last daily value added to the sum is defined as the water quality design volume.
 - b. Different design flow rates are required depending on whether a treatment facility will be located upstream or downstream of a detention facility:
 - 1) For facilities located upstream of detention or when detention is not required, the design flow rate is the flow rate at or below which 91 percent of the total runoff volume for the simulation period is treated, as determined using an approved continuous runoff model.

- 2) For facilities located downstream of detention, the design flow rate is the release rate from the detention facility that has a 50 percent annual probability of occurring in any given year (2-year recurrence interval), as determined using an approved continuous runoff model.
- c. Infiltration facilities designed for water quality treatment must infiltrate 91 percent of the total runoff volume as determined using an approved continuous runoff model. To prevent the onset of anaerobic conditions, an infiltration facility designed for water quality treatment purposes must be designed to drain the water quality design treatment volume (the 91st percentile, 24-hour volume) within 48 hours.
2. Basic Treatment. A basic treatment facility shall be required for all projects. The requirements of subsection 22.805.090 B3 (Oil Control Treatment), subsection 22.805.090 B4 (Phosphorus Treatment), subsection 22.805.090.B.5 (Enhanced Treatment) are in addition to this basic treatment requirement.
3. Oil Control Treatment. An oil control treatment facility shall be required for high-use sites, as defined in this subtitle.
4. Phosphorus Treatment. A phosphorus treatment facility shall be required for projects discharging into nutrient-critical receiving waters.
5. Enhanced Treatment. An enhanced treatment facility for reducing concentrations of dissolved metals shall be required for projects discharging to a fish-bearing stream or lake, and to waters or drainage systems that are tributary to fish-bearing streams, creeks, or lakes, if the project meets one of the following criteria:
 - a. For a parcel-based project, the total of new plus replaced pollution-generating impervious surface is 5,000 square feet or more, and the site is an industrial, commercial, or multi-family project.
 - b. For a roadway project, the project adds 5,000 square feet or more of pollution-generating impervious surface, and the site is either:
 - 1) A fully controlled or a partially controlled limited access highway with Annual Average Daily Traffic counts of 15,000 or more; or
 - 2) Any other road with an Annual Average Daily Traffic count of 7,500 or greater.
6. Discharges to Groundwater. Direct discharge of untreated drainage water from pollution-generating impervious surfaces to ground water is prohibited.
- C. Inspection and Maintenance Schedule. Temporary and permanent treatment facilities shall be inspected and maintained according to rules promulgated by the Director to keep these facilities to be kept in continuous working order.

(Ord. 123105, § 3, 2009.)

Chapter 22.807 - DRAINAGE CONTROL REVIEW AND APPLICATION REQUIREMENTS

22.807.010 - General

- A. No discharge from a site, real property, or drainage facility, directly or indirectly to a public drainage system, private drainage system, or a receiving water within or contiguous to Seattle city limits, may cause or contribute to a prohibited discharge or a known or likely violation of water quality standards in the receiving water or a known or likely violation of the City's municipal stormwater NPDES permit.
- B. Every permit issued to implement this subtitle shall contain a performance standard requiring that no discharge from a site, real property, or drainage facility, directly or indirectly to a public drainage system, private drainage system, or a receiving water within or contiguous to Seattle city limits, cause or contribute to a prohibited discharge or a known or likely violation of water quality standards in the receiving water or a known or likely violation of the City's municipal stormwater NPDES permit.

(Ord. 123105, § 3, 2009.)

22.807.020 - Drainage control review and application requirements

- A. Thresholds for Drainage Control Review. Drainage control review and approval shall be required for any of the following:
1. Standard drainage control review and approval shall be required for the following:
 - a. Any land disturbing activity encompassing an area of seven hundred fifty (750) square feet or more;
 - b. Applications for either a master use permit or building permit that includes the cumulative addition of 750 square feet or more of land disturbing activity and/or new and replaced impervious surface;
 - c. Applications for which a grading permit or approval is required per SMC 22.170;
 - d. Applications for street use permits for the cumulative addition of 750 square feet or more of new and replaced impervious surface and land disturbing activity;
 - e. City public works projects or construction contracts, including contracts for day labor and other public works purchasing agreements, for the cumulative addition of 750 square feet or more of new and replaced impervious surface and/or land disturbing activity to the site, except for projects in a City-owned right-of-way and except for work performed for the operation and maintenance of park lands under the control or jurisdiction of the Department of Parks and Recreation; or
 - f. Permit approvals and contracts that include any new or replaced impervious surface or any land disturbing activity on a site deemed a potentially hazardous location, as specified in Section 22.800.050 (Potentially Hazardous Locations);
 - g. Permit approvals that include any new impervious surface in a Category I peat settlement-prone area delineated pursuant to subsection 25.09.020; or
 - h. Whenever an exception to a requirement set forth in this subtitle or in a rule promulgated under this subtitle is desired, whether or not review and approval would otherwise be required, including but not limited to, alteration of natural drainage patterns or the obstruction of watercourses.
 2. Large project drainage control review and approval shall be required for projects that include:
 - a. Five thousand square feet or more of new plus replaced impervious surface;
 - b. One acre or more of land disturbing activity;
 - c. Conversion of $\frac{3}{4}$ acres or more of native vegetation to lawn or landscaped area;
 - d. Conversion of 2.5 acres or more of native vegetation to pasture.
 3. The City may, by interagency agreement signed by the Directors of SPU and DPD, waive the drainage and erosion control permit and document requirements for property owned by public entities, when discharges for the property do not enter the public drainage system or the public combined sewer system.
- B. Submittal Requirements for Drainage Control Review and Approval
1. Information Required for Standard Drainage Control Review. The following information shall be submitted to the Director for all projects for which drainage control review is required.
 - a. Standard Drainage Control Plan. A drainage control plan shall be submitted to the Director. Standard designs for drainage control facilities as set forth in rules promulgated by the Director may be used.
 - b. Construction Stormwater Control Plan. A construction stormwater control plan demonstrating controls sufficient to determine compliance with subsection 22.805.020.D

shall be submitted. The Director may approve a checklist in place of a plan, pursuant to rules promulgated by the Director.

- c. Memorandum of Drainage Control. The owner(s) of the site shall sign a "memorandum of drainage control" that has been prepared by the Director of SPU. Completion of the memorandum shall be a condition precedent to issuance of any permit or approval for which a drainage control plan is required. The applicant shall file the memorandum of drainage control with the King County Recorder's Office so as to become part of the King County real property records. The applicant shall give the Director of SPU proof of filing of the memorandum. The memorandum shall not be required when the drainage control facility will be owned and operated by the City. A memorandum of drainage control shall include:
 - 1) The legal description of the site;
 - 2) A summary of the terms of the drainage control plan, including any known limitations of the drainage control facilities, and an agreement by the owners to implement those terms;
 - 3) An agreement that the owner(s) shall inform future purchasers and other successors and assignees of the existence of the drainage control facilities and other elements of the drainage control plan, the limitations of the drainage control facilities, and of the requirements for continued inspection and maintenance of the drainage control facilities;
 - 4) The side sewer permit number and the date and name of the permit or approval for which the drainage control plan is required;
 - 5) Permission for the City to enter the property for inspection, monitoring, correction, and abatement purposes;
 - 6) An acknowledgment by the owner(s) that the City is not responsible for the adequacy or performance of the drainage control plan, and a waiver of any and all claims against the City for any harm, loss, or damage related to the plan, or to drainage or erosion on the property, except for claims arising from the City's sole negligence; and
 - 7) The owner(s)' signatures acknowledged by a notary public.
2. Information Required for Large Project Drainage Control Review. In addition to the submittal requirements for standard drainage control review, the following information is required for projects that include: one acre or more of land disturbing activities; 5,000 square feet or more of new and replaced impervious surface; conversion of $\frac{3}{4}$ acres or more of native vegetation to lawn or landscaped area; or conversion of 2.5 acres or more of native vegetation to pasture.
 - a. Comprehensive Drainage Control Plan. A comprehensive drainage control plan, in lieu of a standard drainage control plan, to comply with the requirements of this subtitle and rules promulgated hereunder and to accomplish the purposes of this subtitle shall be submitted with the permit application. It shall be prepared by a licensed civil engineer in accordance with standards adopted by the Director of DPD.
 - b. Inspection and Maintenance Schedule. A schedule shall be submitted that provides for inspection of temporary and permanent flow control facilities, treatment facilities, and source controls to comply with Section 22.805.080 (Minimum Requirements for Flow Control) and Section 22.805.090 (Minimum Requirements for Treatment).
 - c. Construction Stormwater Control Plan. A construction stormwater control plan prepared in accordance with subsection 22.805.020.D shall be submitted.
 3. Applications for drainage control review and approval shall be prepared and submitted in accordance with provisions of this subsection, with Chapter 21.16 (Side Sewer Code) and with associated rules and regulations adopted jointly by the Directors of DPD and SPU.

4. The Director of DPD may require additional information necessary to adequately evaluate applications for compliance with the requirements and purposes of this subtitle and other laws and regulations, including but not limited to Chapter 25.09 (Regulations for Environmentally Critical Areas) and Chapter 23.60A. The Director of DPD may also require appropriate information about adjoining properties that may be related to, or affected by, the drainage control proposal in order to evaluate effects on the adjacent property. This additional information may be required as a precondition for permit application review and approval.
 5. Where an applicant simultaneously applies for more than one of the permits listed in subsection 22.807.020.A for the same property, the application shall comply with the requirements for the permit that is the most detailed and complete.
- C. Authority to Review. The Director may approve those plans that comply with the provisions of this subtitle and rules promulgated hereunder, and may place conditions upon the approval in order to assure compliance with the provisions of this subtitle. Submission of the required drainage control application information shall be a condition precedent to the processing of any of the above-listed permits. Approval of drainage control shall be a condition precedent to issuance of any of the above-listed permits. The Director may review and inspect activities subject to this subtitle and may require compliance regardless of whether review or approval is specifically required by this subsection. The Director may disapprove plans that do not comply with the provisions of this subtitle and rules promulgated hereunder. Disapproved plans shall be returned to the applicant, who may correct and resubmit the plans.

(Ord. [124105](#), § 8, 2013; Ord. 123105, § 3, 2009.)

22.807.090 - Maintenance and Inspection

- A. Responsibility for Maintenance and Inspection. The owner and other responsible party shall maintain drainage control facilities, source controls, and other facilities required by this subtitle and by rules adopted hereunder to keep these facilities in continuous working order. The owner and other responsible party shall inspect permanent drainage control facilities temporary drainage control facilities, and other temporary best management practices or facilities on a schedule consistent with this subtitle and sufficient for the facilities to function at design capacity. The Director may require the responsible party to conduct more frequent inspections and/or maintenance when necessary to ensure functioning at design capacity. The owner(s) shall inform future purchasers and other successors and assignees to the property of the existence of the drainage control facilities and the elements of the drainage control plan, the limitations of the drainage control facilities, and the requirements for continued inspection and maintenance of the drainage control facilities.
- B. Inspection by City. The Director of SPU may establish inspection programs to evaluate and, when required, enforce compliance with the requirements of this subtitle and accomplishment of its purposes. Inspection programs may be established on any reasonable basis, including but not limited to: routine inspections; random inspections; inspections based upon complaints or other notice of possible violations; inspection of drainage basins or areas identified as higher than typical sources of sediment or other contaminants or pollutants; inspections of businesses or industries of a type associated with higher than usual discharges of contaminants or pollutants or with discharges of a type which are more likely than the typical discharge to cause violations of state or federal water or sediment quality standards or the City's NPDES stormwater permit; and joint inspections with other agencies inspecting under environmental or safety laws. Inspections may include, but are not limited to: reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and material or water in drainage control facilities; and evaluating the condition of drainage control facilities and other best management practices.
- C. Entry for Inspection and Abatement Purposes.
 1. New Installations and Connections. When any new drainage control facility is installed on private property, and when any new connection is made between private property and a public drainage system, sanitary sewer or combined sewer, the property owner shall grant, per subsection 22.807.020.B.1.c (Memorandum of Drainage Control), the City the right to enter the

property at reasonable times and in a reasonable manner pursuant to an inspection program established pursuant subsection 22.807.090.B, and to enter the property when the City has a reasonable basis to believe that a violation of this subtitle is occurring or has occurred, and to enter when necessary for abatement of a public nuisance or correction of a violation of this subtitle.

2. Existing Real Property and Discharges. Owners of property with existing discharges or land uses subject to this subtitle who are not installing a new drainage control facility or making a new connection between private property and a public drainage system, sanitary sewer or combined sewer, shall have the option to execute a permission form for the purposes described above when provided with the form by the Director of SPU.

(Ord. 123105, § 3, 2009.)

Chapter 22.808 - STORMWATER CODE ENFORCEMENT

22.808.010 - Violations

A. Civil Violations.

1. The following are civil violations of this subtitle, subject to a maximum civil penalty of up to \$5,000 per day for each violation.
 - a. General. It is a violation to not comply with any requirement of, or to act in a manner prohibited by, this subtitle, or a permit, approval, rule, manual, order, or Notice of Violation issued pursuant to this subtitle;
 - b. Aiding and Abetting. It is a violation to aid, abet, counsel, encourage, commend, incite, induce, hire or otherwise procure another person to violate this subtitle;
 - c. Alteration of Existing Drainage. It is a violation to alter existing drainage patterns which serve a tributary area of more than one acre without authorization or approval by the Director;
 - d. Obstruction of Watercourse. It is a violation to obstruct a watercourse without authorization or approval by the Director;
 - e. Dangerous Condition. It is a violation to allow to exist, or cause or contribute to, a condition of a drainage control facility, or condition related to grading, drainage water, drainage or erosion that is likely to endanger the public health, safety or welfare, the environment, or public or private property;
 - f. Interference. It is a violation for any person to interfere with or impede the correction of any violation, or compliance with any Notice of Violation, emergency order, stop work order, or the abatement of any nuisance;
 - g. Piecemeal of Projects. It is a violation for any person to knowingly divide a large project into a set of smaller projects specifically for the purpose of avoiding minimum requirements;
 - h. Altering a Posted Order. It is a violation for any person to remove, obscure, or mutilate any posted order of the Director, including a stop work or emergency order; and
 - i. Continuing Work. It is a violation for any work to be done after service or posting of a stop work order, except work necessary to perform the required corrective action, until authorization is given by the Director.

B. Criminal Violations.

1. The following are criminal violations, punishable upon conviction by a fine of not more than \$5,000 per violation or imprisonment for each violation for not more than 360 days, or both such fine and imprisonment:

- a. Failing to comply with a Notice of Violation or Director's order issued pursuant to this subtitle;
- b. Failing to comply with a court order;
- c. Tampering with or vandalizing any part of a drainage control facility or other best management practice, a public or private drainage system, monitoring or sampling equipment or records, or notices posted pursuant to this subtitle; and
- d. Anyone violating this subtitle who has had a judgment, final Director's order, or Director's review decision against them for a prior violation of this subtitle in the preceding five years.

(Ord. 123105, § 4, 2009.)

22.808.020 - Liability and Defenses of Responsible Parties

- A. Who Must Comply. It is the specific intent of this subtitle to place the obligation of complying with its requirements upon the responsible parties, as defined in subsection 22.801.190. The City and its agencies are intended to have the same obligation for compliance when the City is a responsible party. No provision of this subtitle is intended to impose any other duty upon the City or any of its officers or employees.
 1. Joint and Several Liability. Each responsible party is jointly and severally liable for a violation of this subtitle. The Director may take enforcement action, in whole or in part, against any responsible party. All applicable civil penalties may be imposed against each responsible party.
 2. Allocation of Damages. In the event enforcement action is taken against more than one responsible party, recoverable damages, costs, and expenses may be allocated among the responsible parties by the court based upon the extent to which each responsible party's acts or omissions caused the violation. If this factor cannot be determined the court may consider:
 - a. Awareness of the violation;
 - b. Ability to correct the violation;
 - c. Ability to pay the damages, costs, and expenses;
 - d. Cooperation with government agencies;
 - e. Degree to which any impact or threatened impact on water or sediment quality, human health, the environment, or public or private property is related to acts or omissions by each responsible party;
 - f. Degree to which the responsible parties made good-faith efforts to avoid a violation or to mitigate its consequences; and
 - g. Other equitable factors.
- B. Defenses. A responsible party shall not be liable under this subtitle when the responsible party proves, by a preponderance of the evidence, one of the following:
 1. The violation was caused solely by an act of God;
 2. The violation was caused solely by another responsible party over whom the defending responsible party had no authority or control and the defending responsible party could not have reasonably prevented the violation;
 3. The violation was caused solely by a prior owner or occupant when the defending responsible party took possession of the property without knowledge of the violation, after using reasonable efforts to identify violations. But, the defending responsible party shall be liable for all continuing, recurrent, or new violations after becoming the owner or occupant; or
 4. The responsible party implemented and maintained all appropriate drainage control facilities, treatment facilities, flow control facilities, erosion and sediment controls, source controls, and best management practices identified in rules promulgated by the Director or in manuals

published by the State Department of Ecology, or as otherwise identified and required of the responsible party by the Director in writing.

(Ord. 123105, § 4, 2009.)

22.808.025 - Right of Entry for Enforcement

With the consent of the owner or occupant of a building, premises, or property, or pursuant to a lawfully issued warrant, the Director may enter a building, premises, or property at any reasonable time to perform the duties imposed by this code.

(Ord. 123105, § 4, 2009.)

22.808.030 - Enforcement Actions

A. Investigation. The Director may investigate any site where there is reason to believe that there may be a failure to comply with the requirements of this subtitle.

B. Notice of Violation.

1. Issuance. The Director is authorized to issue a Notice of Violation to a responsible party, whenever the Director determines that a violation of this subtitle has occurred or is occurring. The Notice of Violation shall be considered an order of the Director.
2. Contents.
 - a. The Notice of Violation shall include the following information:
 - 1) A description of the violation and the action necessary to correct it;
 - 2) The date of the notice; and
 - 3) A deadline by which the action necessary to correct the violation must be completed.
 - b. A Notice of Violation may be amended at any time to correct clerical errors, add citations of authority, or modify required corrective action.
3. Service. The Director shall serve the notice upon a responsible party either by personal service, by first class mail, or by certified mail return receipt requested, to the party's last known address. If the address of the responsible party cannot be found after a reasonable search, the notice may be served by posting a copy of the notice at a conspicuous place on the property. Alternatively, if the whereabouts of the responsible party is unknown and cannot be ascertained in the exercise of reasonable diligence, and the Director makes an affidavit to that effect, then service may be accomplished by publishing the notice once each week for two consecutive weeks in the City official newspaper.
4. Nothing in this subtitle shall be deemed to obligate or require the Director to issue a Notice of Violation or order prior to the initiation of enforcement action by the City Attorney's Office pursuant to subsection 22.808.030.E.

C. Stop Work and Emergency Orders.

1. Stop Work Order. The Director may order work on a site stopped when he or she determines it is necessary to do so in order to obtain compliance with or to correct a violation of any provision of this subtitle or rules promulgated hereunder or to correct a violation of a permit or approval granted under this subtitle.
 - a. The stop work notice shall contain the following information:
 - 1) A description of the violation; and
 - 2) An order that the work be stopped until corrective action has been completed and approved by the Director.

- b. The stop work order shall be personally served on the responsible party or posted conspicuously on the premises.
 - 2. Emergency Order.
 - a. The Director may order a responsible party to take emergency corrective action and set a schedule for compliance and/or may require immediate compliance with an emergency order to correct when the Director determines that it is necessary to do so in order to obtain immediate compliance with or to correct a violation of any provision of this subtitle, or to correct a violation of a permit or approval granted under this subtitle.
 - b. An emergency order shall be personally served on the responsible party or posted conspicuously on the premises.
 - c. The Director is authorized to enter any property to investigate and correct a condition associated with grading, drainage, erosion control, drainage water, or a drainage control facility when it reasonably appears that the condition creates a substantial and present or imminent danger to the public health, safety or welfare, the environment, or public or private property. The Director may enter property without permission or an administrative warrant in the case of an extreme emergency placing human life, property, or the environment in immediate and substantial jeopardy which requires corrective action before either permission or an administrative warrant can be obtained. The cost of such emergency corrective action shall be collected as set forth in subsection 22.808.060.
 - 3. Director's Review of Stop Work and Emergency Order. A stop work order or emergency order shall be final and not subject to a Director's review.
- D. Review by Director.
- 1. A Notice of Violation, Director's order, or invoice issued pursuant to this subtitle shall be final and not subject to further appeal unless an aggrieved party requests in writing a review by the Director within ten days after service of the Notice of Violation, order or invoice. When the last day of the period so computed is a Saturday, Sunday or federal or City holiday, the period shall run until 5:00 p.m. on the next business day.
 - 2. Following receipt of a request for review, the Director shall notify the requesting party, any persons served the Notice of Violation, order or invoice, and any person who has requested notice of the review, that the request for review has been received by the Director. Additional information for consideration as part of the review shall be submitted to the Director no later than 15 days after the written request for a review is mailed.
 - 3. The Director will review the basis for issuance of the Notice of Violation, order, or invoice and all information received by the deadline for submission of additional information for consideration as part of the review. The Director may request clarification of information received and a site visit. After the review is completed, the Director may:
 - a. Sustain the Notice of Violation, order, or invoice;
 - b. Withdraw the Notice of Violation, order or invoice;
 - c. Continue the review to a date certain for receipt of additional information; or
 - d. Modify or amend the Notice of Violation, order, or invoice.
 - 4. The Director's decision shall become final and is not subject to further administrative appeal.
- E. Referral to City Attorney for Enforcement. If a responsible party fails to correct a violation or pay a penalty as required by a Notice of Violation, or fails to comply with a Director's order, the Director shall refer the matter to the City Attorney's Office for civil or criminal enforcement action. Civil actions to enforce a violation of this subtitle shall be exclusively in Municipal Court.
- F. Appeal to Superior Court. Because civil actions to enforce Title 22 are brought exclusively in Municipal Court, notices of violation, orders, and all other actions made under this chapter are not subject to judicial review under chapter 36.70C RCW. Instead, final decisions of the Municipal Court

on enforcement actions authorized by this chapter may be appealed under the Rules of Appeals of Decisions of Courts of Limited Jurisdiction.

- G. Filing of Notice or Order. A Notice of Violation, voluntary compliance agreement or an order issued by the Director or court, may be filed with the King County Recorder's Office.
- H. Change of Ownership. When a Notice of Violation, voluntary compliance agreement, or an order issued by the Director or court has been filed with the King County Recorder's Office, a Notice of Violation or an order regarding the same violations need not be served upon a new owner of the property where the violation occurred. If no Notice of Violation or order is served upon the new owner, the Director may grant the new owner the same number of days to comply as was given the previous owner. The compliance period for the new owner shall begin on the date that the conveyance of title to the new owner is completed.

(Ord. 123105, § 4, 2009.)

22.808.040 - Voluntary Compliance Agreement

- A. Initiation. Either a responsible party or the Director may initiate negotiations for a voluntary compliance agreement at any time. Neither has any obligation to enter into any voluntary compliance agreement.
- B. Contents. A voluntary compliance agreement shall identify actions to be taken by the responsible party that will correct past or existing violations of this subtitle. The agreement may also identify actions to mitigate the impacts of violations. The agreement shall contain a schedule for completion of the corrective actions and any mitigating actions. The agreement shall contain a provision allowing the Director to inspect the premises to determine compliance with the agreement. The agreement shall provide that the responsible party agrees the City may perform the actions set forth in the agreement if the responsible party fails to do so according to the terms and schedule of the agreement, and the responsible party will pay the costs, expenses and damages the City incurs in performing the actions, as set forth in Section 22.808.060.
- C. Effect of Agreement.
 - 1. A voluntary compliance agreement is a binding contract between the party executing it and the City. It is not enforceable by any other party. By entering into a voluntary compliance agreement, a responsible party waives the right to Director's Review of the Notice of Violation or order.
 - 2. Penalties may be reduced or waived if violations are corrected or mitigated according to the terms and schedule of a voluntary compliance agreement. If the responsible party fails to perform according to the terms and schedule of the voluntary compliance agreement, penalties for each violation addressed in the agreement may be assessed starting from the date the violation occurred, or as otherwise provided for in a Notice of Violation or Director's order.
- D. Modification. The terms and schedule of the voluntary compliance agreement may be modified by mutual agreement of the responsible party and either Director if circumstances or conditions outside the responsible party's control, or unknown at the time the agreement was made, or other just cause necessitate such modifications.

(Ord. 123105, § 4, 2009.)

22.808.050 - Penalties and Damages

- A. Assessment of Penalties by the Director. The Director, after considering all available information, may assess a penalty for each violation of this subtitle based upon the Schedule of Civil Penalties.
- B. Schedule of Civil Penalties. The Director shall determine penalties as follows:
 - 1. Basic Penalty.

- a. **Maximum Penalty.** A violation of this subtitle is subject to a maximum civil penalty of up to \$5,000. Each day or portion thereof during which a violation of this subtitle exists is a separate violation of this subtitle.
- b. **Commencement Date.** The penalty shall commence on the date of the violation, unless otherwise provided for in a Notice of Violation or Director's order.
- c. **Assessment Matrix.** The penalty shall be assessed using a matrix of criteria and scored as defined in rules promulgated by the Director. The total score will equate with a penalty up to a maximum of \$5000 for each violation. The penalty shall be rated for severity by using the criteria listed below and by answering "No", "Possibly", "Probably", or "Definitely":
 - 1) Does the violation pose a public health risk;
 - 2) Does the violation cause environmental damage or adversely impact infrastructure;
 - 3) Was the responsible party willful or knowing of the violation;
 - 4) Was the responsible party unresponsive in correcting the violation;
 - 5) Was there improper operation or maintenance;
 - 6) Was there a failure to obtain necessary permits or approval;
 - 7) Does the violation provide economic benefit for non-compliance; and
 - 8) Was the violation a repeat violation.
- C. **Penalty for Significant Violation.** For violations causing significant harm to public health, safety, welfare, the environment, or private or public property, the Director may, as an alternative to the Basic Penalty, refer the matter to the City Attorney's Office for enforcement and request the City Attorney seek a penalty equivalent to the economic benefit the responsible party derived from the violation. Significant harm is damage or injury which cannot be fully corrected or mitigated by the responsible party, and which cannot be adequately compensated for by assessment of the Basic Penalty and costs, expenses, or damages under this subtitle. Economic benefit may be determined by savings in costs realized by the responsible party, value received by the responsible party, increased income to the responsible party, increase in market value of property, or any other method reasonable under the circumstances.
- D. **Damages.** Whoever violates any of the provisions of this subtitle shall, in addition to any penalties provided for such violation, be liable for any: investigation cost, cost to correct or any other cost expense; loss or damage incurred by the City; plus a charge of 15% for administrative costs. This subtitle does not establish a cause of action that may be asserted by any party other than the City. Penalties, damages, costs and expenses may be recovered only by the City.
- E. **Effect of Payment of Penalties.** The responsible party named in a Notice of Violation or order is not relieved of the duty to correct the violation by paying civil penalties.

(Ord. 123105, § 4, 2009.)

22.808.060 - Collection of Costs and Penalties

- A. **Invoice and Demand for Payment of Investigation and Correction Costs.** The Director may issue an invoice and demand for payment of the City's costs and expenses when the Director has investigated or corrected a violation of this subtitle. The invoice shall include:
 - 1. The amount of the City's investigation and correction costs, which include, but are not limited to:
 - a. Billed cost including labor, administration, overhead, overtime, profit, taxes, and other related costs for a hired contractor to investigate and/or perform the abatement work;
 - b. Labor, administration, overhead, overtime, and other related costs for the City staff and crews to investigate and/or perform the abatement work;
 - c. Administrative costs to set up contracts and coordinate work;

- d. Time spent communicating with the responsible party, any other enforcing agencies, and the affected community;
 - e. Inspections for compliance with the Code, documentation of costs, and invoicing the responsible party;
 - f. Cost of equipment, materials, and supplies, including all related expenses for purchasing, renting, and leasing;
 - g. Laboratory costs and analytical expenses;
 - h. Cost of mobilization, disposal of materials, and cleanup, and
 - i. Any associated permit fees;
2. Either a legal description of the property corresponding as nearly as possible to that used for the property on the rolls of the King County Assessor or, where available, the property's street address;
 3. Notice that the responsible party may request a Director's review pursuant to subsection 22.808.030.D;
 4. Notice that if the amount due is not paid within 30 days, the unpaid amount may be collected in any of the manners identified in subsection 22.808.060.C; and
 5. Notice that interest shall accrue on the unpaid balance if not paid within 30 days after the invoice date.
- B. Invoice and Demand for Payment of Civil Penalties. The Director may issue an invoice and demand for payment of civil penalties when the responsible party has failed to pay a penalty by the deadline in a Notice of Violation or order and has failed to request a Director's review or file an appeal within the required time periods established in subsection 22.808.030.D. The invoice shall include:
1. The amount of the penalty;
 2. Either a legal description of the property corresponding as nearly as possible to that used for the property on the rolls of the King County Assessor or, where available, the property's street address;
 3. Notice that if the amount due is not paid within 30 days, the unpaid amount may be collected in any of the manners identified in subsection 22.808.060.C and
 4. Notice that interest shall accrue on the unpaid balance if not paid within 30 days after the invoice date.
- C. Collection Following a Judicial Review. If a court has issued an order or judgment imposing penalties, costs, damages, or expenses for a violation of this subtitle, and the court's order or judgment is not appealed within 30 days, the Director may:
1. Refer the matter to the City Attorney to initiate appropriate enforcement action;
 2. Refer, after consultation with the City Attorney, the matter to a collection agency; or
 3. Add a surcharge in the amount owed under the order to the bill for drainage and wastewater services to the site. If unpaid, the surcharge may become a lien on the property, may be foreclosed, and may accrue interest as provided by state law or Section 21.33.110.

(Ord. 123105, § 4, 2009.)

22.808.070 - Public Nuisance

- A. Abatement Required. A public nuisance affecting drainage water, drainage, erosion control, grading and other public nuisances set forth in this subsection are violations of this subtitle. A responsible party shall immediately abate a public nuisance upon becoming aware of its existence.

- B. **Dysfunctional Facility or Practice.** Any private drainage control facility or best management practice not installed or maintained as required by this subtitle, or otherwise found to be in a state of dysfunction creating a threat to the public health, safety or welfare, the environment, or public or private property is a public nuisance.
- C. **Obstruction of Watercourse.** Obstruction of a watercourse without authorization by the Director, and obstruction in such a manner as to increase the risk of flooding or erosion should a storm occur, is a public nuisance.
- D. **Dangerous Conditions.** Any condition relating to grading, drainage water, drainage or erosion which creates a present or imminent danger, or which is likely to create a danger in the event of a storm, to the public health, safety or welfare, the environment, or public or private property is a public nuisance.
- E. **Abatement by the City.** The Director is authorized, but not required to investigate a condition that the Director suspects of being a public nuisance under this subtitle, and to abate any public nuisance. If a public nuisance is an immediate threat to the public health, safety or welfare or to the environment, the Director may summarily and without prior notice abate the condition. The Director shall give notice of the abatement to the responsible party as soon as reasonably possible after the abatement.
- F. **Collection of Abatement Costs.** The costs of abatement may be collected from the responsible party, including, a reasonable charge for attorney time, and a 15% surcharge for administrative expenses as set forth in subsection 22.808.050.D. Abatement costs and other damages, expenses and penalties collected by the City shall go into an abatement account for the department collecting the moneys. The money in the abatement account shall be used for abatements, investigations, and corrections of violations performed by the City. When the account is insufficient the Director may use other available funds.

(Ord. 123105, § 4, 2009.)

22.808.080 - Additional Relief

In addition to any remedy provided in this subtitle, the Director may seek any other legal or equitable remedy to enjoin any acts or practice or abate any condition that or will constitute a violation of this subtitle or a public nuisance.

(Ord. 123105, § 4, 2009.)

22.808.090 - Suspension or Revocation

Approvals or permits granted on the basis of inaccurate or misleading information may be suspended or revoked. Other permits or approvals interrelated with an approval suspended or revoked under this subsection, including certificates of occupancy or approvals for occupancy, may also be suspended or revoked. When an approval or permit is suspended or revoked, the Director may require the applicant take corrective action to bring the project into compliance with this subtitle by a deadline set by the Director, or may take other enforcement action.

(Ord. 123105, § 4, 2009.)

22.808.100 - Fees

Fees for grading permits, drainage control plan review and approvals shall be as identified in the Fee Subtitle, Subtitle IX of Title 22, Seattle Municipal Code. Fees for record-keeping or other activities pursuant to this subtitle shall, unless otherwise provided for in this subtitle, be prescribed by ordinance.

(Ord. 123105, § 4, 2009.)

22.808.110 - Financial Assurance and Covenants

As a condition precedent to issuance of any permit or approval provided for in this subtitle, the Director may require an applicant for a permit or approval to submit financial assurances as provided in this subsection.

A. Insurance.

1. The Director may require the property owners or contractor carry liability and property damage insurance naming the City as an additional insured. The amount, as determined by the Director, shall be commensurate with the risks.
2. The Director may also require the property owner maintain a policy of general public liability insurance against personal injury, death, property damage and/or loss from activities conducted pursuant to the permit or approval, or conditions caused by such activities, and naming the City as an additional insured. The amount, as determined by the Director, shall be commensurate with the risks. It shall cover a period of not more than ten years from the date of issuance of a certificate of occupancy or finalization of the permit or approval. A certificate evidencing such insurance shall be filed with the Director before issuing a certificate of occupancy or finalizing a permit for any single family dwelling or duplex.
3. The insurance policy shall provide that the City will be notified of cancellation of the policy at least 30 days prior to cancellation. The notice shall be sent to the Director who required the insurance and shall state the insured's name and the property address. If a property owner's insurance is canceled and not replaced, the permit or approval and any interrelated permit or approval may be revoked, including a certificate of occupancy or approval for occupancy.

B. Bonds, Cash Deposits or Instruments of Credit.

1. Surety Bond.

- a. The Director may require that the property owners or contractor deliver to the Director for filing in the Office of the City Clerk a surety bond, cash deposit or an instrument of credit in such form and amounts deemed by the Director to be necessary to ensure that requirements of the permit or approval are met. A surety bond may be furnished only by a surety company licensed to do business in The State of Washington. The bond shall be conditioned that the work will be completed in accordance with the conditions of the permit or approval, or, if the work is not completed, that the site will be left in a safe condition. The bond shall also be conditioned that the site and nearby, adjacent or surrounding areas will be restored if damaged or made unsafe by activities conducted pursuant to the permit or approval.
- b. The bond will be exonerated one year after a determination by the Director that the requirements of the permit or approval have been met. For work under a building permit, issuance of a certificate of occupancy or approval for occupancy following a final inspection shall be considered to be such a determination.

2. Assurance in Lieu of Surety Bond. In lieu of a surety bond, the owners may elect to file a cash deposit or instrument of credit with the Director in an amount equal to that which would be required in the surety bond and in a form approved by the Director. The cash deposit or instrument of credit shall comply with the same conditions as required for surety bonds.

C. Covenants.

1. The Director may require a covenant between the property owners and the City. The covenant shall be signed by the owners of the site and notarized prior to issuing any permit or approval in a potential landslide area, potentially hazardous location, flood prone zone, or other area of potentially hazardous soils or drainage or erosion conditions. The covenant shall not be required where the permit or approval is for work done by the City. The covenant shall include:

- a. A legal description of the property;
 - b. A description of the property condition making this subsection applicable;
 - c. A statement that the owners of the property understands and accepts the responsibility for the risks associated with development on the property given the described condition, and agrees to inform future purchasers and other successors and assignees of the risks;
 - d. The application date, type, and number of the permit or approval for which the covenant is required; and
 - e. A statement waiving the right of the owners, the owners' heirs, successors and assigns, to assert any claim against the City by reason of or arising out of issuance of the permit or approval by the City for the development on the property, except only for such losses that may directly result from the sole negligence of the City.
2. The covenant shall be filed by the Director with the King County Recorder's Office, at the expense of the owners, so as to become part of the King County real property records.

(Ord. 123105, § 4, 2009.)

22.808.140 - Severability

The provisions of this subtitle are declared to be separate and severable and the invalidity of any clause, sentence, paragraph, subdivision, section or portion of this subtitle, or the invalidity of the application thereof to any person or circumstance shall not affect the validity of the remainder of this subtitle or the validity of its application to other persons or circumstances.

(Ord. 116425 § 2(part), 1992.)



ACTION CALENDAR

January 22, 2019

(Continued from December 11, 2018)

To: Honorable Mayor and Members of the City Council
From: Community Environmental Advisory Commission (CEAC)
Submitted by: Michael Goldhaber, Chair, CEAC
Subject: Referral Response: Mandatory and Recommended Green Stormwater Infrastructure in New and Existing Redevelopments or Properties

RECOMMENDATION

Since the drought-storm-flooding cycle is predicted to get worse, refer to the City Manager to develop and implement measures to help reduce runoff from private property when rain exceeds two inches in a 24-hour period. The City Manager and staff should consider the following:

- Comply beyond the State and Alameda County current requirements;
- Encourage the treating and detaining of runoff up to approximately the 85th percentile of water deposited in a 24-hour period;
- Establish site design measures that include minimizing impervious surfaces;
- Require homeowners to include flooding offsets in preparing properties for sale;
- Offer option(s) for property owners to fund in-lieu centralized off-site storm-water retention facilities that would hold an equivalent volume of runoff;
- Require abatements for newly paved areas over a specific size;
- Make exceptions for properties that offer significantly below-market rent or sale prices;
- Authorize a fee for all new construction or for title transfer to cover the cost of required compliance inspections.
- Incorporate these measures for private property with similar measures for Public Works, while coordinating with EBMUD, BUSD, UCB and LBNL.

SUMMARY

Current climate-change predictions for California suggest severe droughts combined with extreme storms, causing dangerous erosion, flooding, and increased Bay pollution. According to Berkeley's watershed management plan, in a 10-year storm or greater, both the Codornices and Potter Creek watersheds have a propensity to flood, and climate change increases the probability and severity of storms. BART and the city currently run pumps to mitigate the flow underground.

In order to prevent flooding, there is an urgent need for the City to offset impermeable surfaces and detain stormwater. Impermeable surfaces generate faster stormwater flows of more intensity (volume per duration), therefore creating greater flooding threats. In addition, stormwater flows carries trash, pathogens, pesticides, fertilizer, metals, motor vehicle related contaminants to the creeks and the Bay. Stormwater detention can help mitigate this pollution.

On June 14, 2018, the Commission voted to adopt the Mandatory and Recommended Green Storm Water Infrastructure in New and Existing Redevelopments and send them to council. [Motioned/Seconded: Hetzel/Kapla. Carried: Unanimously (Liz Varnhagen, Fred Hetzel, Robb Kapla, Michael Goldhaber (chair), Ben Gould, and Kristina Lim). Absent: Carla Ticconi, Holly Williams]

FISCAL IMPACTS OF RECOMMENDATION

If inspection fees are adequate, there should be no net costs to the City, except for staff time to firm up the plan. With widespread implementation of features that promote stormwater detention, treatment, and infiltration, overall flood damage within the City should decrease, which in turn could result in increased property values and higher tax revenues.

CURRENT SITUATION AND ITS EFFECTS

This report responds to Referral #2016-21, which originally appeared on the agenda of the September 15, 2015 Council meeting and was sponsored by then-Councilmember Arreguin.

The State stormwater discharge permit requires the City of Berkeley to use Low Impact Design (LID) and Green Infrastructure (GI) to comply with stormwater management requirements, which is in keeping with Berkeley's goals for promoting sustainable development.

Currently, the City does seem to be enforcing rules requiring mitigation when 2,500 square feet or more of new impermeable surface is added to a property. Required mitigation typically takes up an area of approximately 4% of the total new impermeable area and is therefore a very fair and feasible requirement. However, smaller areas, especially pavement, ought to require similar mitigation as they increase runoff.

At present, permits are not required for adding new pavement unless these impinge on the street-property boundary. As a result, the City and its inspectors are not aware of most small projects that add new pavement. Requiring permits for all (most) (re)paving over permeable surfaces will help ensure that the City is aware, can ask for appropriate mitigation, or can recommend permeable paving that will reduce runoff. Requiring permits for paving beyond a very small threshold area is an essential part of preventing the cumulative effects of increased stormwater runoff.

All these requirements can be met by using on- or off-site strategies to manage the quantity and quality of stormwater runoff. The approach integrates stormwater into the urban environment to achieve multiple goals. It reduces stormwater pollution and restores natural hydrologic function to the City's watersheds. It can also provide wildlife habitat and contribute to the gradual creation of a greener city.

A crucial aspect of identifying and implementing effective mitigation, also mandated by law, is within a comprehensive Watershed Management Plan, which we understand the City is committed to complete. This should include both water from private properties, the topic of this CEAC message, and the City's contributions from public properties including streets and parks.

BACKGROUND

A recent UCLA study ["Increasing precipitation volatility in twenty-first-century California", Daniel L. Swain, Baird Langenbrunner, J. David Neelin & Alex Hall, *Nature Climate Change* 8, 427–433 (2018)] ... "found that over the next 40 years, the state will be 300 to 400 percent more likely to have a prolonged storm sequence as severe as the one that caused a now-legendary California flood more than 150 years ago.

"The Great Flood of 1862 filled valleys with feet of water and washed gold rush miners and their equipment out of the mountains. In the Central Valley, floodwaters stretched up to 300 miles long and as wide as 60 miles across." [*UCLA Newsroom*]

When there are heavy storms in Berkeley such as 10-year or greater, stormwater that is not absorbed runs downhill towards the Bay and collects in low elevation areas. As the movement of stormwater slows, it can result in flooding if drainage channels become overwhelmed, unless there are means of capturing the water for irrigation or other beneficial uses. It can also pick up pollutants that then will be carried into streams and eventually the Bay.

Urban development has caused two important changes in the nature and volume of stormwater. First, natural, vegetated permeable ground cover is converted to impermeable surfaces such as paved highways, streets, rooftops, and parking lots. Vegetated soil can both absorb rainwater and remove pollutants, providing a very effective natural purification process. This benefit is lost when pavement, or buildings are constructed. With the construction of more impermeable surface, stormwater runoff increases in intensity with higher flows of shorter duration, increasing the chance of overwhelming drainage channels and flooding in flood prone areas.

In addition, urban development creates pollution sources as urban population density increases. The contamination of urban stormwater comes from many and various sources including pathogens from both pet and human waste, solid waste from litter and trash, pesticides from both residential and commercial uses, fertilizers from

landscaping, and heavy metals and other contaminants from the operation of motor vehicles. All these pollutants and others can be deposited on paved surfaces, rooftops, and other impervious surfaces as fine airborne particles, thus yielding stormwater - runoff pollution that is unrelated to the activity associated with a given project site.

As a result of these two changes, stormwater discharges into the Bay from the developed urban area is significantly greater in volume, velocity and contaminants than the same area experienced prior to its conversion into an urban environment.

Additionally, increased flows and volumes of stormwater discharged from new impermeable surfaces resulting from new development and redevelopment can physically modify the natural aquatic ecosystems in our creeks, through bank erosion and deepening and widening of channels, elevating turbidity and sediment loads to the Bay.

Pollutants of concern in stormwater include heavy metals, excessive sediment production from erosion, petroleum hydrocarbons from sources such as motor vehicles, microbial pathogens of domestic sewage origin from illicit or accidental discharges, pesticides and herbicides, nutrients (from fertilizers), and trash.

Effective mitigation to offset the unpredictable and sometimes intense behavior of urban stormwater becomes increasingly necessary. Other cities, including San Francisco, Emeryville, and the North Bay Counties (Marin, Sonoma, Napa and Solano), as well as the Alameda County clean water program, of which the City of Berkeley is a member, have put together comprehensive requirements that are available as guides. Berkeley, given our pioneering status in green issues, should wish to be even more forward looking and develop our own comprehensive green infrastructure program. In addition, Berkeley should continue to work on a comprehensive water management plan, seeking input and cooperation from EBMUD, surrounding cities, UCB, LBNL and BUSD.

Berkeley's program should include requirements for construction projects to implement appropriate source control, site design, and stormwater treatment measures to address water quality, and to prevent increased intensity stormwater runoff volumes.

ENVIRONMENTAL SUSTAINABILITY

The proposed recommendation will improve the sustainability of new construction and redevelopment, increase the City's resiliency to climate change, 10-year storms, and flooding, while helping mitigate pollution from stormwater runoff.

RATIONALE FOR RECOMMENDATION

Berkeley's drought-storm cycle is likely to get worse as Climate change has more effecting the coming years and decades. Therefore, more efforts to control flooding and prevent pollution are needed. In addition, unless mitigated, increased paving on private property increases the stormwater runoff and related problems.

ALTERNATIVE ACTIONS CONSIDERED

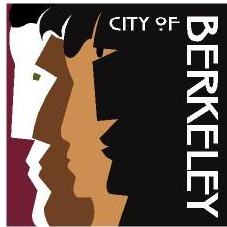
CEAC considered City Council Referral #2016-21 from September 15, 2015 to develop an ordinance requiring large residential developments of 100 units or more or commercial developments that result in 5,000 square feet of new or replaced impervious surface, to incorporate Green Stormwater Infrastructure (GSI) and water conservation features into new projects.

CITY MANAGER

See companion report.

CONTACT PERSON

Viviana Garcia, Secretary, Toxics, (510) 981 7460



Office of the Mayor

SUPPLEMENTAL AGENDA MATERIAL for Supplemental Packet 2

Meeting Date: December 11, 2018

Item Number: Fa

Item Description: Referral Response: Mandatory and Recommended Green Stormwater Infrastructure in New and Existing Redevelopments or Projects

Submitted by: Mayor Jesse Arreguín

On September 15, 2015, the City Council referred Item 39 “Mandatory Green Stormwater Infrastructure in New Developments” to the City Manager, Planning Commission and Community Environmental Advisory Committee (see attachment). The proposal was modeled after ordinances adopted in San Francisco and Seattle requiring the instillation of stormwater infrastructure in larger projects.

The CEAC has brought its recommendations back to the City Council in response to this referral. Many of the recommendations proposed by CEAC are worth further study, however a key question is what projects should they apply to? My original referral only recommended that these requirements apply to projects of 100 units or more, or commercial developments that result in 5,000 square feet of new or replaced impervious surface.

I am proposing a modification to the CEAC recommendation as follows:

Refer to the City Manager and Planning Commission to develop measures to incorporate Green Stormwater Infrastructure and water conservation features in new projects. The regulations should apply to large residential developments of 50 units or more or commercial developments that result in 5,000 square feet of new or replaced impervious surface. The City Manager and Planning Commission should consider the legislation adopted in San Francisco and Seattle and the following recommendations from the CEAC:

- **Comply beyond the State and Alameda County current requirements;**

2180 Milvia Street, Berkeley, CA 94704 Tel: 510.981.7100 TDD: 510.981.6903 Fax: 510.981.7199
E-Mail: mayor@CityofBerkeley.info

- **Encourage the treating and detaining of runoff up to approximately the 85th percentile of water deposited in a 24-hour period;**
- **Establish site design measures that include minimizing impervious surfaces;**
- **Offer option(s) for property owners to fund in-lieu centralized off-site storm-water retention facilities that would hold an equivalent volume of runoff;**
- **Require abatements for newly paved areas over a specific size;**
- **Make exceptions for properties that offer significantly below-market rent or sale prices;**
- **Incorporate these measures for private property with similar measures for Public Works [City projects], while coordinating with EBMUD, BUSD, UCB and LBNL.**



Jesse Arreguín
City Councilmember, District 4

CONSENT CALENDAR
September 15, 2015

To: Honorable Mayor and Members of the City Council
From: Councilmember Jesse Arreguín
Subject: Mandatory Green Stormwater Infrastructure in New Developments

RECOMMENDATION

Refer to the City Manager and Planning and Community Environmental Advisory Commissions to develop an ordinance requiring large residential developments of 100 units or more or commercial developments that result in 5,000 square feet of new or replaced impervious surface, to incorporate Green Stormwater Infrastructure (GSI) and water conservation features into new projects.

BACKGROUND

Green Stormwater Infrastrucutre (GSI) is a form of drainage control that uses infiltration, evapotranspiration, or stormwater reuse. Examples of this include permeable pavement, bio swales, green roofs, rain gardens, cisterns and other rain catchment systems.

Cities such as San Francisco and Seattle (which like Berkeley, are bordered by a body of water) have regulations requiring the treatment of stormwater onsite. In April 2010, San Francisco passed an ordinance requiring developments that disturb 5,000 square feet of surface to include stormwater management controls (San Francisco Public Works Code, Article 4.2, Section 147-147.6). Seattle's Stormwater Code (Seattle Municipal Code Section 22.800-22.808) requires the implementation of GSI on developments that add or replace 2,000 square feet of impervious surfaces to the maximum extent possible with the purpose of infiltration, retention, and dispersal.

The City of Berkeley has already taken some steps to promote the use of Green Infrastructure as a way to mitigate negative impacts to our City's watersheds. On June 23, 2009, the City Council passed Resolution No. 64,507, which implemented Bay-Friendly Landscaping policies under the Alameda County Waste Management Authority. The City also complies with the Alameda County Clean Water Program, as passed in Resolution No. 66,004 on February 5, 2013, which aims at reducing pollutants from urban storm runoff. In addition, Measure M funds have supported a number of publicly-funded green infrastructure projects throughout the city. However in order to make a measurable difference to reduce storm water runoff and to conserve water, and to better implement the city's adopted Watershed Management Plan, private developments should install green infrastructure features at the time of construction.

Requiring GSI in developments will help the City better achieve these goals and help mitigate environmental impacts on our watersheds and Bay.

FINANCIAL IMPLICATIONS

Staff Time

ENVIRONMENTAL SUSTAINABILITY

Green Stormwater Infrastructure is a necessity given California's historic drought and West Berkeley's flooding experiences during any sizeable storm. GSI helps in preserving the natural flow of storm runoff which is often obstructed in urban areas. GSI has the ability to retain water, prevent runoff which leads to flooding, and remove pollutants among other environmentally beneficial factors.

CONTACT PERSON

Jesse Arreguin, Councilmember, District 4 510-981-7140

Attachments:

- 1: San Francisco Public Works Code, Article 4.2, Section 147-147.6
- 2: Seattle Municipal Code Section 22.800-22.808

83-10

FILE NO. 100102

ORDINANCE NO.

[Requiring the Development and Maintenance of Stormwater Management Controls]

Ordinance amending the San Francisco Public Works Code by repealing Article 4.2, sections 140 – 149.4, and adding Article 4.2, sections 147 – 147.6, requiring the development and maintenance of stormwater management controls for specified activities that disturb 5,000 square feet or more of the ground surface, and are subject to building, planning and subdivision approvals.

Note: Additions are single-underline italics Times New Roman; deletions are ~~strikethrough italics Times New Roman~~. Board amendment additions are double underlined. Board amendment deletions are ~~strikethrough-normal~~.

Be it ordained by the People of the City and County of San Francisco:

Section 1. Environmental Findings. The Planning Department has determined that the actions contemplated in this Ordinance are in compliance with the California Environmental Quality Act (California Public Resources Code sections 21000 et seq.). Said determination is on file with the Clerk of the Board of Supervisors in File No. 100102 and is incorporated herein by reference.

Section 2. The San Francisco Public Works Code is hereby amended by repealing Sections 140 – 149.4 of Article 4.2.

Section 3. The San Francisco Public Works Code is hereby amended by adding Sections 147 – 147.6, to Article 4.2, to read as follows:

Article 4.2. SEWER SYSTEM MANAGEMENT.

Section 147. Stormwater Management

(a) The intent of Sections 147 – 147.6 is to protect and enhance the water quality in the City and County of San Francisco's sewer system, stormwater collection system and receiving

1 waters pursuant to, and consistent with Federal and State laws, lawful standards and orders
2 applicable to stormwater and urban runoff control, and the City's authority to manage and
3 operate its drainage systems.

4 (b) Urban runoff is a significant cause of pollution throughout California. Pollutants of
5 concern found in urban runoff include sediments, non-sediment solids, nutrients, pathogens,
6 oxygen-demanding substances, petroleum hydrocarbons, heavy metals, floatables, polycyclic
7 aromatic hydrocarbons (PAHs), trash, and pesticides and herbicides.

8 (c) During urban development, two important changes occur. First, where no urban
9 development has previously occurred, natural vegetated pervious ground cover is converted
10 to impervious surfaces such as paved highways, streets, rooftops, and parking lots. Natural
11 vegetated soil can both absorb rainwater and remove pollutants, providing a very effective
12 purification process. Because pavement and concrete can neither absorb water nor remove
13 pollutants, the natural purification characteristics of the land are lost. Second, urban
14 development creates new pollutant sources, including vehicle emissions, vehicle maintenance
15 wastes, pesticides, household hazardous wastes, pet wastes, trash, and other contaminants
16 that can be washed into the City's stormwater collection systems.

17 (d) A high percentage of impervious area correlates to a higher rate of stormwater
18 runoff, which generates greater pollutant loadings to the stormwater collection system,
19 resulting in turbid water, nutrient enrichment, bacterial contamination, toxic compounds,
20 temperature increases, and increases of trash or debris.

21 (e) When water quality impacts are considered during the planning stages of a project,
22 new development and redevelopment projects can more efficiently incorporate measures to
23 protect water quality.
24
25

1 (f) Sections 147 – 147.6 protect the health, safety and general welfare of the City's
2 residents by:

3 (1) minimizing increases in pollution caused by stormwater runoff from development
4 that would otherwise degrade local water quality;

5 (3) controlling the discharge to the City's sewer and drainage systems from spills,
6 dumping or disposal of pollutants; and

7 (4) reducing stormwater run-off rates, volume, and nonpoint source pollution
8 whenever possible, through stormwater management controls, and ensuring that
9 these management controls are safe and properly maintained.

10 Section 147.1. Definitions.

11 In addition to the definitions provided in section 119 of Article 4.1 of this Code, the
12 following definitions shall apply:

13 (a) Best management practices or "BMPs." Structural devices, measures, or programs
14 used to reduce pollution in stormwater runoff. BMPs manage the quantity and improve the
15 quality of stormwater runoff in accordance with the Guidelines and applicable state and
16 federal regulatory requirements.

17 (b) Department. The San Francisco Public Utilities Commission. With regard to
18 stormwater management in areas of the City under the jurisdiction of the Port Commission,
19 "Department" means the San Francisco Port Commission until the Port Commission adopts
20 its own standards and procedures.

21 (c) Development Project. Any activity disturbing 5,000 square feet or more of the
22 ground surface, measured cumulatively from the effective date of this Article. Activities that
23 disturb the ground surface include, but are not limited to, the construction, modification,
24 conversion, or alteration of any building or structure and associated grading, filling,
25

1 excavation, change in the existing topography, and the addition or replacement of impervious
2 surface. All sidewalks, parking, driveways, and landscaped and irrigated areas constructed in
3 conjunction with the Development Project are included in the project area. Development
4 Projects do not include interior remodeling projects, maintenance activities such as top-layer
5 grinding, repaving, and re-roofing, or modifications, conversions or alterations of buildings or
6 structures that does not increase the ground surface footprint of the building or structure.

7 (d) Development runoff requirements. The performance standards set forth in the
8 Guidelines to address both the construction and post-construction phase impacts of new
9 Development Projects on stormwater quality.

10 (e) General Manager. The General Manager of the Public Utilities Commission of the
11 City, or a designated representative of the General Manager. With regard to stormwater
12 management in areas of the City under the jurisdiction of the Port Commission, the Executive
13 Director of the San Francisco Port Commission or a designated representative of the
14 Executive Director shall have the same authority under this Article as the General Manager
15 until the Port Commission adopts it own standards and procedures regarding stormwater
16 management in all areas under Port Commission jurisdiction.

17 (f) Guidelines. The Stormwater Design Guidelines adopted by the San Francisco Public
18 Utilities Commission or the San Francisco Port Commission. The Guidelines contain
19 requirements pertaining to the type, design, sizing, and maintenance of post-construction
20 stormwater BMPs.

21 (g) Low Impact Design (LID). A stormwater management approach that promotes the
22 use of ecological and landscape-based systems that mimic pre-development drainage
23 patterns and hydrologic processes by increasing retention, detention, infiltration, and
24 treatment of stormwater at its source.

1 (h) Non-Stormwater Discharge. Any discharge to the City's Stormwater Collection
2 System that is not composed entirely of Stormwater.

3 (i) Pollutant. Any substance listed in sec. 119(aa) of Article 4.1 of the Public Works
4 Code or any substance described as a pollutant in the Guidelines.

5 (j) Separate Stormwater/sewer System. Stormwater and sanitary sewage collection
6 facilities that convey, treat and discharge stormwater and sewage in separated catchbasins,
7 pipelines, treatment facilities, outfalls, and other facilities, and do not combine stormwater and
8 sewage in the same facilities.

9 (k) Stormwater. Water that originates from atmospheric moisture (rainfall or snowfall)
10 and that falls onto land, water or other surfaces.

11 (l) Stormwater Collection System. All City facilities operated by the San Francisco
12 Public Utilities Commission or the Port of San Francisco for collecting, transporting, treating
13 and disposing of stormwater. For purposes of this Article, the Stormwater Collection System
14 includes facilities owned and operated by public entities other than the City, where such
15 facilities direct stormwater into the Stormwater Collection System and are subject to the
16 jurisdiction of the San Francisco Public Utilities Commission or the Port of San Francisco as
17 defined by law, contract, or interjurisdictional agreement.

18 (m) Stormwater Control. A device designed to remove pollution in stormwater runoff
19 through detention, retention, filtration, direct plant uptake, or infiltration.

20 (n) Stormwater Control Plan. A plan that meets all applicable criteria, performance
21 standards and other requirements contained in this Article and the Guidelines.

22 Section 147.2. Stormwater Control Plan

23 (a) Development Projects. Every application for a Development Project , including, but
24 not limited to, a building or encroachment permit conditional use permit, variance, site permit,
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1 or design review, shall be accompanied by a Stormwater Control Plan that meets the
2 stormwater control criteria provided by the Guidelines. No City department shall approve or
3 issue a conditional use permit, variance, site permit, design review approval, building or
4 encroachment permit unless and until a Stormwater Control Plan developed in accordance
5 with this Article and the Guidelines has been approved by the General Manager. All projects
6 subject to the stormwater management requirements of Chapter 13C of the San Francisco
7 Building Code shall comply with the requirements of the Guidelines.

8 (b) Subdivision Approvals.

9 (1) Parcel Map or Tentative Subdivision Map Conditions. The Director of Public
10 Works shall not approve a tentative subdivision map or a parcel map for any property unless
11 a condition is imposed requiring compliance with all applicable Stormwater Control Plans to
12 serve the potential uses of the property covered by the parcel map or tentative subdivision
13 map, as may be further specified in the provisions of this Article or the Guidelines.

14 (2) Subdivision Regulations. The Director of Public Works shall adopt regulations
15 as necessary, consistent with and in furtherance of this Article, to ensure that all subdividers
16 of property subject to the provisions of this ordinance provide a Stormwater Control Plan in
17 compliance with this Article and the Guidelines.

18 (3) Final Maps. The Director of Public Works shall not endorse and file a final map
19 for property within the boundaries of the City and County of San Francisco without first
20 determining whether:

21 (A) The subdivider has complied with the conditions imposed on the tentative
22 subdivision map or parcel map, pursuant to this Article and the Guidelines; and
23
24
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1 (B) For any such conditions not fully satisfied prior to the recordation of the final
2 map, the subdivider has signed a certificate of agreement and/or improvement agreement, to
3 ensure compliance with such conditions.

4 (4) This Subsection (b) shall not apply to tentative subdivision maps or parcel
5 maps submitted solely for the purposes of condominium conversion, as defined in San
6 Francisco Subdivision Code Section 1308(d).

7 Sec. 147.3. Limitations and Prohibited Discharges.

8 (a) The establishment, use, maintenance or continuation of any unauthorized drainage
9 connections to the Stormwater Collection System is prohibited.

10 (b) The discharge of Pollutants and Non-stormwater Discharges into the stormwater
11 collection facilities located in the Separate Stormwater/sewer System portions of the
12 Stormwater Collection System is prohibited, except as provided in this section.

13 (c) The following discharges are exempt from the prohibitions set forth subsection (b)
14 above if the Regional Water Quality Control Board approves the exempted category under
15 section C. 11. of the City's NPDES permit: uncontaminated pumped groundwater, foundation
16 drains, water from crawl space pumps, footing drains, air conditioning condensate, irrigation
17 water, landscape irrigation, lawn or garden watering, planned and unplanned discharges from
18 potable water sources, water line and hydrant flushing, individual residential car washing,
19 discharges or flows from emergency fire fighting activities, dechlorinated swimming pool
20 discharges.

21 Section 147.4. Compliance with Maintenance and Inspection Requirements.

22 (a) All Stormwater Controls shall be maintained according to the Guidelines and the
23 operation and maintenance plan included in the approved Stormwater Control Plan. The
24 person(s) or organization(s) responsible for maintenance shall be designated in the plan.
25

1 Those persons responsible for maintenance shall inspect the Stormwater Controls at least
2 annually and shall maintain the Stormwater Controls as required by the Guidelines and
3 described in the Stormwater Control Plan.

4 (b) Operation and Maintenance Inspection and Certificates. Every person who owns,
5 leases or operates any Stormwater Control or Controls must provide annual self-certification
6 for inspection and maintenance, as set forth in the Guidelines.

7 (c) The General Manager may perform routine or scheduled inspections, as may be
8 deemed necessary in the General Manager's sole discretion to carry out the intent of this
9 Article and the Guidelines, including, but not limited to, random sampling or sampling in areas
10 with evidence of Stormwater contamination, evidence of the discharge of Non-stormwater to
11 the Stormwater Collection System, or similar activities.

12 (d) Authority to Sample and Establish Sampling Devices. The General Manager may
13 require any person discharging Stormwater to the Stormwater Collection System to provide
14 devices or locations necessary to conduct sampling or metering operations.

15 (e) Notification of Spills. All persons in charge of the Stormwater Controls shall
16 provide immediate notification to the General Manager of any suspected, confirmed or
17 unconfirmed release of pollutants creating a risk of non-stormwater discharge into the
18 Stormwater Collection System. Such persons shall take all necessary steps to ensure the
19 detection and containment and clean up of such release. This notification requirement is in
20 addition to and not in lieu of other required notifications.

21 (f) Requirement to Test or Monitor. The General Manager may require that any person
22 responsible for Stormwater Controls undertake such monitoring activities or analysis and
23 furnish such reports as the General Manager may specify.

24 Section 147.5 Enforcement and Cost Reimbursement.
25

1 Any violation of this Article may be enforced by the General Manager pursuant to section 132
2 of Article 4.1 of the Public Works Code. Persons violating any provision of this Article, the
3 Guidelines, or department regulations may be subject to penalties and abatement in
4 accordance with the Guidelines and sections 133 and 134 of Article 4.1 of the Public Works
5 Code.

6 Section 147.6 Severability

7 If any section, subsection, subdivision, paragraph, sentence, clause, or phrase of this
8 Article, is for any reason held to be unconstitutional, invalid or ineffective by any court of
9 competent jurisdiction, such decision shall not affect the validity or effectiveness of the
10 remaining portions of this Article. The Board of Supervisors declares that it would have
11 passed each section, subsection, subdivision, paragraph, sentence, clause, or phrase of this
12 Article irrespective of the fact that any one or more sections, subsections, subdivisions,
13 paragraphs, sentences, clauses, or phrases could be declared unconstitutional, invalid or
14 ineffective.

17 APPROVED AS TO FORM:
18 DENNIS A. HERRERA, City Attorney

19 By: 
20 JOHN RODDY
21 Deputy City Attorney



City and County of San Francisco

Tails Ordinance

City Hall
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4689

File Number: 100102

Date Passed: April 13, 2010

Ordinance amending the San Francisco Public Works Code by repealing Article 4.2, Sections 140 - 149.4, and adding Article 4.2, Sections 147 - 147.6, requiring the development and maintenance of stormwater management controls for specified activities that disturb 5,000 square feet or more of the ground surface, and are subject to building, planning and subdivision approvals.

April 06, 2010 Board of Supervisors - PASSED, ON FIRST READING

Ayes: 10 - Avalos, Campos, Chiu, Chu, Daly, Dufty, Elsbernd, Mar, Maxwell and Mirkarimi
Excused: 1 - Alioto-Pier

April 13, 2010 Board of Supervisors - FINALLY PASSED

Ayes: 11 - Alioto-Pier, Avalos, Campos, Chiu, Chu, Daly, Dufty, Elsbernd, Mar, Maxwell and Mirkarimi

File No. 100102

I hereby certify that the foregoing Ordinance was FINALLY PASSED on 4/13/2010 by the Board of Supervisors of the City and County of San Francisco.

[Handwritten signature of Mayor Gavin Newsom]

Mayor Gavin Newsom

[Handwritten signature of Angela Calvillo]

Angela Calvillo
Clerk of the Board

4/22/2010

Date Approved

Subtitle VIII. - Stormwater Code^[17]

Footnotes:

--- (17) ---

Cross reference— For provisions regarding emergency control of drainage problems, mud flows and earth slides, see Chapter 10.06 of this Code.

Chapter 22.800 - TITLE, PURPOSE, SCOPE AND AUTHORITY

Sections:

22.800.010 - Title

This subtitle, comprised of Chapters 22.800 through 22.808, shall be known as the "Stormwater Code" and may be cited as such.

(Ord. 123105, § 2, 2009.)

22.800.020 - Purpose

- A. The provisions of this subtitle shall be liberally construed to accomplish its remedial purposes, which are:
1. Protect, to the greatest extent practicable, life, property and the environment from loss, injury and damage by pollution, erosion, flooding, landslides, strong ground motion, soil liquefaction, accelerated soil creep, settlement and subsidence, and other potential hazards, whether from natural causes or from human activity;
 2. Protect the public interest in drainage and related functions of drainage basins, watercourses and shoreline areas;
 3. Protect receiving waters from pollution, mechanical damage, excessive flows and other conditions in their drainage basins which will increase the rate of downcutting, streambank erosion, and/or the degree of turbidity, siltation and other forms of pollution, or which will reduce their low flows or low levels to levels which degrade the environment, reduce recharging of groundwater, or endanger aquatic and benthic life within these receiving waters and receiving waters of the state;
 4. Meet the requirements of state and federal law and the City's municipal stormwater National Pollutant Discharge Elimination System ("NPDES") permit;
 5. To protect the functions and values of environmentally critical areas as required under the state's Growth Management Act and Shoreline Management Act;
 6. To protect the public drainage system from loss, injury and damage by pollution, erosion, flooding, landslides, strong ground motion, soil liquefaction, accelerated soil creep, settlement and subsidence, and other potential hazards, whether from natural causes or from human activity; and
 7. Fulfill the responsibilities of the City as trustee of the environment for future generations.
- B. It is expressly the purpose of this subtitle to provide for and promote the health, safety and welfare of the general public. This subtitle is not intended to create or otherwise establish or designate any particular class or group of persons who will or should be especially protected or benefited by its terms.
- C. It is expressly acknowledged that water quality degradation can result either directly from one discharge or through the collective impact of many small discharges. Therefore, the water quality protection measures in this subtitle are necessary to protect the health, safety and welfare of the residents of Seattle and the integrity of natural resources for the benefit of all and for the purposes of this subtitle. Such water quality protection measures are required under the federal Clean Water Act, 33 U.S.C. Section 1251, et seq., and in response to the obligations of the City's municipal

stormwater discharge permit, issued by the State of Washington under the federal National Pollutant Discharge Elimination System program.

(Ord. 123105, § 2, 2009.)

22.800.030 - Scope and Applicability

This subtitle applies to:

- A. All grading and drainage and erosion control, whether or not a permit is required;
- B. All land disturbing activities, whether or not a permit is required;
- C. All discharges directly or indirectly to a public drainage system;
- D. All discharges directly or indirectly into receiving waters within or contiguous to Seattle city limits;
- E. All new and existing land uses; and
- F. All real property.

(Ord. 123105, § 2, 2009.)

22.800.040 - Exemptions, Adjustments, and Exceptions

A. Exemptions.

- 1. The following land uses are exempt from the provisions of this subtitle:
 - a. Commercial agriculture, including only those activities conducted on lands defined in RCW 84.34.020(2), and production of crops or livestock for wholesale trade; and
 - b. Forest practices regulated under Title 222 Washington Administrative Code, except for Class IV general forest practices, as defined in WAC 222-16-050, that are conversions from timber land to other uses.
- 2. The following land disturbing activities are not required to comply with the specific minimum requirements listed below.
 - a. Maintenance, repair, or installation of underground or overhead utility facilities, such as, but not limited to, pipes, conduits and vaults, and that includes replacing the ground surface with in-kind material or materials with similar runoff characteristics are not required to comply with Section 22.805.080 (Minimum Requirements for Flow Control) or Section 22.805.090 (Minimum Requirements for Treatment), except as modified as follows:
 - 1) Installation of a new or replacement of an existing public drainage system, public combined sewer, or public sanitary sewer in the public right-of-way shall comply with Section 22.805.060 (Minimum requirements for Roadway Projects) when these activities are implemented as publicly bid capital improvement projects funded by Seattle Public Utilities; and
 - 2) Installation of underground or overhead utility facilities that are integral with and contiguous to a road-related project shall comply with Section 22.805.060 (Minimum requirements for Roadway Projects).
 - b. Road maintenance practices limited to the following activities are not required to comply with Section 22.805.060 (Minimum requirements for Roadway Projects), Section 22.805.080 (Minimum Requirements for Flow Control), or Section 22.805.090 (Minimum Requirements for Treatment):
 - 1) Pothole and square cut patching;
 - 2) Overlaying existing asphalt or concrete or brick pavement with asphalt or concrete without expanding the area of coverage;

- 3) Shoulder grading;
 - 4) Reshaping or regrading drainage ditches;
 - 5) Crack sealing; and
 - 6) Vegetation maintenance.
3. Sites that produce no runoff as determined by a licensed civil engineer using a continuous runoff model approved by the Director are not required to comply with Section 22.805.080 (Minimum Requirements for Flow Control).
 4. When a portion of the site being developed discharges only to the public combined sewer, that portion is not required to comply with the provision of subsection 22.805.020.K (Install Source Control BMPs) unless the Director determines that these activities pose a hazard to public health, safety or welfare; endanger any property; adversely affect the safety and operation of city right-of-way, utilities, or other property owned or maintained by the City; or adversely affect the functions and values of an environmentally critical area or buffer.
 5. Residential activities are not required to comply with the provision of subsection 22.805.020.K (Install Source Control BMPs) unless the Director determines that these activities pose a hazard to public health, safety or welfare; endanger any property; adversely affect the safety and operation of city right-of-way, utilities, or other property owned or maintained by the City; or adversely affect the functions and values of an environmentally critical area or buffer.
 6. With respect to all state highway right-of-way under WSDOT control within the jurisdiction of the City of Seattle, WSDOT shall use the current, approved Highway Runoff Manual (HRM) for its existing and new facilities and rights-of-way, as addressed in WAC 173-270-030(1) and (2). Exceptions to this exemption, where more stringent stormwater management requirements apply, are addressed in WAC 173-270-030(3)(b) and (c).
 - a. When a state highway is located in the jurisdiction of a local government that is required by Ecology to use more stringent standards to protect the quality of receiving waters, WSDOT shall comply with the same standards to promote uniform stormwater management.
 - b. WSDOT shall comply with standards identified in watershed action plans for WSDOT rights-of-way, as required by WAC 400-12-570.
 - c. Other instances where more stringent local stormwater standards apply are projects subject to tribal government standards or to the stormwater management-related permit conditions imposed under Chapter 25.09 to protect environmentally critical areas and their buffers (under the Growth Management Act), an NPDES permit, or shoreline master programs (under the Shoreline Management Act). In addition, WSDOT shall comply with local jurisdiction stormwater standards when WSDOT elects, and is granted permission, to discharge stormwater runoff into a municipality's stormwater system or combined sewer system.
- B. Adjustments.
1. The Director may approve a request for adjustments to the requirements of this subtitle when the Director finds that:
 - a. The adjustment provides substantially equivalent environmental protection; and
 - b. The objectives of safety, function, environmental protection, and facility maintenance are met, based on sound engineering practices.
 2. During construction, the Director may require, or the applicant may request, that the construction of drainage control facilities and associated project designs be adjusted if physical conditions are discovered on the site that are inconsistent with the assumptions upon which the approval was based, including but not limited to unexpected soil and/or water conditions, weather generated problems, or changes in the design of the improved areas.

3. A request by the applicant for adjustments shall be submitted to the Director for approval prior to implementation. The request shall be in writing and shall provide facts substantiating the requirements of subsection 22.805.080.B1, and if made during construction, the factors in subsection B2. Any such modifications made during the construction of drainage control facilities shall be recorded on the final approved drainage control plan, a revised copy of which shall be filed by the Director.

C. Exceptions.

1. The Director may approve a request for an exception to the requirements of this subtitle when the applicant demonstrates that the exception will not increase risks in the vicinity and/or downstream of the property to public health, safety and welfare, or to water quality, or to public and private property, and:
 - a. The requirement would cause a severe and unexpected financial hardship that outweighs the requirement's benefits, and the criteria for an adjustment cannot be met; or
 - b. The requirement would cause harm or a significant threat of harm to public health, safety and welfare, the environment, or public and private property, and the criteria for an adjustment cannot be met; or
 - c. The requirement is not technically feasible, and the criteria for an adjustment cannot be met; or
 - d. An emergency situation exists that necessitates approval of the exception.
2. An exception shall only be granted to the extent necessary to provide relief from the economic hardship, to alleviate the harm or threat of harm, to the degree that compliance with the requirement becomes technically feasible, or to perform the emergency work that the Director determines exists.
3. An applicant is not entitled to an exception, whether or not the criteria allowing approval of an exception are met.
4. The Director may require an applicant to provide additional information at the applicant's expense, including, but not limited to an engineer's report or analysis.
5. When an exception is granted, the Director may impose new or additional requirements to offset or mitigate harm that may be caused by granting the exception, or that would have been prevented if the exception had not been granted.
6. Public notice of an application for an exception and of the Director's decision on the application shall be provided in the manner prescribed for Type II land use decisions, as set forth in Chapter 23.76.
7. The Director's decision shall be in writing with written findings of fact. Decisions approving an exception based on severe and unexpected economic hardship shall address all the factors in subsection 22.805.080.C.8.
8. An application for an exception on the grounds of severe and unexpected financial hardship must describe, at a minimum, all of the following:
 - a. The current, pre-project use of the site; and
 - b. How application of the requirement(s) for which an exception is being requested restricts the proposed use of the site compared to the restrictions that existed prior to the adoption of this current subtitle; and
 - c. The possible remaining uses of the site if the exception were not granted; and
 - d. The uses of the site that would have been allowed prior to the adoption of this subtitle; and

- e. A comparison of the estimated amount and percentage of value loss as a result of the requirements versus the estimated amount and percentage of value loss as a result of requirements that existed prior to adoption of the requirements of this subtitle; and
 - f. The feasibility of the owner or developer to alter the project to apply the requirements of this subtitle.
9. In addition to rights under Chapter 3.02 of the Seattle Municipal Code, any person aggrieved by a Director's decision on an application for an exception may appeal to the Hearing Examiner's Office by filing an appeal, with the applicable filing fee, as set forth in Section 23.76.022. However, appeals of a Notice of Violation, Director's order, or invoice issued pursuant to this subtitle shall follow the required procedure established in Chapter 22.808 of this subtitle.
 10. The Hearing Examiner shall affirm the Director's determination on the exception unless the examiner finds the determination is clearly erroneous based on substantial evidence. The applicant for the exception shall have the burden of proof on all issues related to justifying the exception.
 11. The Director shall keep a record, including the Director's written findings of fact, on all approved requests for exceptions.

(Ord. [124758](#), § 1, 2015; Ord. 123105, § 2, 2009.)

22.800.050 - Potentially Hazardous Locations

- A. Any site on a list, register, or data base compiled by the United States Environmental Protection Agency or the Washington State Department of Ecology for investigation, cleanup, or other action regarding contamination under any federal or state environmental law shall be a potentially hazardous location under this subtitle. When EPA or Ecology removes the site from the list, register or data base, or when the Director of DPD determines the owner has otherwise established the contamination does not pose a present or potential threat to human health or the environment, the site will no longer be considered a potentially hazardous location.
- B. The following property may also be designated by the Director of DPD as potentially hazardous locations:
 1. Existing and/or abandoned solid waste disposal sites;
 2. Hazardous waste treatment, storage, or disposal facilities, all as defined by the federal Solid Waste Disposal Act, 42 U.S.C. section 6901, et seq.

(Ord. 123105, § 2, 2009.)

22.800.060 - Compliance With Other Laws

- A. The requirements of this subtitle are minimum requirements. They do not replace, repeal, abrogate, supersede or affect any other more stringent requirements, rules, regulations, covenants, standards, or restrictions. Where this subtitle imposes requirements that are more protective of human health or the environment than those set forth elsewhere, the provisions of this subtitle shall prevail. When this subtitle imposes requirements that are less protective of human health or the environment than those set forth elsewhere, the provisions of the more protective requirements shall prevail.
- B. Approvals and permits granted under this subtitle are not waivers of the requirements of any other laws, nor do they indicate compliance with any other laws. Compliance is still required with all applicable federal, state and local laws and regulations, including rules promulgated under authority of this subtitle.
- C. Compliance with the provisions of this subtitle and of regulations and manuals adopted by the City in relation to this subtitle does not necessarily mitigate all impacts to the environment. Thus, compliance with this subtitle and related regulations and manuals should not be construed as mitigating all drainage water or other environmental impacts, and additional mitigation may be

required to protect the environment. The primary obligation for compliance with this subtitle, and for preventing environmental harm on or from property, is placed upon responsible parties as defined by this subtitle.

(Ord. 123105, § 2, 2009.)

22.800.070 - Minimum Requirements for City Agency Projects

A. Compliance. City agencies shall comply with all the requirements of this subtitle except as specified below:

1. City agencies are not required to obtain permits and approvals under this subtitle, other than inspections as set out in subsection B of this section, for work performed within a public right-of-way or for work performed for the operation and maintenance of park lands under the control or jurisdiction of the Department of Parks and Recreation. Where the work occurs in a public right-of-way, it shall also comply with Seattle Municipal Code Title 15, Street and Sidewalk Use, including the applicable requirements to obtain permits or approvals.
2. A City agency project, as defined in Section 22.801.170, that is not required to obtain permit(s) and approval(s) per subsection 22.800.070.A.1 and meets all of the conditions set forth below, is not required to comply with Section 22.805.080 (Minimum Requirements for Flow Control) or Section 22.805.090 (Minimum Requirements for Treatment).
 - a. The project begins land disturbing activities within 18 months of the effective date of this subtitle, and;
 - b. The project complies with subsections 22.802.015.C.4, 22.802.016. B.1, and 22.802.016.B.2 of the Stormwater, Grading and Drainage Control Code that was made effective July 5, 2000 by Ordinance 119965, and
 - c. The project meets one or more of the following criteria:
 - 1) Project funding was appropriated as identified in Ordinance 122863 titled, "An ordinance adopting a budget, including a capital improvement program and a position list, for the City of Seattle for 2009"; or
 - 2) Project received or will receive voter approval of financing before January 1, 2009; or
 - 3) Project received or will receive funds based on grant application(s) submitted before January 1, 2009.

B. Inspection.

1. When the City conducts projects for which review and approval is required under Chapter 22.807 (Drainage Control Review and Application Requirements) the work shall be inspected by the City agency conducting the project or supervising the contract for the project. The inspector for the City agency shall be responsible for ascertaining that the grading and drainage control is done in a manner consistent with the requirements of this subtitle.
2. A City agency need not provide an inspector from its own agency provided either:
 - a. The work is inspected by an appropriate inspector from another City agency; or
 - b. The work is inspected by an appropriate inspector hired for that purpose by a City agency; or
 - c. The work is inspected by the licensed civil or geotechnical engineer who prepared the plans and specifications for the work; or
 - d. A permit or approval is obtained from the Director of DPD, and the work is inspected by the Director.

- C. Certification of Compliance. City agencies shall meet the same standards as non-City projects, except as provided in subsection 22.800.070.A, and shall certify that each individual project meets those standards.

(Ord. 123105, § 2, 2009.)

22.800.075 - Compliance by Public Agencies

Whether or not they are required to obtain permits or submit documents, public agencies are subject to the substantive requirements of this subtitle, unless adjustments or exceptions are granted as set forth in Section 22.800.040 (Exemptions, Adjustments, and Exceptions) or the requirements have been waived under subsection 22.807.020.A.3.

(Ord. 123105, § 2, 2009.)

22.800.080 - Authority

- A. For projects not conducted in the public right-of-way, the Director of DPD has authority regarding the provisions of this subtitle pertaining to grading, review of drainage control plans, and review of construction stormwater control plans, and has inspection and enforcement authority pertaining to temporary erosion and sediment control measures.
- B. The Director of SPU has authority regarding all other provisions of this subtitle pertaining to drainage water, drainage, and erosion control, including inspection and enforcement authority. The Director of SPU may delegate authority to the Director of DPD or the Director of Seattle Department of Transportation regarding the provisions of this subtitle pertaining to review of drainage control plans, review of erosion control plans, and inspection and enforcement authority pertaining to temporary erosion and sediment control measures for projects conducted in the public right-of-way.
- C. The Directors of DPD, SDOT and SPU are authorized to take actions necessary to implement the provisions and purposes of this subtitle in their respective spheres of authority to the extent allowed by law, including, but not limited to, the following: promulgating and amending rules and regulations, pursuant to the Administrative Code, Chapter 3.02 of the Seattle Municipal Code; establishing and conducting inspection programs; establishing and conducting or, as set forth in Section 22.802.040, requiring responsible parties to conduct monitoring programs, which may include sampling of discharges to or from drainage control facilities, the public drainage system, or receiving waters; taking enforcement action; abating nuisances; promulgating guidance and policy documents; and reviewing and approving, conditioning, or disapproving required submittals and applications for approvals and permits. The Directors are authorized to exercise their authority under this subtitle in a manner consistent with their legal obligations as determined by the courts or by statute.
- D. The Director of SPU is authorized to develop, review, or approve drainage basin plans for managing receiving waters, drainage water, and erosion within individual basins. A drainage basin plan may, when approved by the Director of SPU, be used to modify requirements of this subtitle, provided the level of protection for human health, safety and welfare, the environment, and public or private property will equal or exceed that which would otherwise be achieved. A drainage basin plan that modifies the minimum requirements of this subtitle at a drainage basin level must be reviewed and approved by Ecology and adopted by City ordinance.
- E. The Director of SPU is authorized, to the extent allowed by law, to develop, review, or approve an Integrated Drainage Plan as an equivalent means of complying with the requirements of this subtitle, in which the developer of a project voluntarily enters into an agreement with the Director of SPU to implement an Integrated Drainage Plan that is specific to one or more sites where best management practices are employed such that the cumulative effect on the discharge from the site(s) to the same receiving water is the same or better than that which would be achieved by a less integrated, site-by-site implementation of best management practices.
- F. The Director of SPU is authorized, to the extent allowed by law, to enter into an agreement with the developer of a project for the developer to voluntarily contribute funds toward the construction of one

or more drainage control facilities that mitigate the impacts to the same receiving water that have been identified as a consequence of the proposed development.

- G. The Director of SPU is authorized, to the extent allowed by law, to enter into an agreement with the developer of a project for the developer to voluntarily construct one or more drainage control facilities at an alternative location, determined by the Director, to mitigate the impacts to the same receiving water that have been identified as a consequence of the proposed development.
- H. If the Director of SPU determines that a discharge from a site, real property, or drainage facility, directly or indirectly to a public drainage system, a private drainage system, or a receiving water within or contiguous to Seattle city limits, has exceeded, exceeds, or will exceed water quality standards at the point of assessment, or has caused or contributed, is causing or contributing, or will cause or contribute to a prohibited discharge or a known or likely violation of water quality standards in the receiving water or a known or likely violation of the City's municipal stormwater NPDES permit, and cannot be adequately addressed by the required best management practices, then the Director of SPU has the authority, to the extent allowed by law, to issue an order under Chapter 22.808 requiring the responsible party to undertake more stringent or additional best management practices. These best management practices may include additional source control or structural best management practices or other actions necessary to cease the exceedance, the prohibited discharge, or causing or contributing to the known or likely violation of water quality standards in the receiving water or the known or likely violation of the City's municipal stormwater NPDES permit. Structural best management practices may include but shall not be limited to: drainage control facilities, structural source controls, treatment facilities, constructed facilities such as enclosures, covering and/or berming of container storage areas, and revised drainage systems. For existing discharges as opposed to new projects, the Director may allow 12 months to install a new flow control facility, structural source control, or treatment facility after the Director notifies the responsible party in writing of the Director's determination pursuant to this subsection and of the flow control facility, structural source control, or treatment facility that must be installed.
- I. Unless an adjustment per subsection 22.800.040.B or an exception per subsection 22.800.040.C is approved by the Director, an owner or occupant who is required, or who wishes, to connect to a public drainage system shall be required to extend the public drainage system if a public drainage system is not accessible within an abutting public area across the full frontage of the property.
- J. The Director of DPD has the authority, to the extent allowed by law, to require sites with addition or replacement of less than 5,000 square feet of impervious surface or with less than one acre of land disturbing activity to comply with the requirements set forth in Section 22.805.080 or Section 22.805.090 when necessary to accomplish the purposes of this subtitle. In making this determination, the Director of DPD may consider, but not be limited to, the following attributes of the site: location within an Environmentally Critical Area; proximity and tributary to an Environmentally Critical Area; and proximity and tributary to an area with known erosion or flooding problems.

(Ord. 123105, § 2, 2009.)

22.800.090 - City Not Liable

- A. Nothing contained in this subtitle is intended to be nor shall be construed to create or form the basis for any liability on the part of the City, or its officers, employees or agents for any injury or damage resulting from the failure of responsible parties to comply with the provisions of this subtitle, or by reason or in consequence of any inspection, notice, order, certificate, permission or approval authorized or issued or done in connection with the implementation or enforcement of this subtitle, or by reason of any action or inaction on the part of the City related in any manner to the enforcement of this subtitle by its officers, employees or agents.
- B. The Director or any employee charged with the enforcement of this subtitle, acting in good faith and without malice on behalf of the City, shall not be personally liable for any damage that may accrue to persons or property as a result of any act required by the City, or by reason of any act or omission in the discharge of these duties. Any suit brought against the Director of DPD, Director of SPU or other

employee because of an act or omission performed in the enforcement of any provisions of this subtitle, shall be defended by the City.

- C. Nothing in this subtitle shall impose any liability on the City or any of its officers or employees for cleanup or any harm relating to sites containing hazardous materials, wastes or contaminated soil.

(Ord. 123105, § 2, 2009.)

Chapter 22.801 - DEFINITIONS

Sections:

22.801.010 - General

For the purpose of this subtitle, the words listed in this chapter have the following meanings, unless the context clearly indicates otherwise. Terms relating to pollutants and to hazardous wastes, materials, and substances, where not defined in this subtitle, shall be as defined in Washington Administrative Code Chapters 173-303, 173-304 and 173-340, the Seattle Building Code or the Seattle Fire Code, including future amendments to those codes. Words used in the singular include the plural, and words used in the plural include the singular.

(Ord. 123105, § 2, 2009.)

22.801.020 - "A"

"Agency" means any governmental entity or its subdivision.

"Agency, City" means "City agency" as defined in Section 25.09.520.

"Agency with jurisdiction" means those agencies with statutory authority to approve, condition or deny permits, such as the United States Environmental Protection Agency, the Washington State Department of Ecology or Public Health—Seattle & King County.

"Approved" means approved by the Director.

(Ord. 123668, § 1, 2011; Ord. 123105, § 2, 2009.)

22.801.030 - "B"

"Basin plan" means a plan to manage the quality and quantity of drainage water in a watershed or a drainage basin, including watershed action plans.

"Basic treatment facility" means a drainage control facility designed to reduce concentrations of total suspended solids in drainage water.

"Best management practice (BMP)" means a schedule of activities, prohibitions of practices, operational and maintenance procedures, structural facilities, or managerial practice or device that, when used singly or in combination, prevents, reduces, or treats contamination of drainage water, prevents or reduces soil erosion, or prevents or reduces other adverse effects of drainage water on receiving waters. When the Directors develop rules and/or manuals prescribing best management practices for particular purposes, whether or not those rules and/or manuals are adopted by ordinance, BMPs prescribed in the rules and/or manuals shall be the BMPs required for compliance with this subtitle.

"Building permit" means a document issued by the Department of Planning and Development authorizing construction or other specified activity in accordance with the Seattle Building Code (Chapter 22.100) or the Seattle Residential Code (Chapter 22.150).

(Ord. 123105, § 2, 2009.)

22.801.040 - "C"

"Capacity-constrained system" means a drainage system that the Director of SPU has determined to have inadequate capacity to carry drainage water.

"Cause or contribute to a violation" means and includes acts or omissions that create a violation, that increase the duration, extent or severity of a violation, or that aid or abet a violation.

"Certified Erosion and Sediment Control Lead (CESCL)" means an individual who has current certification through an approved erosion and sediment control training program that meets the minimum training standards established by the Washington State Department of Ecology.

"Civil engineer, licensed" means a person who is licensed by the State of Washington to practice civil engineering.

"City agency" means "City agency" as defined in Section 25.09.520.

"Combined sewer." See "public combined sewer."

"Construction Stormwater Control Plan" means a document that explains and illustrates the measures to be taken on the construction site to control pollutants on a construction project.

"Compaction" means the densification of earth material by mechanical means.

"Containment area" means the area designated for conducting pollution-generating activities for the purposes of implementing source controls or designing and installing source controls or treatment facilities.

"Contaminate" means the addition of sediment, any other pollutant or waste, or any illicit or prohibited discharge.

"Creek" means a Type 2-5 water as defined in WAC 222-16-031 and is used synonymously with "stream."

(Ord. 123105, § 2, 2009.)

22.801.050 - "D"

"Damages" means monetary compensation for harm, loss, costs, or expenses incurred by the City, including, but not limited, to the following: costs of abating or correcting violations of this subtitle; fines or penalties the City incurs as a result of a violation of this subtitle; and costs to repair or clean the public drainage system as a result of a violation. For the purposes of this subtitle, damages do not include compensation to any person other than the City.

"Designated receiving water" means the Duwamish River, Puget Sound, Lake Washington, Lake Union, Elliott Bay, Portage Bay, Union Bay, the Lake Washington Ship Canal, and other receiving waters determined by the Director of SPU and approved by Ecology as having sufficient capacity to receive discharges of drainage water such that a site discharging to the designated receiving water is not required to implement flow control.

"Detention" means temporary storage of drainage water for the purpose of controlling the drainage discharge rate.

"Development" means land disturbing activity or the addition or replacement of impervious surface.

"Director" means the Director of the Department authorized to take a particular action, and the Director's designees, who may be employees of that department or another City department.

"Director of DPD" means the Director of the Department of Planning and Development of The City of Seattle and/or the designee of the Director of Planning and Development, who may be employees of that department or another City department.

"Director of SDOT" means the Director of Seattle Department of Transportation of The City of Seattle and/or the designee of the Director of Seattle Department of Transportation, who may be employees of that department or another City department.

"Director of SPU" means the Director of Seattle Public Utilities of The City of Seattle and/or the designee of the Director of Seattle Public Utilities, who may be employees of that department or another City department.

"Discharge point" means the location from which drainage water from a site is released.

"Discharge rate" means the rate at which drainage water is released from a site. The discharge rate is expressed as volume per unit of time, such as cubic feet per second.

"DPD" means the Department of Planning and Development.

"Drainage basin" means the tributary area or subunit of a watershed through which drainage water is collected, regulated, transported, and discharged to receiving waters.

"Drainage control" means the management of drainage water. Drainage control is accomplished through one or more of the following: collecting, conveying, and discharging drainage water; controlling the discharge rate from a site; controlling the flow duration from a site; and separating, treating or preventing the introduction of pollutants.

"Drainage control facility" means any facility, including best management practices, installed or constructed for the purpose of controlling the discharge rate, flow duration, quantity, and/or quality of drainage water.

"Drainage control plan" means a plan for collecting, controlling, transporting and disposing of drainage water falling upon, entering, flowing within, and exiting the site, including designs for drainage control facilities.

"Drainage system" means a system intended to collect, convey and control release of only drainage water. The system may be either publicly or privately owned or operated, and the system may serve public or private property. It includes constructed and/or natural components such as pipes, ditches, culverts, streams, creeks, or drainage control facilities.

"Drainage water" means stormwater and all other discharges that are permissible per subsection 22.802.030.A.

(Ord. 123105, § 2, 2009.)

22.801.060 - "E"

"Earth material" means any rock, gravel, natural soil, fill, or re-sedimented soil, or any combination thereof, but does not include any solid waste as defined by RCW 70.95.

"Ecology" means the Washington State Department of Ecology.

"Effective impervious surface" means those impervious surfaces that are connected via sheet flow or discrete conveyance to a drainage system.

"Enhanced treatment facility" means a drainage control facility designed to reduce concentrations of dissolved metals in drainage water.

"Environmentally critical area" means an area designated in Section 25.09.020.

"EPA" means the United States Environmental Protection Agency.

"Erosion" means the wearing away of the ground surface as a result of mass wasting or of the movement of wind, water, ice, or other geological agents, including such processes as gravitational creep. Erosion also means the detachment and movement of soil or rock fragments by water, wind, ice, or gravity.

"Excavation" means the mechanical removal of earth material.

"Exception" means relief from a requirement of this subtitle to a specific project.

(Ord. 123105, § 2, 2009.)

22.801.070 - "F"

"Fill" means a deposit of earth material placed by artificial means.

"Flow control" means controlling the discharge rate, flow duration, or both of drainage water from the site through means such as infiltration or detention.

"Flow control facility" means a drainage control facility for controlling the discharge rate, flow duration, or both of drainage water from a site.

"Flow-critical receiving water" means a surface water that is not a designated receiving water as defined in this subtitle.

"Flow duration" means the aggregate time that peak flows are at or above a particular flow rate of interest.

(Ord. 123105, § 2, 2009.)

22.801.080 - "G"

"Garbage" means putrescible waste.

"Geotechnical engineer" or "Geotechnical/civil engineer" means a professional civil engineer licensed by The State of Washington who has at least four years of professional experience as a geotechnical engineer, including experience with landslide evaluation.

"Grading" means excavation, filling, in-place ground modification, removal of roots or stumps that includes ground disturbance, stockpiling of earth materials, or any combination thereof, including the establishment of a grade following demolition of a structure.

"Green stormwater infrastructure" means a drainage control facility that uses infiltration, evapotranspiration, or stormwater reuse. Examples of green stormwater infrastructure include permeable pavement, bioretention facilities, and green roofs.

(Ord. 123105, § 2, 2009.)

22.801.090 - "H"

"High-use sites" means sites that typically generate high concentrations of oil due to high traffic turnover or the frequent transfer of oil. High-use sites include:

1. An area of a commercial or industrial site subject to an expected average daily traffic (ADT) count equal to or greater than 100 vehicles per 1,000 square feet of gross building area;
2. An area of a commercial or industrial site subject to petroleum storage and transfer in excess of 1,500 gallons per year, not including routinely delivered heating oil;
3. An area of a commercial or industrial site subject to parking, storage or maintenance of 25 or more vehicles that are over 10 tons gross weight (trucks, buses, trains, heavy equipment, etc.);
4. A road intersection with a measured ADT count of 25,000 vehicles or more on the main roadway and 15,000 vehicles or more on any intersecting roadway, excluding projects proposing primarily pedestrian or bicycle use improvements.

(Ord. 123105, § 2, 2009.)

22.801.100 - "I"

"Impervious Surface" means any surface exposed to rainwater from which most water runs off. Common impervious surfaces include, but are not limited to, roof tops, walkways, patios, driveways, formal planters, parking lots or storage areas, concrete or asphalt paving, permeable paving, gravel surfaces subjected to vehicular traffic, compact gravel, packed earthen materials, and oiled macadam or other surfaces which similarly impede the natural infiltration of stormwater. Open, uncovered retention/detention facilities shall not be considered as impervious surfaces for the purposes of

determining whether the thresholds for application of minimum requirements are exceeded. Open, uncovered retention/detention facilities shall be considered impervious surfaces for purposes of stormwater modeling.

Impervious surface, replaced. See "replaced or replacement of impervious surface."

"Infiltration" means the downward movement of water from the surface to the subsoil.

"Infiltration facility" means a drainage control facility that temporarily stores, and then percolates drainage water into the underlying soil.

"Integrated Drainage Plan" means a plan developed, reviewed, and approved per subsection 22.800.080.E.

"Interflow" means that portion of rainfall and other precipitation that infiltrates into the soil and moves laterally through the upper soil horizons until intercepted by a stream channel or until it returns to the surface.

"Inspector" means a City inspector, their designee, or licensed civil engineer performing the inspection work required by this subtitle.

(Ord. 123105, § 2, 2009.)

22.801.110 - "J"

"Joint project" means a project that is both a parcel-based project and a roadway project.

(Ord. 123105, § 2, 2009.)

22.801.130 - "L"

"Land disturbing activity" means any activity that results in a movement of earth, or a change in the existing soil cover, both vegetative and nonvegetative, or the existing topography. Land disturbing activities include, but are not limited to, clearing, grading, filling, excavation, or addition of new or the replacement of impervious surface. Compaction, excluding hot asphalt mix, that is associated with stabilization of structures and road construction shall also be considered a land disturbing activity. Vegetation maintenance practices are not considered land disturbing activities.

"Large project" means a project including 5,000 square feet or more of new impervious surface or replaced impervious surface, individually or combined, or one acre or more of land disturbing activity.

"Listed creek basins" means Blue Ridge Creek, Broadview Creek, Discovery Park Creek, Durham Creek, Frink Creek, Golden Gardens Creek, Kiwanis Ravine/Wolfe Creek, Licton Springs Creek, Madrona Park Creek, Mee-Kwa-Mooks Creek, Mount Baker Park Creek, Puget Creek, Riverview Creek, Schmitz Creek, Taylor Creek, or Washington Park Creek.

(Ord. 123105, § 2, 2009.)

22.801.140 - "M"

"Master use permit" means a document issued by DPD giving permission for development or use of land or street right-of-way in accordance with Chapter 23.76.

"Maximum extent feasible" means the requirement is to be fully implemented, constrained only by the physical limitations of the site, practical considerations of engineering design, and reasonable considerations of financial costs and environmental impacts.

"Municipal stormwater NPDES permit" means the permit issued to the City under the federal Clean Water Act for public drainage systems within the City limits.

(Ord. 123105, § 2, 2009.)

22.801.150 - "N"

"Native vegetation" means "native vegetation" as defined in Section 25.09.520.

"Nutrient-critical receiving water" means a surface water or water segment that that has been listed as Category 5 (impaired) under Section 303(d) of the Clean Water Act for total phosphorus through the State of Washington's Water Quality Assessment program and approved by EPA.

"NPDES" means National Pollutant Discharge Elimination System, the national program for controlling discharges under the federal Clean Water Act.

"NPDES permit" means an authorization, license or equivalent control document issued by the United States Environmental Protection Agency or the Washington State Department of Ecology to implement the requirements of the NPDES program.

(Ord. 123105, § 2, 2009.)

22.801.160 - "O"

"Oil control treatment facility" means a drainage control facility designed to reduce concentrations of oil in drainage water.

"Owner" means any person having title to and/or responsibility for, a building or property, including a lessee, guardian, receiver or trustee, and the owner's duly authorized agent.

(Ord. 123105, § 2, 2009.)

22.801.170 - "P"

"Parcel-based project" means any project that is not a roadway project, single-family residential project, sidewalk project, or trail project.

"Person" means an individual, receiver, administrator, executor, assignee, trustee in bankruptcy, trust estate, firm, partnership, joint venture, club, company, joint stock company, business trust, municipal corporation, the State of Washington, political subdivision or agency of the State of Washington, public authority or other public body, corporation, limited liability company, association, society or any group of individuals acting as a unit, whether mutual, cooperative, fraternal, nonprofit or otherwise, and the United States or any instrumentality thereof.

"Pervious surface" means a surface that is not impervious. See also, "impervious surface".

"Phosphorus treatment facility" means a drainage control facility designed to reduce concentrations of phosphorus in drainage water.

"Plan" means a graphic or schematic representation, with accompanying notes, schedules, specifications and other related documents, or a document consisting of checklists, steps, actions, schedules, or other contents that has been prepared pursuant to this subtitle, such as a drainage control plan, construction stormwater control plan, stormwater pollution prevention plan, and integrated drainage plan.

"Pollution-generating activity" means any activity that is regulated by the joint SPU/DPD Directors' Rule titled, "Source Control Technical Requirements Manual" or activities with similar impacts on drainage water. These activities include, but are not limited to: cleaning and washing activities; transfer of liquid or solid material; production and application activities; dust, soil, and sediment control; commercial animal care and handling; log sorting and handling; boat building, mooring, maintenance, and repair; logging and tree removal; mining and quarrying of sand, gravel, rock, peat, clay, and other materials; cleaning and maintenance of swimming pool and spas; deicing and anti-icing operations for airports and streets; maintenance and management of roof and building drains at manufacturing and commercial buildings; maintenance and operation of railroad yards; maintenance of public and utility corridors and facilities; and maintenance of roadside ditches.

"Pollution-generating impervious surface" means those impervious surfaces considered to be a significant source of pollutants in drainage water. Such surfaces include those that are subject to:

vehicular use; certain industrial activities; or storage of erodible or leachable materials, wastes, or chemicals, and which receive direct rainfall or the run-on or blow-in of rainfall. Erodible or leachable materials, wastes, or chemicals are those substances which, when exposed to rainfall, measurably alter the physical or chemical characteristics of the drainage water. Examples include: erodible soils that are stockpiled; uncovered process wastes; manure; fertilizers; oily substances; ashes; kiln dust; and garbage dumpster leakage. Metal roofs are also considered to be PGIS unless they are coated with an inert, non-leachable material (e.g., baked-on enamel coating).

A surface, whether paved or not, shall be considered subject to vehicular use if it is regularly used by motor vehicles. The following are considered regularly-used surfaces: roads; unvegetated road shoulders; permeable pavement; bike lanes within the traveled lane of a roadway; driveways; parking lots; unfenced fire lanes; vehicular equipment storage yards; and airport runways.

The following are not considered regularly-used surfaces: paved bicycle pathways separated from and not subject to drainage from roads for motor vehicles; fenced fire lanes; and infrequently used maintenance access roads.

"Pollution-generating pervious surface" means any non-impervious surface subject to use of pesticides and fertilizers or loss of soil, and typically includes lawns, landscaped areas, golf courses, parks, cemeteries, and sports fields.

"Pre-developed condition" means the vegetation and soil conditions that are used to determine the allowable post-development discharge peak flow rates and flow durations, such as pasture or forest.

"Project" means the addition or replacement of impervious surface or the undertaking of land disturbing activity on a site.

"Public combined sewer" means a publicly owned and maintained system which carries drainage water and wastewater and flows to a publicly owned treatment works.

"Public drainage system" means a drainage system owned or used by the City of Seattle.

"Public place" means and includes streets, avenues, ways, boulevards, drives, places, alleys, sidewalks, and planting (parking) strips, squares, triangles and right-of-way for public use and the space above or beneath its surface, whether or not opened or improved.

"Public sanitary sewer" means the sanitary sewer that is owned or operated by a City agency.

"Public storm drain" means the part of a public drainage system that is wholly or partially piped, owned or operated by a City agency, and designed to carry only drainage water.

(Ord. 123105, § 2, 2009.)

22.801.190 - "R"

"Real property" means "real property" as defined in Section 3.110.

"Receiving water" means the surface water or wetland receiving drainage water.

"Repeat Violation" means a prior violation of this subtitle within the preceding five years that became a final order or decision of the Director or a court. The violation does not need to be the same nor occur on one site to be considered repeat.

"Replaced impervious surface" or "replacement of impervious surface" means for structures, the removal and replacement of impervious surface down to the foundation. For other impervious surface, the impervious surface that is removed down to earth material and a new impervious surface is installed.

"Responsible party" means all of the following persons:

1. Owners, operators, and occupants of property; and,
2. Any person causing or contributing to a violation of the provisions of this subtitle.

"Right-of-way" means "right-of-way" as defined in Section 23.84A.032.

"Roadway" means "roadway" as defined in Section 23.84A.032.

"Roadway project" means a project located in the public right-of-way, that involves the creation of a new or replacement of an existing roadway, or that involves the creation of new or replacement of existing impervious surface.

"Runoff" means the portion of rainfall or other precipitation that becomes surface flow and interflow.

(Ord. 123105, § 2, 2009.)

22.801.200 - "S"

"SPU" means Seattle Public Utilities.

"Sanitary sewer" means a system that conveys wastewater and is not designed to convey stormwater.

"SDOT" means the Seattle Department of Transportation.

"Service drain" means "service drain" as defined in Section 21.16.030.

"Side sewer" means "side sewer" as defined in Section 21.16.030.

"Sidewalk" means "sidewalk" as defined in Section 23.84A.036.

"Sidewalk project" means a project that exclusively involves the creation of a new or replacement of an existing sidewalk, including any associated planting strip, curb, or gutter.

"Single-family residential project" means a project, that constructs one Single-family Dwelling Unit per Section 23.44.006.A located in land classified as being Single-family Residential 9,600 (SF 9600), Single-family Residential 7,200 (SF 7200), or Single-family Residential 5,000 (SF 5000) per Section 23.30.010, and the total new plus replaced impervious surface is less than 10,000 square feet and the total new plus replaced pollution-generating impervious surface is less than 5,000 square feet.

"Site" means the lot or parcel, or portion of street, highway or other right-of-way, or contiguous combination thereof, where a permit for the addition or replacement of impervious surface or the undertaking of land disturbing activity has been issued or where any such work is proposed or performed. For roadway projects, the length of the project site and the right-of-way boundaries define the site.

"Slope" means an inclined ground surface.

"Small project" means a project with:

1. Less than 5,000 square feet of new and replaced impervious surface; and
2. Less than one acre of land disturbing activities.

"SMC" means the Seattle Municipal Code.

"Soil" means naturally deposited non-rock earth materials.

"Solid waste" means "solid waste" as defined in Section 21.36.016.

"Source controls" mean structures or operations that prevent contaminants from coming in contact with drainage water through physical separation or careful management of activities that are known sources of pollution.

"Standard design" is a design pre-approved by the Director for drainage and erosion control available for use at a site with pre-defined characteristics.

"Storm drain" means both public storm drain and service drain.

"Stormwater" means that portion of precipitation and snowmelt that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes and other features of a drainage system into a receiving water or a constructed infiltration facility.

"Stream" means a Type 2-5 water as defined in WAC 222-16-031. Used synonymously with "creek."

(Ord. 123105, § 2, 2009.)

22.801.210 - "T"

"Topsoil" means the weathered surface soil, including the organic layer, in which plants have most of their roots.

"Trail" means a path of travel for recreation and/or transportation within a park, natural environment, or corridor that is not classified as a highway, road, or street.

"Trail project" means a project that exclusively involves creating a new or replacement of an existing trail, and which does not contain pollution-generating impervious surfaces.

"Treatment facility" means a drainage control facility designed to remove pollutants from drainage water.

(Ord. 123105, § 2, 2009.)

22.801.220 - "U"

"Uncontaminated" means surface water or groundwater not containing sediment or other pollutants or contaminants above natural background levels and not containing pollutants or contaminants in levels greater than City-supplied drinking water when referring to potable water.

(Ord. 123105, § 2, 2009.)

22.801.230 - "V"

"Vegetation" means "vegetation" as defined in Section 25.09.520.

(Ord. 123105, § 2, 2009.)

22.801.240 - "W"

"Wastewater" means "wastewater" as defined in Section 21.16.030.

"Water Quality Standards" means Surface Water Quality Standards, Chapter 173-201A WAC, Ground Water Quality Standards, Chapter 173-200 WAC, and Sediment Management Standards, Chapter 173-204 WAC.

"Watercourse" means the route, constructed or formed by humans or by natural processes, generally consisting of a channel with bed, banks or sides, in which surface waters flow. Watercourse includes small lakes, bogs, streams, creeks, and intermittent artificial components (including ditches and culverts) but does not include designated receiving waters.

"Watershed" means a geographic region within which water drains into a particular river, stream, or other body of water.

"Wetland" means a wetland designated under Section 25.09.020.

"Wetland function" means the physical, biological, chemical, and geologic interactions among different components of the environment that occur within a wetland. Wetland functions can be grouped into three categories: functions that improve water quality; functions that change the water regime in a watershed, such as flood storage; and functions that provide habitat for plants and animals.

"Wetland values" means wetland processes, characteristics, or attributes that are considered to benefit society.

(Ord. 123105, § 2, 2009.)

Chapter 22.802 - PROHIBITED AND PERMISSIBLE DISCHARGES
Sections:

22.802.010 - General

- A. No discharge from a site, real property, or drainage facility, directly or indirectly to a public drainage system, private drainage system, or a receiving water within or contiguous to Seattle city limits, may cause or contribute to a prohibited discharge or a known or likely violation of water quality standards in the receiving water or a known or likely violation of the City's municipal stormwater NPDES permit.
- B. Every permit issued to implement this subtitle shall contain a performance standard requiring that no discharge from a site, real property, or drainage facility, directly or indirectly to a public drainage system, private drainage system, or a receiving water within or contiguous to Seattle city limits, cause or contribute to a prohibited discharge or a known or likely violation of water quality standards in the receiving water or a known or likely violation of the City's municipal stormwater NPDES permit.

(Ord. 123105, § 2, 2009.)

22.802.020 - Prohibited Discharges

- A. Prohibited Discharges. The following common substances are prohibited to enter, either directly or indirectly, a public drainage system, a private drainage system, or a receiving water within or contiguous to Seattle city limits, including but not limited to when entering via a service drain, overland flow, or as a result of a spill or deliberate dumping:
 - 1. acids;
 - 2. alkalis including cement wash water;
 - 3. ammonia;
 - 4. animal carcasses;
 - 5. antifreeze, oil, gasoline, grease and all other automotive and petroleum products;
 - 6. chemicals not normally found in uncontaminated water;
 - 7. chlorinated swimming pool or hot tub water;
 - 8. chlorine;
 - 9. commercial and household cleaning materials;
 - 10. detergent;
 - 11. dirt;
 - 12. domestic or sanitary sewage;
 - 13. drain cleaners;
 - 14. fertilizers;
 - 15. flammable or explosive materials;
 - 16. food and food waste;
 - 17. gravel.
 - 18. herbicides;
 - 19. human and animal waste;
 - 20. industrial process wastewater,
 - 21. ink;
 - 22. laundry waste;
 - 23. metals in excess of naturally occurring amounts, whether in liquid or solid form;

24. painting products;
 25. pesticides;
 26. sand;
 27. soap;
 28. solid waste;
 29. solvents and degreasers;
 30. steam-cleaning waste; and,
 31. yard waste.
- B. Prohibited Discharges to Public and Private Drainage System. Except as provided in Section 22.802.030, any discharge to a public drainage system or to a private drainage system that is not composed entirely of stormwater is prohibited.
- C. Prohibited Discharges to Receiving Waters. Except as provided in Section 22.802.030, any discharge, either directly or indirectly to receiving waters within or contiguous to Seattle city limits or to a public drainage system that is not composed entirely of stormwater is prohibited.

(Ord. 123105, § 2, 2009.)

22.802.030 - Permissible Discharges

Permissible Discharges to Drainage Systems and Receiving Waters. Discharges from the sources listed below are permissible discharges unless the Director of SPU determines that the type of discharge, directly or indirectly to a public drainage system, private drainage system, or a receiving water within or contiguous to Seattle city limits, whether singly or in combination with others, is causing or contributing to a violation of the City's NPDES stormwater permit or is causing or contributing to a water quality problem:

1. Discharges from potable water sources, including flushing of potable water lines, hyperchlorinated water line flushing, fire hydrant system flushing, and pipeline hydrostatic test water. Planned discharges shall be de-chlorinated to a concentration of 0.1 ppm or less, pH-adjusted if necessary, and volumetrically and velocity controlled to prevent resuspension of sediments in the drainage system;
2. Discharges from washing or rinsing of potable water storage reservoirs, dechlorinated as above;
3. Discharges from surface waters, including diverted stream flows;
4. Discharges of uncontaminated groundwater, including uncontaminated groundwater infiltration (as defined at 40 CFR 35.2005(2), uncontaminated pumped groundwater, and rising ground waters;
5. Discharges of air conditioning condensation;
6. Discharges from springs;
7. Discharges of uncontaminated water from crawl space pumps;
8. Discharges from lawn watering;
9. Discharges from irrigation runoff, including irrigation water from agricultural sources that is commingled with stormwater and that does not contain prohibited substances;
10. Discharges from riparian habitats and wetlands;
11. Discharges from approved footing drains and other subsurface drains or, where approval is not required, installed in compliance with this subtitle and rules promulgated pursuant to this subtitle;
12. Discharges from foundation drains;

13. Discharges from swimming pools, hot tubs, fountains, or similar aquatic recreation facilities and constructed water features, provided the discharges have been de-chlorinated to a concentration of 0.1 ppm or less, pH-adjusted and reoxygenated if necessary, and volumetrically and velocity controlled to prevent resuspension of sediments in the drainage control system;
 14. Discharges of street and sidewalk wash-water that does not use detergents or chemical additives;
 15. Discharges of water used to control dust;
 16. Discharges of water from routine external building washdown that does not use detergents or chemical additives;
 17. Discharges that are in compliance with a separate individual or general NPDES permit;
 18. Discharges that are from emergency fire fighting activities; and
 19. Other non-stormwater discharges, provided these discharges are in compliance with the requirements of an approved stormwater pollution prevention plan that addresses such discharges.
- B. Permissible Discharges to Sanitary Sewers. In consultation with the local sewage treatment agency, the Director of SPU may approve discharges of drainage water to a sanitary sewer if the discharging party demonstrates to the satisfaction of the Director of SPU that other methods of controlling pollutants in the discharge are not adequate or reasonable, the discharging party certifies that the discharge will not harm the environment, and the discharging party certifies that the discharge will not overburden or otherwise harm the sanitary sewer. Connections to the sanitary sewer shall be made in accordance with Chapter 21.16 (Side Sewer Code). The Director of SPU shall condition approval of such a discharge on compliance with local pretreatment regulations and on maintaining compliance with the required certifications given by the discharging party.
- C. Permissible Discharges to Public Combined Sewers. In consultation with the local sewage treatment agency, the Director of SPU may approve discharges of drainage water to a public combined sewer if the discharging party certifies that the discharge will not harm the environment, and the discharging party certifies that the discharge will not overburden or otherwise harm the public combined sewers. Connections to the public combined sewers shall be made in accordance with Chapter 21.16 (Side Sewer Code). The Director of SPU shall condition approval of such a discharge on compliance with local pretreatment regulations and on maintaining compliance with the required certifications given by the discharging party.

(Ord. 123105, § 2, 2009.)

22.802.040 - Testing for Prohibited Discharges

When the Director of SPU has reason to believe that any discharge is a prohibited discharge, the Director of SPU may sample and analyze the discharge and recover the costs from a responsible party in an enforcement proceeding. When the discharge is likely to be a prohibited discharge on a recurring basis, the Director of SPU may conduct, or may require the responsible party to conduct, ongoing monitoring at the responsible party's expense.

(Ord. 123105, § 2, 2009.)

Chapter 22.803 - MINIMUM REQUIREMENTS FOR ALL DISCHARGES AND ALL REAL PROPERTY Sections:

22.803.010 - General

- A. All responsible parties are required to comply with this chapter, even where no development is occurring.

- B. No discharge from a site, real property, or drainage facility, directly or indirectly to a public drainage system, private drainage system, or a receiving water within or contiguous to Seattle city limits, may cause or contribute to a prohibited discharge or a known or likely violation of water quality standards in the receiving water or a known or likely violation of the City's municipal stormwater NPDES permit.
- C. Every permit issued to implement this subtitle shall contain a performance standard requiring that no discharge from a site, real property, or drainage facility, directly or indirectly to a public drainage system, private drainage system, or a receiving water within or contiguous to Seattle city limits, cause or contribute to a prohibited discharge or a known or likely violation of water quality standards in the receiving water or a known or likely violation of the City's municipal stormwater NPDES permit.

(Ord. 123105, § 3, 2009.)

22.803.020 - Minimum Requirements for All Discharges and Real Property

- A. Requirement to provide documentation. The owner is required to make plans, procedures, and schedules required by this subsection available to the Director of SPU when requested.
- B. Requirement to report spills, releases, or dumping. A responsible party is required to, at the earliest possible time, but in any case within 24 hours of discovery, report to the Director of SPU, a spill, release, dumping, or other situation that has contributed or is likely to contribute pollutants to a public drainage system, a private drainage system, or a receiving water. This reporting requirement is in addition to, and not instead of, any other reporting requirements under federal, state or local laws.
- C. Requirements to maintain facilities. All treatment facilities, flow control facilities, drainage control facilities, and drainage systems shall be maintained as prescribed in rules promulgated by the Director in order for these facilities and systems to be kept in continuous working order.
- D. Requirements for disposal of waste from maintenance activities. Disposal of waste from maintenance of drainage control facilities shall be conducted in accordance with federal, state and local regulations, including the Minimum Functional Standards for Solid Waste Handling, Chapter 173-304 WAC, guidelines for disposal of waste materials, and, where appropriate, Dangerous Waste Regulations, Chapter 173-303 WAC.
- E. Requirements to maintain records of installation and maintenance activities. When a drainage control facility is installed, the party having the facility installed shall make records of the installation and shall identify the party (or parties) responsible for maintenance and operations. The parties shall retain a continuous record of all maintenance and repair activities, and shall retain the records for at least ten years. If a transfer of ownership occurs, these records of installation, repair, and maintenance shall be transferred to the new property owner. These records shall be made available to the Director of SPU during inspection of the facility and at other reasonable times upon request of the Director of SPU.

(Ord. 123105, § 3, 2009.)

22.803.030 - Minimum Requirements for Source Controls for All Real Property

For all discharges, responsible parties shall implement and maintain source controls to prevent or minimize pollutants from leaving a site or property. Source controls that are required for all real property include, but are not limited to, the following, as further described in rules promulgated by the Director:

- A. Eliminate Illicit or Prohibited Connections to Storm Drains. It is the responsibility of the property owner to ensure that all plumbing connections are properly made and that only connections conveying stormwater or permissible discharges per Section 22.802.030 are connected to the drainage system.
- B. Perform Routine Maintenance for Stormwater Drainage System. All drainage system components, including, but not limited to catch basins, flow control facilities, treatment facilities, green stormwater infrastructure, and unimproved drainage pathways shall be kept in continuously working order.

- C. Dispose of Fluids and Wastes Properly. Solid and liquid wastes must be disposed of in a manner that minimizes the risk of contaminating stormwater.
- D. Proper Storage of Solid Wastes. Solid wastes must be stored of in a manner that minimizes the risk of contaminating stormwater.
- E. Spill Prevention and Cleanup. All property owners having the potential to spill pollutants shall take measures to the maximum extent feasible to prevent spills of pollutant and to properly clean up spills that may occur.
- F. Provide Oversight and Training for Staff. Train at least annually all employees responsible for the operation, maintenance, or inspection of BMPs.

(Ord. 123105, § 3, 2009.)

22.803.040 - Minimum Requirements for Source Controls For All Businesses and Public Entities

- A. Source controls shall be implemented, to the extent allowed by law, by all businesses and public entities for specific pollution-generating activities as specified in the joint SPU/DPD Directors' Rule, "Source Control Technical Requirements Manual," to the extent necessary to prevent prohibited discharges as described in subsection 22.802.020.A through subsection 22.802.020.C, and to prevent contaminants from coming in contact with drainage water. Source controls include, but are not limited to, segregating or isolating wastes to prevent contact with drainage water; enclosing, covering, or containing the activity to prevent contact with drainage water; developing and implementing inspection and maintenance programs; sweeping; and taking management actions such as training employees on pollution prevention.
- B. Spill prevention shall be required for all businesses and public entities, as further defined in rules promulgated by the Director:
 - 1. Develop and implement plans and procedures to prevent spills and other accidental releases of materials that may contaminate drainage water. This requirement may be satisfied by a Stormwater Pollution Prevention Plan prepared in compliance with an NPDES industrial stormwater permit for the site; and
 - 2. Implement procedures for immediate containment and other appropriate action regarding spills and other accidental releases to prevent contamination of drainage water; and
 - 3. Provide necessary containment and response equipment on-site, and training of personnel regarding the procedures and equipment to be used.

(Ord. 123105, § 3, 2009.)

Chapter 22.805 - MINIMUM REQUIREMENTS FOR ALL PROJECTS

Sections:

22.805.010 - General

- A. All projects are required to comply with this chapter, even where drainage control review is not required.
- B. No discharge from a site, real property, or drainage facility, directly or indirectly to a public drainage system, private drainage system, or a receiving water within or contiguous to Seattle city limits, may cause or contribute to a prohibited discharge or a known or likely violation of water quality standards in the receiving water or a known or likely violation of the City's municipal stormwater NPDES permit.
- C. Every permit issued to implement this subtitle shall contain a performance standard requiring that no discharge from a site, real property, or drainage facility, directly or indirectly to a public drainage system, private drainage system, or a receiving water within or contiguous to Seattle city limits,

cause or contribute to a prohibited discharge or a known or likely violation of water quality standards in the receiving water or a known or likely violation of the City's municipal stormwater NPDES permit.

(Ord. 123105, § 3, 2009.)

22.805.020 - Minimum requirements for all projects

- A. Minimum Requirements for Maintaining Natural Drainage Patterns. For all projects, natural drainage patterns shall be maintained and discharges shall occur at the natural location to the maximum extent feasible and consistent with subsection 22.805.020.B. Drainage water discharged from the site shall not cause a significant adverse impact to receiving waters or down-gradient properties. Drainage water retained on the site shall not cause significant adverse impact to up-gradient properties.
- B. Minimum Requirements for Discharge Point. The discharge point for drainage water from each site shall be selected using criteria that shall include, but not be limited to, preservation of natural drainage patterns and whether the capacity of the drainage system is adequate for the flow rate and volume. For those projects meeting the drainage review threshold, the proposed discharge point shall be identified in the drainage control plan required by this subtitle, for review and approval or disapproval by the Director.
- C. Minimum Requirements for Flood-prone Areas. On sites within flood prone areas, responsible parties are required to employ procedures to minimize the potential for flooding on the site and to minimize the potential for the project to increase the risk of floods on adjacent or nearby properties. Flood control measures shall include those set forth in other titles of the Seattle Municipal Code and rules promulgated thereunder, including, but not limited to, Chapter 23.60 (Shoreline Master Program), Chapter 25.06 (Floodplain Development) and Chapter 25.09 (Environmentally Critical Areas) of the Seattle Municipal Code.
- D. Minimum Requirements for Construction Site Stormwater Pollution Prevention Control. Temporary and permanent construction controls shall be used to accomplish the following minimum requirements. All projects are required to meet each of the elements below or document why an element is not applicable. Additional controls may be required by the Director when minimum controls are not sufficient to prevent erosion or transport of sediment or other pollutants from the site.
 - 1. Mark Clearing Limits and Environmentally Critical Areas. Within the boundaries of the project site and prior to beginning land disturbing activities, including clearing and grading, clearly mark all clearing limits, easements, setbacks, all environmentally critical areas and their buffers, and all trees, and drainage courses that are to be preserved within the construction area.
 - 2. Retain Top Layer. Within the boundaries of the project site, the duff layer, topsoil, and native vegetation, if there is any, shall be retained in an undisturbed state to the maximum extent feasible. If it is not feasible to retain the top layer in place, it should be stockpiled on-site, covered to prevent erosion, and replaced immediately upon completion of the ground disturbing activities to the maximum extent feasible.
 - 3. Establish Construction Access. Limit construction vehicle access, whenever possible, to one route. Stabilize access points and minimize tracking sediment onto public roads. Promptly remove any sediment tracked off site.
 - 4. Protect Downstream Properties and Receiving Waters. Protect properties and receiving waters downstream from the development sites from erosion due to increases in the volume, velocity, and peak flow rate of drainage water from the project site. If it is necessary to construct flow control facilities to meet this requirement, these facilities shall be functioning prior to implementation of other land disturbing activity. If permanent infiltration ponds are used to control flows during construction, these facilities shall be protected from siltation during the construction phase of the project.
 - 5. Prevent Erosion and Sediment Transport from the Site. Pass all drainage water from disturbed areas through a sediment trap, sediment pond, or other appropriate sediment removal BMP

before leaving the site or prior to discharge to an infiltration facility. Sediment controls intended to trap sediment on site shall be constructed as one of the first steps in grading and shall be functional before other land disturbing activities take place. BMPs intended to trap sedimentation shall be located in a manner to avoid interference with the movement of juvenile salmonids attempting to enter off-channel areas or drainages.

6. Prevent Erosion and Sediment Transport from the Site by Vehicles. Whenever construction vehicle access routes intersect paved roads, the transport of sediment onto the paved road shall be minimized. If sediment is transported onto a paved road surface, the roads shall be cleaned thoroughly at the end of each day. Sediment shall be removed from paved roads by shoveling or sweeping and shall be transported to a controlled sediment disposal area. If sediment is tracked off site, roads shall be cleaned thoroughly at the end of each day, or at least twice daily during wet weather. Street washing is allowed only after sediment is removed and street wash wastewater shall be prevented from entering the public drainage system and receiving waters.
7. Stabilize Soils. Prevent on-site erosion by stabilizing all exposed and unworked soils, including stock piles and earthen structures such as dams, dikes, and diversions. From October 1 to April 30, no soils shall remain exposed and unworked for more than two days. From May 1 to September 30, no soils shall remain exposed for more than seven days. Soils shall be stabilized at the end of the shift before a holiday or weekend if needed based on the weather forecast. Soil stockpiles shall be stabilized from erosion, protected with sediment trapping measures, and be located away from storm drain inlets, waterways, and drainage channels. Before the completion of the project, permanently stabilize all exposed soils that have been disturbed during construction.
8. Protect Slopes. Erosion from slopes shall be minimized. Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Off-site stormwater run-on or groundwater shall be diverted away from slopes and undisturbed areas with interceptor dikes, pipes, and/or swales. Pipe slope drains or protected channels shall be constructed at the top of slopes to collect drainage and prevent erosion. Excavated material shall be placed on the uphill side of trenches, consistent with safety and space considerations. Check dams shall be placed at regular intervals within constructed channels that are cut down a slope.
9. Protect Storm Drains. Prevent sediment from entering all storm drains, including ditches that receive drainage water from the project. Storm drain inlets protection devices shall be cleaned or removed and replaced as recommended by the product manufacturer, or more frequently if required to prevent failure of the device or flooding. Storm drain inlets made operable during construction shall be protected so that drainage water does not enter the drainage system without first being filtered or treated to remove sediments. Storm drain inlet protection devices shall be removed at the conclusion of the project. When manufactured storm drain inlet protection devices are not feasible, inlets and catch basins must be cleaned as necessary to prevent sediment from entering the drainage control system.
10. Stabilize Channels and Outlets. All temporary on-site drainage systems shall be designed, constructed, and stabilized to prevent erosion. Stabilization shall be provided at the outlets of all drainage systems that is adequate to prevent erosion of outlets, adjacent stream banks, slopes, and downstream reaches.
11. Control Pollutants. Measures shall be taken to control potential pollutants that include, but are not limited to, the following measures:
 - a. All pollutants, including sediment, waste materials, and demolition debris, that occur onsite shall be handled and disposed of in a manner that does not cause contamination of drainage water and per all applicable disposal laws.
 - b. Containment, cover, and protection from vandalism shall be provided for all chemicals, liquid products, petroleum products, and other materials that have the potential to pose a threat to human health or the environment.

- c. On-site fueling tanks shall include secondary containment.
 - d. Maintenance, fueling, and repair of heavy equipment and vehicles involving oil changes, hydraulic system drain down, solvent and de-greasing cleaning operations, fuel tank drain down and removal, and other activities which may result in discharge or spillage of pollutants to the ground or into drainage water runoff shall be conducted using spill prevention and control measures.
 - e. Contaminated surfaces shall be cleaned immediately following any discharge or spill incident.
 - f. Wheel wash or tire bath wastewater shall be discharged to a separate on-site treatment system or to the sanitary sewer or combined sewer system with approval of the Director of SPU. Temporary discharges or connections to the public sanitary and combined sewers shall be made in accordance with Chapter 21.16 (Side Sewer Code).
 - g. Application of fertilizers and pesticides shall be conducted in a manner and at application rates that will not result in loss of chemical to drainage water. Manufacturers' label requirements for application rates and procedures shall be followed.
 - h. BMPs shall be used to prevent or treat contamination of drainage water by pH-modifying sources. These sources include, but are not limited to, bulk cement, cement kiln dust, fly ash, new concrete washing and curing waters, waste streams generated from concrete grinding and sawing, exposed aggregate processes, and concrete pumping and mixer washout waters. Construction site operators may be required to adjust the pH of drainage water if necessary to prevent a violation of water quality standards. Construction site operators must obtain written approval from Ecology prior to using chemical treatment other than carbon dioxide (CO₂) or dry ice to adjust pH.
12. Control Dewatering. When dewatering devices discharge on site or to a public drainage system, dewatering devices shall discharge into a sediment trap, sediment pond, gently sloping vegetated area of sufficient length to remove sediment contamination, or other sediment removal BMP. Foundation, vault, and trench dewatering waters must be discharged into a controlled drainage system prior to discharge to a sediment trap or sediment pond. Clean, non-turbid dewatering water, such as well-point ground water, that is discharged to systems tributary to state surface waters must not cause erosion or flooding. Highly turbid or contaminated dewatering water shall be handled separately from drainage water. For any project with an excavation depth of 12 feet or more below the existing grade and for all large projects, dewatering flows must be determined and it must be verified that there is sufficient capacity in the public drainage system and public combined sewer prior to discharging.
 13. Maintain BMPs. All temporary and permanent erosion and sediment control BMPs shall be maintained and repaired as needed to assure continued performance of their intended function. All temporary erosion and sediment controls shall be removed within five days after final site stabilization is achieved or after the temporary controls are no longer needed, whichever is later. Trapped sediment shall be removed or stabilized on site. Disturbed soil areas resulting from removal shall be permanently stabilized.
 14. Inspect BMPs. BMPs shall be periodically inspected. For projects with 5,000 square feet or more of new plus replaced impervious surface or 7,000 square feet or more of land disturbing activity, site inspections shall be conducted by a Certified Erosion and Sediment Control Lead who shall be identified in the Construction Stormwater Control Plan and shall be present on-site or on-call at all times.
 15. Execute Construction Stormwater Control Plan. Construction site operators shall maintain, update, and implement their Construction Stormwater Control Plan. Construction site operators shall modify their Construction Stormwater Control Plan to maintain compliance whenever there is a change in design, construction, operation, or maintenance at the site that has, or could have, a significant effect on the discharge of pollutants to waters of the state.

16. Minimize Open Trenches. In the construction of underground utility lines, where feasible, no more than 150 feet of trench shall be opened at one time, unless soil is replaced within the same working day, and where consistent with safety and space considerations, excavated material shall be placed on the uphill side of trenches. Trench dewatering devices shall discharge into a sediment trap or sediment pond.
 17. Phase the Project. Development projects shall be phased to the maximum extent feasible in order to minimize the amount of land disturbing activity occurring at the same time and shall take into account seasonal work limitations.
 18. Install Permanent Flow Control and Water Quality Facilities. Development projects required to comply with Section 22.805.080 (Minimum Requirements for Flow Control) or Section 22.805.090 (Minimum Requirements for Treatment) shall install permanent flow control and water quality facilities.
- E. Minimum Requirement to Amend Soils. Prior to completion of the project all new, replaced, and disturbed topsoil shall be amended with organic matter per rules promulgated by the Director to improve onsite management of drainage water flow and water quality.
 - F. Implement Green Stormwater Infrastructure. All Single-family residential projects and all other projects with 7,000 square feet or more of land disturbing activity or 2,000 square feet or more of new plus replaced impervious surface must implement green stormwater infrastructure to infiltrate, disperse, and retain drainage water onsite to the maximum extent feasible without causing flooding, landslide, or erosion impacts.
 - G. Protect Wetlands. All projects discharging into a wetland or its buffer, either directly or indirectly through a drainage system, shall prevent impacts to wetlands that would result in a net loss of functions or values.
 - H. Protect Streams and Creeks. All projects, including projects discharging directly to a stream or creek, or to a drainage system that discharges to a stream or creek, shall maintain the water quality in any affected stream or creek by selecting, designing, installing, and maintaining temporary and permanent controls.
 - I. Protect Shorelines. All projects discharging directly or indirectly through a drainage system into the Shoreline District as defined in Chapter 23.60A shall prevent impacts to water quality and stormwater quantity that would result in a net loss of shoreline ecological functions as defined in WAC 173-26-020 (11).
 - J. Ensure Sufficient Capacity. All large projects, all projects with an excavation depth of 12 feet or more below the existing grade, and all projects with an excavation depth of less than 12 feet located in an area expected to have shallow groundwater depths shall ensure that sufficient capacity exists in the public drainage system and public combined sewer to carry existing and anticipated loads, including any flows from dewatering activities. Capacity analysis shall extend to at least ¼-mile from the discharge point of the site. Sites at which there is insufficient capacity may be required to install a flow control facility or improve the drainage system or public combined sewer to accommodate flow from the site. Unless approved otherwise by the Director as necessary to meet the purposes of this subtitle:
 1. Capacity analysis for discharges to the public drainage system shall be based on peak flows with a 4% annual probability (25-year recurrence interval); and
 2. Capacity analysis for discharges to the public combined sewer shall be based on peak flows with a 20% annual probability (5-year recurrence interval).
 - K. Install Source Control BMPs. Source control BMPs shall be installed for specific pollution-generating activities as specified in the joint SPU/DPD Directors' Rule, "Source Control Technical Requirements Manual," to the extent necessary to prevent prohibited discharges as described in Section 22.802.020, and to prevent contaminants from coming in contact with drainage water. This requirement applies to the pollution-generating activities that are stationary or occur in one primary

location and to the portion of the site being developed. Examples of installed source controls include, but are not limited to, the following:

1. A roof, awning, or cover erected over the pollution-generating activity area;
 2. Ground surface treatment in the pollution-generating activity area to prevent interaction with, or breakdown of, materials used in conjunction with the pollution-generating activity;
 3. Containment of drainage from the pollution-generating activity to a closed sump or tank. Contents of such a sump or tank must be pumped or hauled by a waste handler, or treated prior to discharge to a public drainage system.
 4. Construct a berm or dike to enclose or contain the pollution-generating activities;
 5. Direct drainage from containment area of pollution-generating activity to a closed sump or tank for settling and appropriate disposal, or treat prior to discharging to a public drainage system;
 6. Pave, treat, or cover the containment area of pollution-generating activities with materials that will not interact with or break down in the presence of other materials used in conjunction with the pollution-generating activity; and
 7. Prevent precipitation from flowing or being blown onto containment areas of pollution-generating activities.
- L. Do not obstruct watercourses. Watercourses shall not be obstructed.
- M. Comply with Side Sewer Code.
1. All privately owned and operated drainage control facilities or systems, whether or not they discharge to a public drainage system, shall be considered side sewers and subject to Chapter 21.16 (Side Sewer Code), SPU Director's Rules promulgated under Title 21, and the design and installation specifications and permit requirements of SPU and DPD for side sewer and drainage systems.
 2. Side sewer permits and inspections shall be required for constructing, capping, altering, or repairing privately owned and operated drainage systems as provided for in Chapter 21.16. When the work is ready for inspection, the permittee shall notify the Director of DPD. If the work is not constructed according to the plans approved under this subtitle, Chapter 21.16, the SPU Director's Rules promulgated under Title 21, and SPU and DPD design and installation specifications, then SPU, after consulting with DPD, may issue a stop work order under Chapter 22.808 and require modifications as provided for in this subtitle and Chapter 21.16.

(Ord. [124105](#), § 7, 2013; Ord. 123105, § 3, 2009.)

22.805.030 - Minimum Requirements for Single-Family Residential Projects

All single-family residential projects shall implement green stormwater infrastructure to the maximum extent feasible.

(Ord. 123105, § 3, 2009.)

22.805.040 - Minimum Requirements for Trail and Sidewalk Projects

All trail and sidewalk projects with 2,000 square feet or more of new plus replaced impervious surface or 7,000 square feet or more of land disturbing activity shall implement green stormwater infrastructure to the maximum extent feasible.

(Ord. 123105, § 3, 2009.)

22.805.050 - Minimum Requirements for Parcel-Based Projects

- A. Flow Control. Parcel-based projects shall meet the minimum requirements for flow control contained in Section 22.805.080, to the extent allowed by law, as prescribed below.

1. Discharges to Wetlands. Parcel-based projects discharging into a wetland shall comply with subsection 22.805.080.B.1 (Wetland Protection Standard) if:
 - a. The total new plus replaced impervious surface is 5,000 square feet or more; or
 - b. The project converts $\frac{3}{4}$ -acres or more of native vegetation to lawn or landscaped areas and from which there is a surface discharge into a natural or man-made conveyance system from the site; or
 - c. The project converts 2.5 acres or more of native vegetation to pasture and from which there is a surface discharge into a natural or man-made conveyance system from the site.
2. Discharges to Listed Creek Basins. Parcel-based projects discharging into Blue Ridge Creek, Broadview Creek, Discovery Park Creek, Durham Creek, Frink Creek, Golden Gardens Creek, Kiwanis Ravine/Wolfe Creek, Licton Springs Creek, Madrona Park Creek, Mee-Kwa-Mooks Creek, Mount Baker Park Creek, Puget Creek, Riverview Creek, Schmitz Creek, Taylor Creek, or Washington Park Creek shall:
 - a. Comply with subsection 22.805.080.B.2 (Pre-developed Forested Standard) if the existing impervious coverage is less than 35 percent and one or more of the following apply:
 - 1) The project adds 5,000 square feet or more of new impervious surface and the total new plus replaced impervious surface is 10,000 square feet or more; or
 - 2) The project converts $\frac{3}{4}$ acres or more of native vegetation to lawn or landscaped areas and from which there is a surface discharge into a natural or man-made conveyance system from the site; or
 - 3) The project converts 2.5 acres or more of native vegetation to pasture and from which there is a surface discharge into a natural or man-made conveyance system from the site; or
 - 4) The project adds 5,000 square feet or more of new impervious surface and, through a combination of effective impervious surfaces and converted pervious surfaces, causes a 0.1 cubic feet per second increase in the 100-year recurrence interval flow frequency as estimated using a continuous model approved by the Director.
 - b. Comply with subsection 22.805.080.B.3 (Pre-developed Pasture Standard) if the criteria in subsection 22.805.050.A.2.a do not apply and the total new plus replaced impervious surface is 2,000 square feet or more.
3. Discharges to Non-listed Creek Basins. Parcel-based projects discharging into a creek not listed in subsection 22.805.050.A.2 shall:
 - a. Comply with subsection 22.805.080.B.2 (Pre-developed Forested Standard) if the existing land cover is forested and one or more of the following apply:
 - 1) The project adds 5,000 square feet or more of new impervious surface and the total new plus replaced impervious surface is 10,000 square feet or more; or
 - 2) The project converts $\frac{3}{4}$ acres or more of native vegetation to lawn or landscaped areas and from which there is a surface discharge into a natural or man-made conveyance system from the site; or
 - 3) The project converts 2.5 acres or more of native vegetation to pasture and from which there is a surface discharge into a natural or man-made conveyance system from the site; or
 - 4) The project adds 5,000 square feet or more of new impervious surface and, through a combination of effective impervious surfaces and converted pervious surfaces, causes a 0.1 cubic feet per second increase in the 100-year recurrence interval flow frequency as estimated using a continuous model approved by the Director.

- b. Comply with subsection 22.805.080.B.3 (Pre-developed Pasture Standard) if the criteria in subsection 22.805.050.A.3.a do not apply and the total new plus replaced impervious surface is 2,000 square feet or more.
 - 4. Discharges to Small Lake Basins. Parcel-based projects discharging into Bitter Lake, Green Lake, or Haller Lake drainage basins shall comply with subsection 22.805.080.B.4 (Peak Control Standard) if the total new plus replaced impervious surface is 2,000 square feet or more.
 - 5. Discharges to Public Combined Sewer. Unless the Director of SPU has exercised its discretion to determine and has determined that the public combined sewer has sufficient capacity to carry existing and anticipated loads, parcel-based projects discharging into the public combined sewer shall comply with subsection 22.805.080.B.4 (Peak Control Standard) if the total new plus replaced impervious surface is 10,000 square feet or more.
 - 6. Discharges to a Capacity-constrained System. In addition to applicable minimum requirements for flow control in subsection 22.805.050.A.1 through subsection 22.805.050.A.5, parcel-based projects discharging into a capacity-constrained system shall also comply with subsection 22.805.080.B.4 (Peak Control Standard) if the total new plus replaced impervious surface is 2,000 square feet or more.
- B. Treatment. Parcel-based projects not discharging to the public combined sewer shall comply with the minimum requirements for treatment contained in Section 22.805.090, to the extent allowed by law, if:
- 1. The total new plus replaced pollution-generating impervious surface is 5,000 square feet or more; or
 - 2. The total new plus replaced pollution-generating pervious surfaces is $\frac{3}{4}$ of an acre or more and from which there is a surface discharge in a natural or man-made conveyance system from the site.

(Ord. [124758](#), § 2, 2015; Ord. 123105, § 3, 2009.)

22.805.060 - Minimum Requirements for Roadway Projects

- A. Flow Control. Roadway projects shall meet the minimum requirements for flow control contained in Section 22.805.080, to the extent allowed by law, as prescribed below.
- 1. Discharges to Wetlands. Roadway projects discharging into a wetland shall comply with subsection 22.805.080.B.1 (Wetland Protection Standard) if:
 - a. The total new plus replaced impervious surface is 5,000 square feet or more; or
 - b. The project converts $\frac{3}{4}$ acres or more of native vegetation to lawn or landscaped areas and from which there is a surface discharge into a natural or man-made conveyance system from the site; or
 - c. The project converts 2.5 acres or more of native vegetation to pasture and from which there is a surface discharge into a natural or man-made conveyance system from the site.
 - 2. Discharges to Listed Creek Basins. Roadway projects discharging into Blue Ridge Creek, Broadview Creek, Discovery Park Creek, Durham Creek, Frink Creek, Golden Gardens Creek, Kiwanis Ravine/Wolfe Creek, Licton Springs Creek, Madrona Park Creek, Mee-Kwa-Mooks Creek, Mount Baker Park Creek, Puget Creek, Riverview Creek, Schmitz Creek, Taylor Creek, or Washington Park Creek shall:
 - a. Comply with subsection 22.805.080.B.2 (Pre-developed Forested Standard) if the existing impervious coverage is less than 35 percent and one or more of the following apply:
 - 1) The project adds 5,000 square feet or more of new impervious surface and the total new plus replaced impervious surface is 10,000 square feet or more; or

- 2) The project converts $\frac{3}{4}$ acres or more of native vegetation to lawn or landscaped areas and from which there is a surface discharge into a natural or man-made conveyance system from the site; or
 - 3) The project converts 2.5 acres or more of native vegetation to pasture and from which there is a surface discharge into a natural or man-made conveyance system from the site; or
 - 4) The project adds 5,000 square feet or more of new impervious surface and, through a combination of effective impervious surfaces and converted pervious surfaces, causes a 0.1 cubic feet per second increase in the 100-year recurrence interval flow frequency as estimated using a continuous model approved by the Director.
- b. Comply with subsection 22.805.080.B.3 (Pre-developed Pasture Standard) if the criteria in subsection 22.805.060.A.2.a do not apply and the total new plus replaced impervious surface is 10,000 square feet or more.
3. Discharges to Non-listed Creek Basins. Roadway projects discharging into a creek not listed in subsection 22.805.060.A.2 shall:
 - a. Comply with subsection 22.805.080.B.2 (Pre-developed Forested Standard) if the existing land cover is forested and one or more of the following apply:
 - 1) The project adds 5,000 square feet or more of new impervious surface and the total new plus replaced impervious surface is 10,000 square feet or more; or
 - 2) The project converts $\frac{3}{4}$ acres or more of native vegetation to lawn or landscaped areas and from which there is a surface discharge into a natural or man-made conveyance system from the site; or
 - 3) The project converts 2.5 acres or more of native vegetation to pasture and from which there is a surface discharge into a natural or man-made conveyance system from the site; or
 - 4) The project adds 5,000 square feet or more of new impervious surface and, through a combination of effective impervious surfaces and converted pervious surfaces, causes a 0.1 cubic feet per second increase in the 100-year recurrence interval flow frequency as estimated using a continuous model approved by the Director.
 - b. Comply with subsection 22.805.080.B.3 (Pre-developed Pasture Standard) if the criteria in subsection 22.805.060.A.3.a do not apply and the total new plus replaced impervious surface is 10,000 square feet or more.
 4. Discharges to Small Lake Basins. Projects discharging into Bitter Lake, Green Lake, or Haller Lake drainage basins shall comply with subsection 22.805.080.B.4 (Peak Control Standard) if the total new plus replaced impervious surface is 10,000 square feet or more.
 5. Discharges to Public Combined Sewer. Unless the Director of SPU has exercised its discretion to determine and has determined that the public combined sewer has sufficient capacity to carry existing and anticipated loads, roadway projects discharging into the public combined sewer shall comply with subsection 22.805.080.B.4 (Peak Control Standard) if the total new plus replaced impervious surface is 10,000 square feet or more.
 6. Discharges to a Capacity-constrained System. In addition to applicable minimum requirements for flow control in subsection 22.805.060.A.1 through subsection 22.805.060.A.5, roadway projects discharging into a capacity-constrained system shall also comply with subsection 22.805.080.B.4 (Peak Control Standard) if the total new plus replaced impervious surface is 10,000 square feet or more.
- B. Treatment. Roadway projects not discharging to the public combined sewer shall, to the extent allowed by law:

1. If the site has less than 35 percent existing impervious surface coverage, and the project's total new plus replaced pollution-generating impervious surface is 5,000 square feet or more, comply with the minimum requirements for treatment contained in Section 22.805.090 for flows from the total new plus replaced pollution-generating impervious surface; and
2. If the site has greater than or equal to 35 percent existing impervious surface coverage and the project's total new pollution-generating impervious surface is 5,000 square feet or more, and
 - a. If the new pollution-generating impervious surface adds 50 percent or more to the existing impervious surfaces within the project limits, comply with the minimum requirements for treatment contained in Section 22.805.090 for flows from the total new plus replaced pollution-generating impervious surface. The project limits are defined by the length of the project and the width of the right-of-way; or
 - b. If the new pollution-generating impervious surface adds less than 50 percent to the existing impervious surfaces within the project limits, comply with the minimum requirements for treatment contained in Section 22.805.090 for flows from the total new pollution-generating impervious surface. The project limits are defined by the length of the project and the width of the right-of-way; and
3. If the total new plus replaced pollution-generating pervious surfaces is three-quarters of an acre or more and from which there is a surface discharge in a natural or man-made conveyance system from the site, comply with the minimum requirements for treatment contained in Section 22.805.090 for flows from the total new plus replaced pollution-generating pervious surface.

(Ord. [124758](#), § 3, 2015; Ord. 123105, § 3, 2009.)

22.805.070 - Minimum Requirements for Joint Parcel-Based and Roadway Projects

The parcel-based portion of joint projects shall comply with the minimum requirements for parcel-based projects contained in Section 22.805.050. The roadway portion of joint projects shall comply with the minimum requirements roadway projects contained in Section 22.805.060. The boundary of the public right-of-way shall form the boundary between the parcel and roadway portions of the joint project for purposes of determining applicable thresholds.

(Ord. 123105, § 3, 2009.)

22.805.080 - Minimum Requirements for Flow Control

- A. Applicability. The requirements of this subsection apply to the extent required in Section 22.805.050 to Section 22.805.070.
- B. Requirements. Flow control facilities shall be installed to the extent allowed by law and maintained per rules promulgated by the Director to receive flows from that portion of the site being developed. Post-development discharge determination must include flows from dewatering activities. All projects shall use green stormwater infrastructure to the maximum extent feasible to meet the minimum requirements. Flow control facilities that receive flows from less than that portion of the site being developed may be installed if the total new plus replaced impervious surface is less than 10,000 square feet, the project site uses only green stormwater infrastructure to meet the requirement, and the green stormwater infrastructure provides substantially equivalent environmental protection as facilities not using green stormwater infrastructure that receive flows from all of the portion of the site being developed.
 1. Wetland Protection Standard. All projects discharging to wetlands or their buffers shall protect the hydrologic conditions, vegetative community, and substrate characteristics of the wetlands and their buffers to protect the functions and values of the affected wetlands. The introduction of sediment, heat and other pollutants and contaminants into wetlands shall be minimized through the selection, design, installation, and maintenance of temporary and permanent controls. Discharges shall maintain existing flows to the extent necessary to protect the functions and values of the wetlands. Prior to authorizing new discharges to a wetland, alternative discharge

locations shall be evaluated and infiltration options outside the wetland shall be maximized unless doing so will adversely impact the functions and values of the affected wetlands. If one or more of the flow control requirements contained in 22.805.080.B.2 through 22.805.080.B.4 also apply to the project, an analysis shall be conducted to ensure that the functions and values of the affected wetland are protected before implementing these flow control requirements.

2. Pre-developed Forested Standard. The post-development discharge peak flow rates and flow durations must be matched to the pre-developed forested condition for the range of pre-developed discharge rates from 50% of the 2-year recurrence interval flow up to the 50-year recurrence interval flow.
 3. Pre-developed Pasture Standard. The post-development discharge peak flow rates and flow durations must be matched to the pre-developed pasture condition for the range of pre-developed discharge rates from 50% of the 2-year recurrence interval flow up to the 2-year recurrence interval flow.
 4. Peak Flow Control Standard. The post-development peak flow with a 4% annual probability (25-year recurrence flow) shall not exceed 0.4 cubic feet per second per acre. Additionally, the peak flow with a 50% annual probability (2-year recurrence flow) shall not exceed 0.15 cubic feet per second per acre.
- C. Inspection and Maintenance Schedule. Temporary and permanent flow control facilities shall be inspected and maintained according to rules promulgated by the Director to keep these facilities in continuous working order.

(Ord. 123105, § 3, 2009.)

22.805.090 - Minimum Requirements for Treatment.

- A. Applicability. The requirements of this subsection apply to the extent required in Section 22.805.050 to Section 22.805.070.
- B. Requirements. Water quality treatment facilities shall be installed to the extent allowed by law and maintained per rules promulgated by the Director to treat flows from the pollution generating pervious and impervious surfaces on the site being developed. When stormwater flows from other areas, including non-pollution generating surfaces (e.g., roofs), dewatering activities, and offsite areas, cannot be separated or bypassed, treatment BMPs shall be designed for the entire area draining to the treatment facility. All projects shall use green stormwater infrastructure the maximum extent feasible to meet the minimum requirements.
 1. Runoff Volume. Stormwater treatment facilities shall be designed based on the stormwater runoff volume from the contributing area or a peak flow rate as follows:
 - a. The daily runoff volume at or below which 91 percent of the total runoff volume for the simulation period occurs, as determined using an approved continuous model. It is calculated as follows:
 - 1) Rank the daily runoff volumes from highest to lowest.
 - 2) Sum all the daily volumes and multiply by 0.09.
 - 3) Sequentially sum daily runoff volumes, starting with the highest value, until the total equals 9 percent of the total runoff volume. The last daily value added to the sum is defined as the water quality design volume.
 - b. Different design flow rates are required depending on whether a treatment facility will be located upstream or downstream of a detention facility:
 - 1) For facilities located upstream of detention or when detention is not required, the design flow rate is the flow rate at or below which 91 percent of the total runoff volume for the simulation period is treated, as determined using an approved continuous runoff model.

- 2) For facilities located downstream of detention, the design flow rate is the release rate from the detention facility that has a 50 percent annual probability of occurring in any given year (2-year recurrence interval), as determined using an approved continuous runoff model.
- c. Infiltration facilities designed for water quality treatment must infiltrate 91 percent of the total runoff volume as determined using an approved continuous runoff model. To prevent the onset of anaerobic conditions, an infiltration facility designed for water quality treatment purposes must be designed to drain the water quality design treatment volume (the 91st percentile, 24-hour volume) within 48 hours.
2. Basic Treatment. A basic treatment facility shall be required for all projects. The requirements of subsection 22.805.090 B3 (Oil Control Treatment), subsection 22.805.090 B4 (Phosphorus Treatment), subsection 22.805.090.B.5 (Enhanced Treatment) are in addition to this basic treatment requirement.
3. Oil Control Treatment. An oil control treatment facility shall be required for high-use sites, as defined in this subtitle.
4. Phosphorus Treatment. A phosphorus treatment facility shall be required for projects discharging into nutrient-critical receiving waters.
5. Enhanced Treatment. An enhanced treatment facility for reducing concentrations of dissolved metals shall be required for projects discharging to a fish-bearing stream or lake, and to waters or drainage systems that are tributary to fish-bearing streams, creeks, or lakes, if the project meets one of the following criteria:
 - a. For a parcel-based project, the total of new plus replaced pollution-generating impervious surface is 5,000 square feet or more, and the site is an industrial, commercial, or multi-family project.
 - b. For a roadway project, the project adds 5,000 square feet or more of pollution-generating impervious surface, and the site is either:
 - 1) A fully controlled or a partially controlled limited access highway with Annual Average Daily Traffic counts of 15,000 or more; or
 - 2) Any other road with an Annual Average Daily Traffic count of 7,500 or greater.
6. Discharges to Groundwater. Direct discharge of untreated drainage water from pollution-generating impervious surfaces to ground water is prohibited.
- C. Inspection and Maintenance Schedule. Temporary and permanent treatment facilities shall be inspected and maintained according to rules promulgated by the Director to keep these facilities to be kept in continuous working order.

(Ord. 123105, § 3, 2009.)

Chapter 22.807 - DRAINAGE CONTROL REVIEW AND APPLICATION REQUIREMENTS

22.807.010 - General

- A. No discharge from a site, real property, or drainage facility, directly or indirectly to a public drainage system, private drainage system, or a receiving water within or contiguous to Seattle city limits, may cause or contribute to a prohibited discharge or a known or likely violation of water quality standards in the receiving water or a known or likely violation of the City's municipal stormwater NPDES permit.
- B. Every permit issued to implement this subtitle shall contain a performance standard requiring that no discharge from a site, real property, or drainage facility, directly or indirectly to a public drainage system, private drainage system, or a receiving water within or contiguous to Seattle city limits, cause or contribute to a prohibited discharge or a known or likely violation of water quality standards in the receiving water or a known or likely violation of the City's municipal stormwater NPDES permit.

(Ord. 123105, § 3, 2009.)

22.807.020 - Drainage control review and application requirements

A. Thresholds for Drainage Control Review. Drainage control review and approval shall be required for any of the following:

1. Standard drainage control review and approval shall be required for the following:
 - a. Any land disturbing activity encompassing an area of seven hundred fifty (750) square feet or more;
 - b. Applications for either a master use permit or building permit that includes the cumulative addition of 750 square feet or more of land disturbing activity and/or new and replaced impervious surface;
 - c. Applications for which a grading permit or approval is required per SMC 22.170;
 - d. Applications for street use permits for the cumulative addition of 750 square feet or more of new and replaced impervious surface and land disturbing activity;
 - e. City public works projects or construction contracts, including contracts for day labor and other public works purchasing agreements, for the cumulative addition of 750 square feet or more of new and replaced impervious surface and/or land disturbing activity to the site, except for projects in a City-owned right-of-way and except for work performed for the operation and maintenance of park lands under the control or jurisdiction of the Department of Parks and Recreation; or
 - f. Permit approvals and contracts that include any new or replaced impervious surface or any land disturbing activity on a site deemed a potentially hazardous location, as specified in Section 22.800.050 (Potentially Hazardous Locations);
 - g. Permit approvals that include any new impervious surface in a Category I peat settlement-prone area delineated pursuant to subsection 25.09.020; or
 - h. Whenever an exception to a requirement set forth in this subtitle or in a rule promulgated under this subtitle is desired, whether or not review and approval would otherwise be required, including but not limited to, alteration of natural drainage patterns or the obstruction of watercourses.
2. Large project drainage control review and approval shall be required for projects that include:
 - a. Five thousand square feet or more of new plus replaced impervious surface;
 - b. One acre or more of land disturbing activity;
 - c. Conversion of $\frac{3}{4}$ acres or more of native vegetation to lawn or landscaped area;
 - d. Conversion of 2.5 acres or more of native vegetation to pasture.
3. The City may, by interagency agreement signed by the Directors of SPU and DPD, waive the drainage and erosion control permit and document requirements for property owned by public entities, when discharges for the property do not enter the public drainage system or the public combined sewer system.

B. Submittal Requirements for Drainage Control Review and Approval

1. Information Required for Standard Drainage Control Review. The following information shall be submitted to the Director for all projects for which drainage control review is required.
 - a. Standard Drainage Control Plan. A drainage control plan shall be submitted to the Director. Standard designs for drainage control facilities as set forth in rules promulgated by the Director may be used.
 - b. Construction Stormwater Control Plan. A construction stormwater control plan demonstrating controls sufficient to determine compliance with subsection 22.805.020.D

shall be submitted. The Director may approve a checklist in place of a plan, pursuant to rules promulgated by the Director.

- c. Memorandum of Drainage Control. The owner(s) of the site shall sign a "memorandum of drainage control" that has been prepared by the Director of SPU. Completion of the memorandum shall be a condition precedent to issuance of any permit or approval for which a drainage control plan is required. The applicant shall file the memorandum of drainage control with the King County Recorder's Office so as to become part of the King County real property records. The applicant shall give the Director of SPU proof of filing of the memorandum. The memorandum shall not be required when the drainage control facility will be owned and operated by the City. A memorandum of drainage control shall include:
 - 1) The legal description of the site;
 - 2) A summary of the terms of the drainage control plan, including any known limitations of the drainage control facilities, and an agreement by the owners to implement those terms;
 - 3) An agreement that the owner(s) shall inform future purchasers and other successors and assignees of the existence of the drainage control facilities and other elements of the drainage control plan, the limitations of the drainage control facilities, and of the requirements for continued inspection and maintenance of the drainage control facilities;
 - 4) The side sewer permit number and the date and name of the permit or approval for which the drainage control plan is required;
 - 5) Permission for the City to enter the property for inspection, monitoring, correction, and abatement purposes;
 - 6) An acknowledgment by the owner(s) that the City is not responsible for the adequacy or performance of the drainage control plan, and a waiver of any and all claims against the City for any harm, loss, or damage related to the plan, or to drainage or erosion on the property, except for claims arising from the City's sole negligence; and
 - 7) The owner(s)' signatures acknowledged by a notary public.
2. Information Required for Large Project Drainage Control Review. In addition to the submittal requirements for standard drainage control review, the following information is required for projects that include: one acre or more of land disturbing activities; 5,000 square feet or more of new and replaced impervious surface; conversion of $\frac{3}{4}$ acres or more of native vegetation to lawn or landscaped area; or conversion of 2.5 acres or more of native vegetation to pasture.
 - a. Comprehensive Drainage Control Plan. A comprehensive drainage control plan, in lieu of a standard drainage control plan, to comply with the requirements of this subtitle and rules promulgated hereunder and to accomplish the purposes of this subtitle shall be submitted with the permit application. It shall be prepared by a licensed civil engineer in accordance with standards adopted by the Director of DPD.
 - b. Inspection and Maintenance Schedule. A schedule shall be submitted that provides for inspection of temporary and permanent flow control facilities, treatment facilities, and source controls to comply with Section 22.805.080 (Minimum Requirements for Flow Control) and Section 22.805.090 (Minimum Requirements for Treatment).
 - c. Construction Stormwater Control Plan. A construction stormwater control plan prepared in accordance with subsection 22.805.020.D shall be submitted.
 3. Applications for drainage control review and approval shall be prepared and submitted in accordance with provisions of this subsection, with Chapter 21.16 (Side Sewer Code) and with associated rules and regulations adopted jointly by the Directors of DPD and SPU.

4. The Director of DPD may require additional information necessary to adequately evaluate applications for compliance with the requirements and purposes of this subtitle and other laws and regulations, including but not limited to Chapter 25.09 (Regulations for Environmentally Critical Areas) and Chapter 23.60A. The Director of DPD may also require appropriate information about adjoining properties that may be related to, or affected by, the drainage control proposal in order to evaluate effects on the adjacent property. This additional information may be required as a precondition for permit application review and approval.
 5. Where an applicant simultaneously applies for more than one of the permits listed in subsection 22.807.020.A for the same property, the application shall comply with the requirements for the permit that is the most detailed and complete.
- C. Authority to Review. The Director may approve those plans that comply with the provisions of this subtitle and rules promulgated hereunder, and may place conditions upon the approval in order to assure compliance with the provisions of this subtitle. Submission of the required drainage control application information shall be a condition precedent to the processing of any of the above-listed permits. Approval of drainage control shall be a condition precedent to issuance of any of the above-listed permits. The Director may review and inspect activities subject to this subtitle and may require compliance regardless of whether review or approval is specifically required by this subsection. The Director may disapprove plans that do not comply with the provisions of this subtitle and rules promulgated hereunder. Disapproved plans shall be returned to the applicant, who may correct and resubmit the plans.

(Ord. [124105](#), § 8, 2013; Ord. 123105, § 3, 2009.)

22.807.090 - Maintenance and Inspection

- A. Responsibility for Maintenance and Inspection. The owner and other responsible party shall maintain drainage control facilities, source controls, and other facilities required by this subtitle and by rules adopted hereunder to keep these facilities in continuous working order. The owner and other responsible party shall inspect permanent drainage control facilities temporary drainage control facilities, and other temporary best management practices or facilities on a schedule consistent with this subtitle and sufficient for the facilities to function at design capacity. The Director may require the responsible party to conduct more frequent inspections and/or maintenance when necessary to ensure functioning at design capacity. The owner(s) shall inform future purchasers and other successors and assignees to the property of the existence of the drainage control facilities and the elements of the drainage control plan, the limitations of the drainage control facilities, and the requirements for continued inspection and maintenance of the drainage control facilities.
- B. Inspection by City. The Director of SPU may establish inspection programs to evaluate and, when required, enforce compliance with the requirements of this subtitle and accomplishment of its purposes. Inspection programs may be established on any reasonable basis, including but not limited to: routine inspections; random inspections; inspections based upon complaints or other notice of possible violations; inspection of drainage basins or areas identified as higher than typical sources of sediment or other contaminants or pollutants; inspections of businesses or industries of a type associated with higher than usual discharges of contaminants or pollutants or with discharges of a type which are more likely than the typical discharge to cause violations of state or federal water or sediment quality standards or the City's NPDES stormwater permit; and joint inspections with other agencies inspecting under environmental or safety laws. Inspections may include, but are not limited to: reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and material or water in drainage control facilities; and evaluating the condition of drainage control facilities and other best management practices.
- C. Entry for Inspection and Abatement Purposes.
 1. New Installations and Connections. When any new drainage control facility is installed on private property, and when any new connection is made between private property and a public drainage system, sanitary sewer or combined sewer, the property owner shall grant, per subsection 22.807.020.B.1.c (Memorandum of Drainage Control), the City the right to enter the

property at reasonable times and in a reasonable manner pursuant to an inspection program established pursuant subsection 22.807.090.B, and to enter the property when the City has a reasonable basis to believe that a violation of this subtitle is occurring or has occurred, and to enter when necessary for abatement of a public nuisance or correction of a violation of this subtitle.

2. Existing Real Property and Discharges. Owners of property with existing discharges or land uses subject to this subtitle who are not installing a new drainage control facility or making a new connection between private property and a public drainage system, sanitary sewer or combined sewer, shall have the option to execute a permission form for the purposes described above when provided with the form by the Director of SPU.

(Ord. 123105, § 3, 2009.)

Chapter 22.808 - STORMWATER CODE ENFORCEMENT

22.808.010 - Violations

A. Civil Violations.

1. The following are civil violations of this subtitle, subject to a maximum civil penalty of up to \$5,000 per day for each violation.
 - a. General. It is a violation to not comply with any requirement of, or to act in a manner prohibited by, this subtitle, or a permit, approval, rule, manual, order, or Notice of Violation issued pursuant to this subtitle;
 - b. Aiding and Abetting. It is a violation to aid, abet, counsel, encourage, commend, incite, induce, hire or otherwise procure another person to violate this subtitle;
 - c. Alteration of Existing Drainage. It is a violation to alter existing drainage patterns which serve a tributary area of more than one acre without authorization or approval by the Director;
 - d. Obstruction of Watercourse. It is a violation to obstruct a watercourse without authorization or approval by the Director;
 - e. Dangerous Condition. It is a violation to allow to exist, or cause or contribute to, a condition of a drainage control facility, or condition related to grading, drainage water, drainage or erosion that is likely to endanger the public health, safety or welfare, the environment, or public or private property;
 - f. Interference. It is a violation for any person to interfere with or impede the correction of any violation, or compliance with any Notice of Violation, emergency order, stop work order, or the abatement of any nuisance;
 - g. Piecemeal of Projects. It is a violation for any person to knowingly divide a large project into a set of smaller projects specifically for the purpose of avoiding minimum requirements;
 - h. Altering a Posted Order. It is a violation for any person to remove, obscure, or mutilate any posted order of the Director, including a stop work or emergency order; and
 - i. Continuing Work. It is a violation for any work to be done after service or posting of a stop work order, except work necessary to perform the required corrective action, until authorization is given by the Director.

B. Criminal Violations.

1. The following are criminal violations, punishable upon conviction by a fine of not more than \$5,000 per violation or imprisonment for each violation for not more than 360 days, or both such fine and imprisonment:

- a. Failing to comply with a Notice of Violation or Director's order issued pursuant to this subtitle;
- b. Failing to comply with a court order;
- c. Tampering with or vandalizing any part of a drainage control facility or other best management practice, a public or private drainage system, monitoring or sampling equipment or records, or notices posted pursuant to this subtitle; and
- d. Anyone violating this subtitle who has had a judgment, final Director's order, or Director's review decision against them for a prior violation of this subtitle in the preceding five years.

(Ord. 123105, § 4, 2009.)

22.808.020 - Liability and Defenses of Responsible Parties

- A. Who Must Comply. It is the specific intent of this subtitle to place the obligation of complying with its requirements upon the responsible parties, as defined in subsection 22.801.190. The City and its agencies are intended to have the same obligation for compliance when the City is a responsible party. No provision of this subtitle is intended to impose any other duty upon the City or any of its officers or employees.
 1. Joint and Several Liability. Each responsible party is jointly and severally liable for a violation of this subtitle. The Director may take enforcement action, in whole or in part, against any responsible party. All applicable civil penalties may be imposed against each responsible party.
 2. Allocation of Damages. In the event enforcement action is taken against more than one responsible party, recoverable damages, costs, and expenses may be allocated among the responsible parties by the court based upon the extent to which each responsible party's acts or omissions caused the violation. If this factor cannot be determined the court may consider:
 - a. Awareness of the violation;
 - b. Ability to correct the violation;
 - c. Ability to pay the damages, costs, and expenses;
 - d. Cooperation with government agencies;
 - e. Degree to which any impact or threatened impact on water or sediment quality, human health, the environment, or public or private property is related to acts or omissions by each responsible party;
 - f. Degree to which the responsible parties made good-faith efforts to avoid a violation or to mitigate its consequences; and
 - g. Other equitable factors.
- B. Defenses. A responsible party shall not be liable under this subtitle when the responsible party proves, by a preponderance of the evidence, one of the following:
 1. The violation was caused solely by an act of God;
 2. The violation was caused solely by another responsible party over whom the defending responsible party had no authority or control and the defending responsible party could not have reasonably prevented the violation;
 3. The violation was caused solely by a prior owner or occupant when the defending responsible party took possession of the property without knowledge of the violation, after using reasonable efforts to identify violations. But, the defending responsible party shall be liable for all continuing, recurrent, or new violations after becoming the owner or occupant; or
 4. The responsible party implemented and maintained all appropriate drainage control facilities, treatment facilities, flow control facilities, erosion and sediment controls, source controls, and best management practices identified in rules promulgated by the Director or in manuals

published by the State Department of Ecology, or as otherwise identified and required of the responsible party by the Director in writing.

(Ord. 123105, § 4, 2009.)

22.808.025 - Right of Entry for Enforcement

With the consent of the owner or occupant of a building, premises, or property, or pursuant to a lawfully issued warrant, the Director may enter a building, premises, or property at any reasonable time to perform the duties imposed by this code.

(Ord. 123105, § 4, 2009.)

22.808.030 - Enforcement Actions

A. Investigation. The Director may investigate any site where there is reason to believe that there may be a failure to comply with the requirements of this subtitle.

B. Notice of Violation.

1. Issuance. The Director is authorized to issue a Notice of Violation to a responsible party, whenever the Director determines that a violation of this subtitle has occurred or is occurring. The Notice of Violation shall be considered an order of the Director.
2. Contents.
 - a. The Notice of Violation shall include the following information:
 - 1) A description of the violation and the action necessary to correct it;
 - 2) The date of the notice; and
 - 3) A deadline by which the action necessary to correct the violation must be completed.
 - b. A Notice of Violation may be amended at any time to correct clerical errors, add citations of authority, or modify required corrective action.
3. Service. The Director shall serve the notice upon a responsible party either by personal service, by first class mail, or by certified mail return receipt requested, to the party's last known address. If the address of the responsible party cannot be found after a reasonable search, the notice may be served by posting a copy of the notice at a conspicuous place on the property. Alternatively, if the whereabouts of the responsible party is unknown and cannot be ascertained in the exercise of reasonable diligence, and the Director makes an affidavit to that effect, then service may be accomplished by publishing the notice once each week for two consecutive weeks in the City official newspaper.
4. Nothing in this subtitle shall be deemed to obligate or require the Director to issue a Notice of Violation or order prior to the initiation of enforcement action by the City Attorney's Office pursuant to subsection 22.808.030.E.

C. Stop Work and Emergency Orders.

1. Stop Work Order. The Director may order work on a site stopped when he or she determines it is necessary to do so in order to obtain compliance with or to correct a violation of any provision of this subtitle or rules promulgated hereunder or to correct a violation of a permit or approval granted under this subtitle.
 - a. The stop work notice shall contain the following information:
 - 1) A description of the violation; and
 - 2) An order that the work be stopped until corrective action has been completed and approved by the Director.

- b. The stop work order shall be personally served on the responsible party or posted conspicuously on the premises.
2. Emergency Order.
- a. The Director may order a responsible party to take emergency corrective action and set a schedule for compliance and/or may require immediate compliance with an emergency order to correct when the Director determines that it is necessary to do so in order to obtain immediate compliance with or to correct a violation of any provision of this subtitle, or to correct a violation of a permit or approval granted under this subtitle.
 - b. An emergency order shall be personally served on the responsible party or posted conspicuously on the premises.
 - c. The Director is authorized to enter any property to investigate and correct a condition associated with grading, drainage, erosion control, drainage water, or a drainage control facility when it reasonably appears that the condition creates a substantial and present or imminent danger to the public health, safety or welfare, the environment, or public or private property. The Director may enter property without permission or an administrative warrant in the case of an extreme emergency placing human life, property, or the environment in immediate and substantial jeopardy which requires corrective action before either permission or an administrative warrant can be obtained. The cost of such emergency corrective action shall be collected as set forth in subsection 22.808.060.
3. Director's Review of Stop Work and Emergency Order. A stop work order or emergency order shall be final and not subject to a Director's review.
- D. Review by Director.
- 1. A Notice of Violation, Director's order, or invoice issued pursuant to this subtitle shall be final and not subject to further appeal unless an aggrieved party requests in writing a review by the Director within ten days after service of the Notice of Violation, order or invoice. When the last day of the period so computed is a Saturday, Sunday or federal or City holiday, the period shall run until 5:00 p.m. on the next business day.
 - 2. Following receipt of a request for review, the Director shall notify the requesting party, any persons served the Notice of Violation, order or invoice, and any person who has requested notice of the review, that the request for review has been received by the Director. Additional information for consideration as part of the review shall be submitted to the Director no later than 15 days after the written request for a review is mailed.
 - 3. The Director will review the basis for issuance of the Notice of Violation, order, or invoice and all information received by the deadline for submission of additional information for consideration as part of the review. The Director may request clarification of information received and a site visit. After the review is completed, the Director may:
 - a. Sustain the Notice of Violation, order, or invoice;
 - b. Withdraw the Notice of Violation, order or invoice;
 - c. Continue the review to a date certain for receipt of additional information; or
 - d. Modify or amend the Notice of Violation, order, or invoice.
 - 4. The Director's decision shall become final and is not subject to further administrative appeal.
- E. Referral to City Attorney for Enforcement. If a responsible party fails to correct a violation or pay a penalty as required by a Notice of Violation, or fails to comply with a Director's order, the Director shall refer the matter to the City Attorney's Office for civil or criminal enforcement action. Civil actions to enforce a violation of this subtitle shall be exclusively in Municipal Court.
- F. Appeal to Superior Court. Because civil actions to enforce Title 22 are brought exclusively in Municipal Court, notices of violation, orders, and all other actions made under this chapter are not subject to judicial review under chapter 36.70C RCW. Instead, final decisions of the Municipal Court

on enforcement actions authorized by this chapter may be appealed under the Rules of Appeals of Decisions of Courts of Limited Jurisdiction.

- G. Filing of Notice or Order. A Notice of Violation, voluntary compliance agreement or an order issued by the Director or court, may be filed with the King County Recorder's Office.
- H. Change of Ownership. When a Notice of Violation, voluntary compliance agreement, or an order issued by the Director or court has been filed with the King County Recorder's Office, a Notice of Violation or an order regarding the same violations need not be served upon a new owner of the property where the violation occurred. If no Notice of Violation or order is served upon the new owner, the Director may grant the new owner the same number of days to comply as was given the previous owner. The compliance period for the new owner shall begin on the date that the conveyance of title to the new owner is completed.

(Ord. 123105, § 4, 2009.)

22.808.040 - Voluntary Compliance Agreement

- A. Initiation. Either a responsible party or the Director may initiate negotiations for a voluntary compliance agreement at any time. Neither has any obligation to enter into any voluntary compliance agreement.
- B. Contents. A voluntary compliance agreement shall identify actions to be taken by the responsible party that will correct past or existing violations of this subtitle. The agreement may also identify actions to mitigate the impacts of violations. The agreement shall contain a schedule for completion of the corrective actions and any mitigating actions. The agreement shall contain a provision allowing the Director to inspect the premises to determine compliance with the agreement. The agreement shall provide that the responsible party agrees the City may perform the actions set forth in the agreement if the responsible party fails to do so according to the terms and schedule of the agreement, and the responsible party will pay the costs, expenses and damages the City incurs in performing the actions, as set forth in Section 22.808.060.
- C. Effect of Agreement.
 - 1. A voluntary compliance agreement is a binding contract between the party executing it and the City. It is not enforceable by any other party. By entering into a voluntary compliance agreement, a responsible party waives the right to Director's Review of the Notice of Violation or order.
 - 2. Penalties may be reduced or waived if violations are corrected or mitigated according to the terms and schedule of a voluntary compliance agreement. If the responsible party fails to perform according to the terms and schedule of the voluntary compliance agreement, penalties for each violation addressed in the agreement may be assessed starting from the date the violation occurred, or as otherwise provided for in a Notice of Violation or Director's order.
- D. Modification. The terms and schedule of the voluntary compliance agreement may be modified by mutual agreement of the responsible party and either Director if circumstances or conditions outside the responsible party's control, or unknown at the time the agreement was made, or other just cause necessitate such modifications.

(Ord. 123105, § 4, 2009.)

22.808.050 - Penalties and Damages

- A. Assessment of Penalties by the Director. The Director, after considering all available information, may assess a penalty for each violation of this subtitle based upon the Schedule of Civil Penalties.
- B. Schedule of Civil Penalties. The Director shall determine penalties as follows:
 - 1. Basic Penalty.

- a. **Maximum Penalty.** A violation of this subtitle is subject to a maximum civil penalty of up to \$5,000. Each day or portion thereof during which a violation of this subtitle exists is a separate violation of this subtitle.
- b. **Commencement Date.** The penalty shall commence on the date of the violation, unless otherwise provided for in a Notice of Violation or Director's order.
- c. **Assessment Matrix.** The penalty shall be assessed using a matrix of criteria and scored as defined in rules promulgated by the Director. The total score will equate with a penalty up to a maximum of \$5000 for each violation. The penalty shall be rated for severity by using the criteria listed below and by answering "No", "Possibly", "Probably", or "Definitely":
 - 1) Does the violation pose a public health risk;
 - 2) Does the violation cause environmental damage or adversely impact infrastructure;
 - 3) Was the responsible party willful or knowing of the violation;
 - 4) Was the responsible party unresponsive in correcting the violation;
 - 5) Was there improper operation or maintenance;
 - 6) Was there a failure to obtain necessary permits or approval;
 - 7) Does the violation provide economic benefit for non-compliance; and
 - 8) Was the violation a repeat violation.
- C. **Penalty for Significant Violation.** For violations causing significant harm to public health, safety, welfare, the environment, or private or public property, the Director may, as an alternative to the Basic Penalty, refer the matter to the City Attorney's Office for enforcement and request the City Attorney seek a penalty equivalent to the economic benefit the responsible party derived from the violation. Significant harm is damage or injury which cannot be fully corrected or mitigated by the responsible party, and which cannot be adequately compensated for by assessment of the Basic Penalty and costs, expenses, or damages under this subtitle. Economic benefit may be determined by savings in costs realized by the responsible party, value received by the responsible party, increased income to the responsible party, increase in market value of property, or any other method reasonable under the circumstances.
- D. **Damages.** Whoever violates any of the provisions of this subtitle shall, in addition to any penalties provided for such violation, be liable for any: investigation cost, cost to correct or any other cost expense; loss or damage incurred by the City; plus a charge of 15% for administrative costs. This subtitle does not establish a cause of action that may be asserted by any party other than the City. Penalties, damages, costs and expenses may be recovered only by the City.
- E. **Effect of Payment of Penalties.** The responsible party named in a Notice of Violation or order is not relieved of the duty to correct the violation by paying civil penalties.

(Ord. 123105, § 4, 2009.)

22.808.060 - Collection of Costs and Penalties

- A. **Invoice and Demand for Payment of Investigation and Correction Costs.** The Director may issue an invoice and demand for payment of the City's costs and expenses when the Director has investigated or corrected a violation of this subtitle. The invoice shall include:
 - 1. The amount of the City's investigation and correction costs, which include, but are not limited to:
 - a. Billed cost including labor, administration, overhead, overtime, profit, taxes, and other related costs for a hired contractor to investigate and/or perform the abatement work;
 - b. Labor, administration, overhead, overtime, and other related costs for the City staff and crews to investigate and/or perform the abatement work;
 - c. Administrative costs to set up contracts and coordinate work;

- d. Time spent communicating with the responsible party, any other enforcing agencies, and the affected community;
 - e. Inspections for compliance with the Code, documentation of costs, and invoicing the responsible party;
 - f. Cost of equipment, materials, and supplies, including all related expenses for purchasing, renting, and leasing;
 - g. Laboratory costs and analytical expenses;
 - h. Cost of mobilization, disposal of materials, and cleanup, and
 - i. Any associated permit fees;
- 2. Either a legal description of the property corresponding as nearly as possible to that used for the property on the rolls of the King County Assessor or, where available, the property's street address;
 - 3. Notice that the responsible party may request a Director's review pursuant to subsection 22.808.030.D;
 - 4. Notice that if the amount due is not paid within 30 days, the unpaid amount may be collected in any of the manners identified in subsection 22.808.060.C; and
 - 5. Notice that interest shall accrue on the unpaid balance if not paid within 30 days after the invoice date.
- B. Invoice and Demand for Payment of Civil Penalties. The Director may issue an invoice and demand for payment of civil penalties when the responsible party has failed to pay a penalty by the deadline in a Notice of Violation or order and has failed to request a Director's review or file an appeal within the required time periods established in subsection 22.808.030.D. The invoice shall include:
- 1. The amount of the penalty;
 - 2. Either a legal description of the property corresponding as nearly as possible to that used for the property on the rolls of the King County Assessor or, where available, the property's street address;
 - 3. Notice that if the amount due is not paid within 30 days, the unpaid amount may be collected in any of the manners identified in subsection 22.808.060.C and
 - 4. Notice that interest shall accrue on the unpaid balance if not paid within 30 days after the invoice date.
- C. Collection Following a Judicial Review. If a court has issued an order or judgment imposing penalties, costs, damages, or expenses for a violation of this subtitle, and the court's order or judgment is not appealed within 30 days, the Director may:
- 1. Refer the matter to the City Attorney to initiate appropriate enforcement action;
 - 2. Refer, after consultation with the City Attorney, the matter to a collection agency; or
 - 3. Add a surcharge in the amount owed under the order to the bill for drainage and wastewater services to the site. If unpaid, the surcharge may become a lien on the property, may be foreclosed, and may accrue interest as provided by state law or Section 21.33.110.

(Ord. 123105, § 4, 2009.)

22.808.070 - Public Nuisance

- A. Abatement Required. A public nuisance affecting drainage water, drainage, erosion control, grading and other public nuisances set forth in this subsection are violations of this subtitle. A responsible party shall immediately abate a public nuisance upon becoming aware of its existence.

- B. **Dysfunctional Facility or Practice.** Any private drainage control facility or best management practice not installed or maintained as required by this subtitle, or otherwise found to be in a state of dysfunction creating, a threat to the public health, safety or welfare, the environment, or public or private property is a public nuisance.
- C. **Obstruction of Watercourse.** Obstruction of a watercourse without authorization by the Director, and obstruction in such a manner as to increase the risk of flooding or erosion should a storm occur, is a public nuisance.
- D. **Dangerous Conditions.** Any condition relating to grading, drainage water, drainage or erosion which creates a present or imminent danger, or which is likely to create a danger in the event of a storm, to the public health, safety or welfare, the environment, or public or private property is a public nuisance.
- E. **Abatement by the City.** The Director is authorized, but not required to investigate a condition that the Director suspects of being a public nuisance under this subtitle, and to abate any public nuisance. If a public nuisance is an immediate threat to the public health, safety or welfare or to the environment, the Director may summarily and without prior notice abate the condition. The Director shall give notice of the abatement to the responsible party as soon as reasonably possible after the abatement.
- F. **Collection of Abatement Costs.** The costs of abatement may be collected from the responsible party, including, a reasonable charge for attorney time, and a 15% surcharge for administrative expenses as set forth in subsection 22.808.050.D. Abatement costs and other damages, expenses and penalties collected by the City shall go into an abatement account for the department collecting the moneys. The money in the abatement account shall be used for abatements, investigations, and corrections of violations performed by the City. When the account is insufficient the Director may use other available funds.

(Ord. 123105, § 4, 2009.)

22.808.080 - Additional Relief

In addition to any remedy provided in this subtitle, the Director may seek any other legal or equitable remedy to enjoin any acts or practice or abate any condition that or will constitute a violation of this subtitle or a public nuisance.

(Ord. 123105, § 4, 2009.)

22.808.090 - Suspension or Revocation

Approvals or permits granted on the basis of inaccurate or misleading information may be suspended or revoked. Other permits or approvals interrelated with an approval suspended or revoked under this subsection, including certificates of occupancy or approvals for occupancy, may also be suspended or revoked. When an approval or permit is suspended or revoked, the Director may require the applicant take corrective action to bring the project into compliance with this subtitle by a deadline set by the Director, or may take other enforcement action.

(Ord. 123105, § 4, 2009.)

22.808.100 - Fees

Fees for grading permits, drainage control plan review and approvals shall be as identified in the Fee Subtitle, Subtitle IX of Title 22, Seattle Municipal Code. Fees for record-keeping or other activities pursuant to this subtitle shall, unless otherwise provided for in this subtitle, be prescribed by ordinance.

(Ord. 123105, § 4, 2009.)

22.808.110 - Financial Assurance and Covenants

As a condition precedent to issuance of any permit or approval provided for in this subtitle, the Director may require an applicant for a permit or approval to submit financial assurances as provided in this subsection.

A. Insurance.

1. The Director may require the property owners or contractor carry liability and property damage insurance naming the City as an additional insured. The amount, as determined by the Director, shall be commensurate with the risks.
2. The Director may also require the property owner maintain a policy of general public liability insurance against personal injury, death, property damage and/or loss from activities conducted pursuant to the permit or approval, or conditions caused by such activities, and naming the City as an additional insured. The amount, as determined by the Director, shall be commensurate with the risks. It shall cover a period of not more than ten years from the date of issuance of a certificate of occupancy or finalization of the permit or approval. A certificate evidencing such insurance shall be filed with the Director before issuing a certificate of occupancy or finalizing a permit for any single family dwelling or duplex.
3. The insurance policy shall provide that the City will be notified of cancellation of the policy at least 30 days prior to cancellation. The notice shall be sent to the Director who required the insurance and shall state the insured's name and the property address. If a property owner's insurance is canceled and not replaced, the permit or approval and any interrelated permit or approval may be revoked, including a certificate of occupancy or approval for occupancy.

B. Bonds, Cash Deposits or Instruments of Credit.

1. Surety Bond.

- a. The Director may require that the property owners or contractor deliver to the Director for filing in the Office of the City Clerk a surety bond, cash deposit or an instrument of credit in such form and amounts deemed by the Director to be necessary to ensure that requirements of the permit or approval are met. A surety bond may be furnished only by a surety company licensed to do business in The State of Washington. The bond shall be conditioned that the work will be completed in accordance with the conditions of the permit or approval, or, if the work is not completed, that the site will be left in a safe condition. The bond shall also be conditioned that the site and nearby, adjacent or surrounding areas will be restored if damaged or made unsafe by activities conducted pursuant to the permit or approval.
- b. The bond will be exonerated one year after a determination by the Director that the requirements of the permit or approval have been met. For work under a building permit, issuance of a certificate of occupancy or approval for occupancy following a final inspection shall be considered to be such a determination.

2. Assurance in Lieu of Surety Bond. In lieu of a surety bond, the owners may elect to file a cash deposit or instrument of credit with the Director in an amount equal to that which would be required in the surety bond and in a form approved by the Director. The cash deposit or instrument of credit shall comply with the same conditions as required for surety bonds.

C. Covenants.

1. The Director may require a covenant between the property owners and the City. The covenant shall be signed by the owners of the site and notarized prior to issuing any permit or approval in a potential landslide area, potentially hazardous location, flood prone zone, or other area of potentially hazardous soils or drainage or erosion conditions. The covenant shall not be required where the permit or approval is for work done by the City. The covenant shall include:

- a. A legal description of the property;
 - b. A description of the property condition making this subsection applicable;
 - c. A statement that the owners of the property understands and accepts the responsibility for the risks associated with development on the property given the described condition, and agrees to inform future purchasers and other successors and assignees of the risks;
 - d. The application date, type, and number of the permit or approval for which the covenant is required; and
 - e. A statement waiving the right of the owners, the owners' heirs, successors and assigns, to assert any claim against the City by reason of or arising out of issuance of the permit or approval by the City for the development on the property, except only for such losses that may directly result from the sole negligence of the City.
2. The covenant shall be filed by the Director with the King County Recorder's Office, at the expense of the owners, so as to become part of the King County real property records.

(Ord. 123105, § 4, 2009.)

22.808.140 - Severability

The provisions of this subtitle are declared to be separate and severable and the invalidity of any clause, sentence, paragraph, subdivision, section or portion of this subtitle, or the invalidity of the application thereof to any person or circumstance shall not affect the validity of the remainder of this subtitle or the validity of its application to other persons or circumstances.

(Ord. 116425 § 2(part), 1992.)



ACTION CALENDAR
June 18, 2019

To: Honorable Mayor and Members of the City Council
From: Community Environmental Advisory Commission (CEAC)
Submitted by: Michael Goldhaber, Chair, CEAC
Subject: Referral Response: Mandatory and Recommended Green Stormwater Infrastructure in New and Existing Redevelopments or Properties

RECOMMENDATION

Since the drought-storm-flooding cycle is predicted to get worse, refer to the City Manager to develop and implement measures to help reduce runoff from private property when rain exceeds two inches in a 24-hour period. The City Manager and staff should consider the following:

- Comply beyond the State and Alameda County current requirements;
- Encourage the treating and detaining of runoff up to approximately the 85th percentile of water deposited in a 24-hour period;
- Establish site design measures that include minimizing impervious surfaces;
- Require homeowners to include flooding offsets in preparing properties for sale;
- Offer option(s) for property owners to fund in-lieu centralized off-site storm-water retention facilities that would hold an equivalent volume of runoff;
- Require abatements for newly paved areas over a specific size;
- Make exceptions for properties that offer significantly below-market rent or sale prices;
- Authorize a fee for all new construction or for title transfer to cover the cost of required compliance inspections.
- Incorporate these measures for private property with similar measures for Public Works, while coordinating with EBMUD, BUSD, UCB and LBNL.

POLICY COMMITTEE RECOMMENDATION

On May 2, 2019, the Facilities, Infrastructure, Transportation, Environment and Sustainability Committee adopted the following action: M/S/C (Harrison/Davila) to send the amended version of the Mayor's supplemental item to the Community Environmental Advisory Commission's report to the full Council with a Positive Recommendation. Vote: All Ayes.

SUMMARY

Current climate-change predictions for California suggest severe droughts combined

with extreme storms, causing dangerous erosion, flooding, and increased Bay pollution. According to Berkeley's watershed management plan, in a 10-year storm or greater, both the Codornices and Potter Creek watersheds have a propensity to flood, and climate change increases the probability and severity of storms. BART and the city currently run pumps to mitigate the flow underground.

In order to prevent flooding, there is an urgent need for the City to offset impermeable surfaces and detain stormwater. Impermeable surfaces generate faster stormwater flows of more intensity (volume per duration), therefore creating greater flooding threats. In addition, stormwater flows carries trash, pathogens, pesticides, fertilizer, metals, motor vehicle related contaminants to the creeks and the Bay. Stormwater detention can help mitigate this pollution.

On June 14, 2018, the Commission voted to adopt the Mandatory and Recommended Green Storm Water Infrastructure in New and Existing Redevelopments and send them to council. [Motioned/Seconded: Hetzel/Kapla. Carried: Unanimously (Liz Varnhagen, Fred Hetzel, Robb Kapla, Michael Goldhaber (chair), Ben Gould, and Kristina Lim). Absent: Carla Ticconi, Holly Williams]

FISCAL IMPACTS OF RECOMMENDATION

If inspection fees are adequate, there should be no net costs to the City, except for staff time to firm up the plan. With widespread implementation of features that promote stormwater detention, treatment, and infiltration, overall flood damage within the City should decrease, which in turn could result in increased property values and higher tax revenues.

CURRENT SITUATION AND ITS EFFECTS

This report responds to Referral #2016-21, which originally appeared on the agenda of the September 15, 2015 Council meeting and was sponsored by then-Councilmember Arreguin.

The State stormwater discharge permit requires the City of Berkeley to use Low Impact Design (LID) and Green Infrastructure (GI) to comply with stormwater management requirements, which is in keeping with Berkeley's goals for promoting sustainable development.

Currently, the City does seem to be enforcing rules requiring mitigation when 2,500 square feet or more of new impermeable surface is added to a property. Required mitigation typically takes up an area of approximately 4% of the total new impermeable area and is therefore a very fair and feasible requirement. However, smaller areas, especially pavement, ought to require similar mitigation as they increase runoff.

At present, permits are not required for adding new pavement unless these impinge on the street-property boundary. As a result, the City and its inspectors are not aware of

most small projects that add new pavement. Requiring permits for all (most) (re)paving over permeable surfaces will help ensure that the City is aware, can ask for appropriate mitigation, or can recommend permeable paving that will reduce runoff. Requiring permits for paving beyond a very small threshold area is an essential part of preventing the cumulative effects of increased stormwater runoff.

All these requirements can be met by using on- or off-site strategies to manage the quantity and quality of stormwater runoff. The approach integrates stormwater into the urban environment to achieve multiple goals. It reduces stormwater pollution and restores natural hydrologic function to the City's watersheds. It can also provide wildlife habitat and contribute to the gradual creation of a greener city.

A crucial aspect of identifying and implementing effective mitigation, also mandated by law, is within a comprehensive Watershed Management Plan, which we understand the City is committed to complete. This should include both water from private properties, the topic of this CEAC message, and the City's contributions from public properties including streets and parks.

BACKGROUND

A recent UCLA study ["Increasing precipitation volatility in twenty-first-century California", Daniel L. Swain, Baird Langenbrunner, J. David Neelin & Alex Hall, *Nature Climate Change* **8**, 427–433 (2018)] ... "found that over the next 40 years, the state will be 300 to 400 percent more likely to have a prolonged storm sequence as severe as the one that caused a now-legendary California flood more than 150 years ago.

"The Great Flood of 1862 filled valleys with feet of water and washed gold rush miners and their equipment out of the mountains. In the Central Valley, floodwaters stretched up to 300 miles long and as wide as 60 miles across." [*UCLA Newsroom*]

When there are heavy storms in Berkeley such as 10-year or greater, stormwater that is not absorbed runs downhill towards the Bay and collects in low elevation areas. As the movement of stormwater slows, it can result in flooding if drainage channels become overwhelmed, unless there are means of capturing the water for irrigation or other beneficial uses. It can also pick up pollutants that then will be carried into streams and eventually the Bay.

Urban development has caused two important changes in the nature and volume of stormwater. First, natural, vegetated permeable ground cover is converted to impermeable surfaces such as paved highways, streets, rooftops, and parking lots. Vegetated soil can both absorb rainwater and remove pollutants, providing a very effective natural purification process. This benefit is lost when pavement, or buildings are constructed. With the construction of more impermeable surface, stormwater runoff increases in intensity with higher flows of shorter duration, increasing the

chance of overwhelming drainage channels and flooding in flood prone areas.

In addition, urban development creates pollution sources as urban population density increases. The contamination of urban stormwater comes from many and various sources including pathogens from both pet and human waste, solid waste from litter and trash, pesticides from both residential and commercial uses, fertilizers from landscaping, and heavy metals and other contaminants from the operation of motor vehicles. All these pollutants and others can be deposited on paved surfaces, rooftops, and other impervious surfaces as fine airborne particles, thus yielding stormwater - runoff pollution that is unrelated to the activity associated with a given project site.

As a result of these two changes, stormwater discharges into the Bay from the developed urban area is significantly greater in volume, velocity and contaminants than the same area experienced prior to its conversion into an urban environment.

Additionally, increased flows and volumes of stormwater discharged from new impermeable surfaces resulting from new development and redevelopment can physically modify the natural aquatic ecosystems in our creeks, through bank erosion and deepening and widening of channels, elevating turbidity and sediment loads to the Bay.

Pollutants of concern in stormwater include heavy metals, excessive sediment production from erosion, petroleum hydrocarbons from sources such as motor vehicles, microbial pathogens of domestic sewage origin from illicit or accidental discharges, pesticides and herbicides, nutrients (from fertilizers), and trash.

Effective mitigation to offset the unpredictable and sometimes intense behavior of urban stormwater becomes increasingly necessary. Other cities, including San Francisco, Emeryville, and the North Bay Counties (Marin, Sonoma, Napa and Solano), as well as the Alameda County clean water program, of which the City of Berkeley is a member, have put together comprehensive requirements that are available as guides. Berkeley, given our pioneering status in green issues, should wish to be even more forward looking and develop our own comprehensive green infrastructure program. In addition, Berkeley should continue to work on a comprehensive water management plan, seeking input and cooperation from EBMUD, surrounding cities, UCB, LBNL and BUSD.

Berkeley's program should include requirements for construction projects to implement appropriate source control, site design, and stormwater treatment measures to address water quality, and to prevent increased intensity stormwater runoff volumes.

ENVIRONMENTAL SUSTAINABILITY

The proposed recommendation will improve the sustainability of new construction and redevelopment, increase the City's resiliency to climate change, 10-year storms, and flooding, while helping mitigate pollution from stormwater runoff.

RATIONALE FOR RECOMMENDATION

Berkeley's drought-storm cycle is likely to get worse as Climate change has more effecting the coming years and decades. Therefore, more efforts to control flooding and prevent pollution are needed. In addition, unless mitigated, increased paving on private property increases the stormwater runoff and related problems.

ALTERNATIVE ACTIONS CONSIDERED

CEAC considered City Council Referral #2016-21 from September 15, 2015 to develop an ordinance requiring large residential developments of 100 units or more or commercial developments that result in 5,000 square feet of new or replaced impervious surface, to incorporate Green Stormwater Infrastructure (GSI) and water conservation features into new projects.

CITY MANAGER

See companion report.

CONTACT PERSON

Viviana Garcia, Secretary, Toxics, (510) 981 7460



Office of the City Manager

ACTION CALENDAR

June 18, 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
Phil Harrington, Director, Public Works Department

Subject: Companion Report to Referral Response: Mandatory and Recommended
Green Stormwater Infrastructure in New and Existing Redevelopments or
Properties

RECOMMENDATION

Express appreciation for the intent of the Community Environmental Advisory Commission (CEAC) recommendation to develop and implement measures to help reduce runoff from private property when rain exceeds two inches in a 24-hour period, and allow staff to continue existing efforts to implement Municipal Regional Stormwater Permit regulations in coordination with the 14 other local governments and agencies that participate in the Alameda Countywide Clean Water Program.

POLICY COMMITTEE RECOMMENDATION

On May 2, 2019, the Facilities, Infrastructure, Transportation, Environment and Sustainability Committee adopted the following action: M/S/C (Harrison/Davila) to send the amended version of the Mayor's supplemental item to the Community Environmental Advisory Commission's report to the full Council with a Positive Recommendation. Vote: All Ayes.

FISCAL IMPACTS OF RECOMMENDATION

There are no fiscal impacts from adopting the recommendation in the City Manager's companion report. Implementation of the CEAC recommendation could entail significant costs in staff time for analysis and enforcement, and to homeowners and developers of projects which would incur significant additional costs in project design and City fees.

CURRENT SITUATION AND ITS EFFECTS

In response to a referral from 2015, CEAC has recommended that the City Manager develop and adopt requirements for stormwater runoff abatement and retention which would go significantly beyond current requirements, and would include projects of much smaller scope than are covered by existing requirements.

Projects in Berkeley and throughout Alameda County are currently governed by Municipal Regional Stormwater NPDES¹ Permit (MRP 2.0) regulations. While the City of Berkeley is an individual permittee and is responsible for its own compliance with MRP 2.0, the City has joined with 13 other Alameda County cities, the county itself, the Alameda County Flood Control and Water Conservation District, and Zone 7 Water Agency to form the Alameda Countywide Clean Water Program (the ACCWP). City of Berkeley staff from the Public Works Department, the Toxic Management Division of the Planning Department, and the Environmental Health Division of the Health, Housing, and Community Services Department attend meetings on at least a monthly basis for the various subcommittees of the ACCWP. Many MRP 2.0 compliance documents, tools, and methodologies are worked on collaboratively through the ACCWP. Implementation of the CEAC recommendation would require the City to duplicate many efforts of the ACCWP, increasing the City's costs and diminishing the value of the City's membership in the ACCWP.

Current MRP regulations cover new developments, maintenance of commercial and industrial facilities, construction-related practices, municipal requirements for stormwater treatment and trash control, enforcement practices, and reporting requirements. Current regulations generally require development projects that create or replace 10,000 square feet or more of impervious surface to incorporate stormwater treatment measures, such as flow-through planters, bioswales, or permeable pavement. For projects between 2,500 and 10,000 square feet, applicants are required to install at least one of six site design measures, such as directing roof runoff to rain barrels or vegetated areas; directing runoff from sidewalks, walkways, parking lots to vegetated areas; constructing sidewalks, walkways and parking lots with permeable surfaces, etc. These requirements follow section C.3 of MRP 2.0. Compliance is monitored and verified by the Public Works Department, conditions are written into Land Use Planning approvals, and are reviewed by Building and Safety Division staff during the plan check process.

Staff believe that lowering area thresholds covered by stormwater requirements would represent a departure from the regional cooperation under MRP 2.0, which has made significant strides in improving stormwater practices. The lower thresholds proposed by CEAC would result in significant added costs for smaller development projects, which in most cases would need to retain additional professional hydrology expertise in the project development phase. Such projects would further incur additional costs by the fees the City would need to impose to cover project review and enforcement activities, the extent of which would be exponentially larger in scale as staff would need to review and enforce several orders of magnitude more qualifying projects. For example, CEAC's proposal to require an additional permit for all paving and repaving activities on private

¹ National Pollutant Discharge Elimination System

properties would represent an enormous enforcement challenge which could not be met with existing staff resources.

As mandated by MRP 2.0, the City is currently preparing a Green Infrastructure Plan that will set goals for the amount of impervious area within the City to be treated by green infrastructure by 2030 and 2040. Current and future City efforts to incorporate green infrastructure in City Capital Improvement Projects will have the effect of detaining significant stormwater runoff from all sources, including private property.

BACKGROUND

The federal Clean Water Act (CWA) was amended in 1987 to address urban stormwater runoff pollution of the nation's waters. In 1990, the United States Environmental Protection Agency (US EPA) promulgated rules establishing Phase 1 of the National NPDES stormwater program. The Phase 1 program for Municipal Separate Storm Sewer System (MS4s) requires operators that serve populations of 100,000 or greater to implement a stormwater management program as a means to control polluted discharges from these MS4s.

The San Francisco Bay Regional Water Quality Control Board (the Regional Water Board) issued county-wide municipal stormwater permits in the early 1990s to operators of MS4s serving populations over 100,000 (Phase 1). On November 19, 2015, the Regional Water Board re-issued these county-wide municipal stormwater permits as one Municipal Regional Stormwater NPDES Permit (MRP 2.0) to regulate stormwater discharges from municipalities and local agencies in Alameda, Contra Costa, San Mateo, and Santa Clara counties, and the cities of Fairfield, Suisun City, and Vallejo. The City of Berkeley works with the Alameda Countywide Clean Water Program (ACCWP) and the Bay Area Stormwater Management Agencies Association (BASMAA) to ensure compliance with MRP 2.0.

ENVIRONMENTAL SUSTAINABILITY

The CEAC recommendation and the staff recommendation are both consistent with City environmental sustainability goals. Staff resources are currently allocated to compliance with the environmental protection requirements of MRP 2.0.

RATIONALE FOR RECOMMENDATION

Existing enforcement mechanisms and oversight bodies are designed to remediate stormwater runoff in the most cost-effective manner, without imposing significant additional costs on development and staff enforcement capacity.

CONTACT PERSON

Timothy Burroughs, Director, Planning and Development Department, 510-981-7437
Phil Harrington, Director, Public Works Department, 510-981-6303



Office of the City Manager

WORKSESSION

June 18, 2019

To: Honorable Mayor and Members of the City Council

From: Dee Williams-Ridley, City Manager

Submitted by: Melissa McDonough, Senior Management Analyst, City Manager's Office

Subject: Strategic Plan Proposed Fiscal Year 2020-2021 Projects and Programs, and Planning Commission Work Plan

SUMMARY

This report provides City Council with an overview on proposed Strategic Plan projects and programs from all departments, as well as a detailed look at the Planning Department and Planning Commission Work Plan, to inform its review and discussion of the proposed FY 2020-2021 budget. To be proposed, each Strategic Plan project or program (i.e., a group of related projects):

- Advances a Strategic Plan goal;
- Has a clear scope of work and proposed start/end dates;
- Supports but is not already part of “baseline” services; and
- Usually involves multiple departments.

In crafting the attached list of proposed Strategic Plan projects and programs, City staff considered a number of factors including City Council referrals, voter-approved measures and initiatives, legislative mandates, plans previously adopted by City Council (e.g., Climate Action Plan), and items needed to support baseline operations. The majority (76 percent) of these projects are funded, although there are some projects which are only partially funded (13 percent), and a small number where funding is proposed for this budget cycle (8 percent).¹ Additionally there are a handful of unfunded projects (3 percent), where funding has not yet been identified. At the June 18, 2019 City Council work session, City staff will review and seek input from City Council on the attached list of proposed Strategic Plan projects and programs incorporated into the FY 2020-2021 proposed operating budget and capital improvement program. For projects or programs City Council proposes removing or adding, staff will analyze organizational capacity to perform the work (i.e., staff and resources needed), indicate any notable opportunity costs, and return to City Council in

¹ All numbers are rounded to the nearest whole number.

November with a revised list of projects and programs for approval along with any staffing impacts and budget amendments that are required.

In addition to the Strategic Plan, there are many other sources of projects for departments. As illustration, this report, with an accompanying presentation, provides a more detailed look at one department, Planning, and one of the sources of projects, Council referrals to and other mandates for the Planning Commission.

CURRENT SITUATION AND ITS EFFECTS

Overview

Every two years, City Council adopts a biennial operating budget and multi-year capital improvement program. The operating budget and capital improvement program, by funding various activities, indicate the work the City is planning to accomplish. At its foundation, the operating budget focuses on the ongoing daily operations of the City, as well as work which supports and improves those operations: Strategic Plan projects and programs and prioritized referrals resulting from the reweighted ranked voting (RRV) process.

In the FY2018-2019 budget cycle, 116 Strategic Plan projects and programs were adopted.² Of the total, 89 percent are underway or complete.

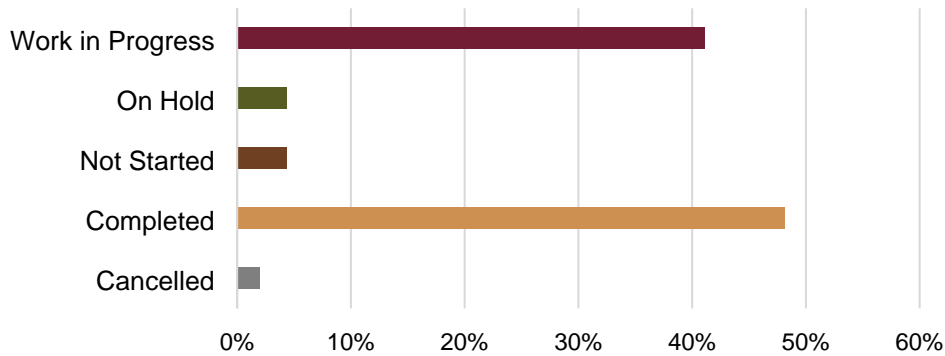


Figure 1 FY18-19 Projects and Programs Status

For the new budget cycle, there are 143 Strategic Plan projects and programs proposed. This represents a 23 percent increase in the number of proposed projects and programs compared to the previous budget cycle. Approximately 62 percent of these projects and programs are new initiatives, in addition to ongoing “carryover” work from the previous budget cycle. Of the proposed FY2020-2021 projects and programs, almost two-thirds were generated by referrals, legislative mandates, voter initiatives,

² When all programs are disaggregated to the project level, there are 297 projects for FY2018-2019. For FY2020-2021, programs have not yet been disaggregated.

Council actions, grants, and plans (e.g., Climate Action Plan, Berkeley Resilience Strategy).

Identifying and adopting new Strategic Plan projects and programs as part of the budget cycle, supports all Strategic Plan goals but in particular advances the City's goal to provide an efficient and financially-healthy City government. While the Strategic Plan contains proposed projects and programs from many different departments and divisions and groups within the City, the below section provides a detailed look at one example (i.e., the Planning Department's Policy Group).

Planning Department

The Policy Group within the Land Use Planning Division of the Planning Department updates the General Plan, Housing Element, and Zoning Ordinance to remain in compliance with state and federal legislation and court decisions and implements City Council referrals. The Group also staffs the Planning Commission (in addition to the Cannabis Commission and the Joint Subcommittee for the Implementation of State Housing Laws).

During the most recent two-year budget cycle (FY 2018-2019), the Planning Commission held 24 meetings, researched and facilitated discussion on 31 separate topics supporting 66 agenda items, and held 24 public hearings. The City Council adopted 17 ordinances over this period which resulted from these efforts. Council referrals that were advanced by the Planning Commission and staff and were adopted by Council included:

- Multiple revisions and refinements to City policies to streamline the permit review process for Accessory Dwelling Units (ADUs);
- New comprehensive regulations for cannabis businesses;
- Expanded and clarified rules for Community Gardens and Urban Agriculture uses;
- Better defined size relationships between primary and secondary units on lots in the R 1-A District (Two-family Residential District); and
- A package of Zoning Ordinance amendments to support small businesses.

In addition to items that were adopted by the Planning Commission and Council in FY 2018-2019, staff and the Commission also set several other items in motion that will be considered by Council in the upcoming FY 2020-2021 budget cycle. The sequencing of the items that staff and the Commission are working on is informed by the City Council's Reweighted Range Voting (RRV) process and the Council-adopted Housing Action Plan.

In order to manage the Land Use Policy Group and Planning Commission work plans, staff developed a matrix to communicate sequencing and anticipated timelines for

adopted City Council referrals. The matrix also identifies staff leads for the work associated with each referral (see Attachment 3). Referrals are grouped by topic area. Multiple referrals that address a similar topic (e.g., student housing, parking reform, etc.) are often advanced together in order to optimize staff and Commission time and resources.

In response to referrals from City Council, the Land Use Policy Group is currently working on:

- Student Housing – The Policy Group’s efforts related to student housing respond to several City Council referrals designed to increase the capacity for student housing south of the UC Berkeley campus through modifications of development standards (e.g., floor area ratio (FAR), maximum height and more flexible uses of ground floor space). Existing efforts include expanding the car-free overlay to additional high density residential areas south of UC Berkeley campus and preparing an EIR that analyzes modifications to development standards in the Southside area.
- Parking Reform – The Planning Commission is considering multiple referrals designed to modify off-street parking requirements citywide. The Commission will hold a public hearing in June to consider unbundled off-street parking (bundled parking is packaged with the cost of rent – unbundled parking is separated and optional), which effectively lowers the cost of housing. The Commission will also consider requiring TDM (transportation demand management) measures to promote alternate modes of travel and support potential reductions in off-street parking.
- Density Bonus and Objective Standards – The Joint Subcommittee for the Implementation of State Housing Law (JSISHL) is considering creation of a local program to incentivize development of and/or funding for affordable housing, and developing objective standards for density, shadows, views, and design, to clarify the Zoning Ordinance and implement State laws.
- Cannabis – The Planning Commission will consider adopting additional amendments to the Comprehensive Cannabis Ordinance and developing a cannabis equity program.
- Adeline Corridor Specific Area Plan – This project encompasses multiple Council referrals that prioritize equitable development and community benefits. Adoption of the Plan and EIR is expected in early 2020.
- Ashby BART – Planning for development of the Ashby BART station has been part of the Adeline Corridor Specific Plan process; Senate Bill 2923 creates specific timelines for establishing zoning regulations and considering development at the Ashby BART station.

- North Berkeley BART – Senate Bill 2923 created specific timelines for the City of Berkeley to establish zoning at the North Berkeley BART station. Per City Council direction, staff is embarking on an MOU process with BART that will guide the process of creating development standards and an RFP for future development at N. Berkeley and Ashby BART stations.
- Zoning Ordinance Revision Project – This project stems from a referral to improve the Land Use Planning permitting process. The Planning Commission and the Zoning Adjustments Board have established subcommittees to provide feedback on this project as it moves forward.
- Various State and regional requirements for funding and designations (e.g. Priority Development Areas, SB-2 funding, Housing Element reporting) – staff must respond to reporting requirements and prepare conforming ordinance amendments, and take advantage of funding opportunities as much as possible to obtain technical assistance and implementation tools.

In the next six to twelve months the Land Use Policy Group and Planning Commission will focus on advancing the current efforts listed above. The above listed efforts all align with Strategic Plan goals. Integrally related to this work are several high-priority referrals focused on accelerating affordable housing and revising affordable housing fees. Staff has started work on both of these groups of referrals (see “F. Affordable Housing” and “G. Fees and Nexus Studies” in attachment 3).

Other items of interest, such as further refinement of policies for ADUs and Zoning Ordinance amendments to support businesses, are sequenced to occur after work on Affordable Housing and Fees and Nexus Studies.

The Planning Commission and Policy Group Work Matrix (Attachment 3) identifies when each of these items is expected to be considered by the Planning Commission and the City Council. The Commission’s Annual Work Plan, update January 2019, is included as Attachment 4.

Much progress has been made on the many policies discussed in this report, despite the limited staff resources relative to the volume of work. The Policy Group has historically comprised five full-time employees (FTEs), but over the last year has operated with three FTEs – two Principal Planners (one fully dedicated to the Adeline Corridor process) and one Senior Planner (primarily focused on cannabis regulations). Recognizing this challenge, the City authorized two additional 2-year positions to help advance the accumulated priorities. As of June 2019, the Policy Group will be staffed with six FTEs, and with an active recruitment for a seventh (see Attachment 5: Policy Group Organizational Chart). Many of the Policy Group’s projects are also dependent on outside consultants who provide expert analysis and support on topics such as

environmental review, housing economics, community outreach and engagement, equity, facilitation, and urban design.

BACKGROUND

City Council approved a citywide Strategic Plan on January 31, 2018 to help City Council and staff throughout the organization to prioritize limited time and resources. The Strategic Plan articulates nine long-term goals for the City government, on behalf of the community, and includes numerous short-term projects and programs designed to advance these goals.

Recently, City Council attended a daylong workshop. During this workshop they discussed their vision and priorities for the City. The themes that came up during the priorities discussion were homeless services, affordable housing, street repair, public safety, and fiscal responsibility. Although only an initial discussion, all of these themes align with Strategic Plan goals and proposed FY2020-2021 projects and programs.

ENVIRONMENTAL SUSTAINABILITY

City Council's commitment to advancing environmental sustainability, including implementation of existing adopted plans, such as the Climate Action Plan, informed identification of the goals and priorities in the Strategic Plan.

POSSIBLE FUTURE ACTION

Adopt a resolution accepting the FY 2020-2021 Budget (including the proposed Strategic Plan projects and programs).

FISCAL IMPACTS OF POSSIBLE FUTURE ACTION

The Strategic Plan will continue to help City Council and staff throughout the organization to prioritize limited time and resources. The resources needed to implement the proposed list of Strategic Plan projects and programs are incorporated into the FY2020-2021 proposed operating budget and capital improvement program.

CONTACT PERSON

Melissa McDonough, Senior Management Analyst, City Manager's Office, 510-981-7402

Attachments:

- 1: Strategic Plan Proposed FY2020-2021 Projects and Programs
- 2: Planning Commission and Policy Group Work Plan Matrix
- 3: Planning Commission Annual Work Plan (January 2019)
- 4: Land Use Policy Group Organization Chart

Strategic Plan Proposed FY2020-2021 Projects and Programs

Line No.	Source	Source Comments	Goal	Lead Dept	Support	Title	Description	Funding	Planned Start/End	New/Carryover
1	City Council Action		Be a customer-focused organization that provides excellent, timely, easily-accessible service and information to the community	City Clerk	City Attorney's Office	Lobbyist Registration	Implement the Berkeley Lobbyist Registration and Regulations ordinance to increase transparency and provide information to the public.	Proposed	7/19 – 1/20	New
2	Department Initiated		Provide an efficient and financially-healthy City government	City Clerk	Information Technology	Updating Paperless Agenda Packets	Replacing the iPads currently used by City Councilmembers with new, more modern devices.	Proposed	7/19 – 6/21	New
3	Mandate		Be a customer-focused organization that provides excellent, timely, easily-accessible service and information to the community	City Clerk	Information Technology; All City Departments	City Council Redistricting Process and Citizens' Redistricting Commission Census 2020 Support	Federal, State, and City Mandated redistricting. Currently working on Census 2020 preparations with IT. Next phases: 1) Form Census 2020 Complete Count Committee and execute outreach effort, 2) prepare and implement the administrative processes to conduct the redistricting process and support the Citizens Redistricting Commission.	Proposed	4/17 - 4/22	Carryover
4	City Council Approved Project		Create a resilient, safe, connected, and prepared city	City Manager's Office	Planning	UC Long-Range Development Plan	Work with UC Berkeley and the community to evaluate and contribute to the update of the UC Berkeley Long-Range Development Plan	Funded	1/19 – 12/21	New
5	Department Initiated		Be a customer-focused organization that provides excellent, timely, easily-accessible service and information to the community	City Manager's Office	Human Resources	Communications Staffing	Introducing new positions of graphic designer and content writer to improve the City's communications	Funded	7/19 - 6/20	New
6	Department Initiated		Be a customer-focused organization that provides excellent, timely, easily-accessible service and information to the community	City Manager's Office	City Attorney	Legislative Platform	Creating a formal structure and process to communicate policy and policy support to and from local, regional, and State legislative bodies.	Funded	7/19 - 6/20	New
7	Department Initiated		Be a customer-focused organization that provides excellent, timely, easily-accessible service and information to the community	City Manager's Office	All City Departments	Annual Survey	Implementing an Annual Survey to better understand the needs of the community.	Proposed	7/20 - 6/21	New
8	Department Initiated		Champion and demonstrate social and racial equity	City Manager's Office	All City Departments	Equity	Institutionalizing equity into the foundation of all City practices and services.	Proposed	7/19 - 6/20	New
9	Department Initiated		Provide an efficient and financially-healthy City government	City Manager's Office	All City Departments	Performance Management	Implementing results-based accountability citywide and provide a dashboard to better communicate results	Proposed	7/19 - 6/20	New
10	Department Initiated		Be a customer-focused organization that provides excellent, timely, easily-accessible service and information to the community	City Manager's Office	All City Departments	New City of Berkeley Website	Create a new design, look & information architecture for the City website so that it is interactive and serves and prioritizes the needs of the community, including a focus on increasing the number and types of transactions and services available online	Funded	6/17 - 7/18	Carryover

Strategic Plan Proposed FY2020-2021 Projects and Programs

Line No.	Source	Source Comments	Goal	Lead Dept	Support	Title	Description	Funding	Planned Start/End	New/Carryover
11	Department Initiated		Champion and demonstrate social and racial equity	City Manager's Office	All City Departments	Racial Equity Action Plan	Enhance racial equity and improve city services and outcomes	Funded	8/18 - 6/21	Carryover
12	Department Initiated		Provide an efficient and financially-healthy City government	City Manager's Office	All City Departments	New Processes for Creating the City's Biennial Budget	Hire a consultant to work with Council and Staff on developing and improving the City's current biennial budget process	Funded	1/18 - 6/20	Carryover
13	Department Initiated	These initiatives are also in support of the Climate Action Plan, the EV Roadmap, CEAC referral to CM regarding EV for passenger vehicles	Be a global leader in addressing climate change, advancing environmental justice, and protecting the environment	City Manager's Office	Planning, Police, Public Works	Fleet-Related Initiatives	A series of initiatives to: <ul style="list-style-type: none"> • increase alternative fuel vehicles, • standardize fleet, • reduce backlog, • implement fleet/system upgrades, and • conduct a City Vehicle Fleet Assessment. 	Funded	7/19 - 7/21	New
14	Grant		Provide an efficient and financially-healthy City government	City Manager's Office	City Clerk	City Council Policy Subcommittee Process	Implement new Policy Subcommittee Process.	Funded	7/19 - 6/20	New
15	Mandate		Provide an efficient and financially-healthy City government	City Manager's Office	City Clerk	Census 2020 Community Outreach	Be Counted Berkeley!	Proposed	7/19 - 06/2020	New
16	Other (Specify)	Auditor	Attract and retain a talented and diverse City government workforce	City Manager's Office	All City Departments	Ethics Program	Establish an ethics program for city employees.	Funded	7/19 - 6/20	New
17	Other (Specify)	Prompted by Bayer's request to modify their existing Development Agreement	Foster a dynamic, sustainable, and locally-based economy	City Manager's Office	OED, Planning, City Attorney, Public Works	Bayer HealthCare, Inc Development Agreement	Engage with Bayer HealthCare, Inc re: the modification of their existing development agreement.	Funded	7/19-6/21	New
18	City Council Referral		Champion and demonstrate social and racial equity	Finance	City Attorney, Health Housing & Community Services	Equal Pay Vendor Preference	Champion and demonstrate social and racial equality.	Funded	9/19 - 3/20	New
19	Digital Strategic Plan		Provide an efficient and financially-healthy City government	Finance	Information Technology	Property Tax Assessment (ERP)	Provide an efficient and financially-healthy City government. Replace the existing 30-year old tax assessment system.	Unfunded	9/20 - 6/21	Carryover
20	Digital Strategic Plan		Provide an efficient and financially-healthy City government	Finance	Information Technology	Business License (ERP)	Provide an efficient and financially-healthy City government. Replace or enhance the existing business license software.	Unfunded	5/21 - 6/22	Carryover

Strategic Plan Proposed FY2020-2021 Projects and Programs

Line No.	Source	Source Comments	Goal	Lead Dept	Support	Title	Description	Funding	Planned Start/End	New/Carryover
21	City Council Referral	Partially in response to FP Audit report (new Wildfire DFM) and partially in response to increased perceived need to address wildfire risks in COB.	Create a resilient, safe, connected, and prepared city	Fire	Human Resources	Wildfire Safety Program	Multiple projects to improve wildfire safety, including adding a New FTE Deputy Fire Marshal, creating a Seasonal Fire Crew, developing a Wildfire Fuel Mitigation Plan, and initiating Safe Passages and Evacuation Zone Outreach to enhance survival rates.	Partially funded	7/19 - 6/22	New
22	Department Initiated	Ongoing fleet replacement from accrued accounts with fleet expansion to address evolving firefighting	Create a resilient, safe, connected, and prepared city	Fire	Public Works	Apparatus Replacement and Upgrade Program	Multiple acquisition projects to include New Reserve Fire Truck, a Mobile High Rise Air Supply vehicle, and Utility Support vehicles.	Partially funded	7/19 - 6/21	New
23	Mandate	Psychiatric patient transport project triggered (mandated) by Alameda County's decision to no longer transport	Create a resilient, safe, connected, and prepared city	Fire	Human Resources	EMS Division Development Program	Multiple projects including splitting EMS off from Division of Training under new FTE EMS Assistant Chief, new Psychiatric Emergency Transport Contract, Paramedic Supervisor Training and Transition to Single Resource, Prioritized Dispatching, and EMS Service Expansion.	Partially funded	7/19 - 6/21	New
24	Other (Specify)	Multiple projects under program to respond to City Auditor's report. City Auditor's work undertaken at the request of Fire Department.	Create a resilient, safe, connected, and prepared city	Fire	Human Resources, Information Technology	Fire Prevention Audit Response Program	Multiple projects to address results of latest audit, to include New FTE Sworn Fire Inspector, Sourcing new Fire Records Management System software, and implementing new Staff and Organization Alignment.	Funded	7/19 - 6/21	New

Strategic Plan Proposed FY2020-2021 Projects and Programs

Line No.	Source	Source Comments	Goal	Lead Dept	Support	Title	Description	Funding	Planned Start/End	New/Carryover
25	Voter Approved Tax	Continue responding effectively to the mandates of the Measure Q tax fund by enhancing logistics staffing for the Above-Ground Emergency Water System and updating support equipment to help ensure response capabilities.	Create a resilient, safe, connected, and prepared city	Fire	Human Resources	Measure Q Implementation Program	Implement Measure Q mandates through introduction of new FTE Logistics Fire Captain to assume responsibility for disaster water supply system, warehouse, and related equipment, including added Water Tender and Forklift.	Funded	7/19 - 7/21	New
26	Age Friendly Plan	Age Friendly Plan	Champion and demonstrate social and racial equity	HHCS	Public Works, Parks Recreation & Waterfront	Age Friendly Plan Implementation	Establish infrastructure for implementation of Aging-Friendly Plan	Unfunded	1/19 - 12/19	New
27	City Council Approved Program		Foster a dynamic, sustainable, and locally-based economy	HHCS	City Manager's Office, City Attorney	Home-cook Food Industry	Develop, propose and implement responsive education and enforcement strategies.	Unfunded	1/19 - 12/19	New
28	City Council Approved Project		Create affordable housing and support services for our most vulnerable community members	HHCS	Finance	Berkeley Way Project	Assemble, with developer, financing needed to enable construction.	Partially funded	7/19-6/20	Carryover
29	City Council Approved Project		Be a customer-focused organization that provides excellent, timely, easily-accessible service and information to the	HHCS	Finance	Community Agency Funding Information	Develop and publish comprehensive report on outcomes of community agencies funded by City of Berkeley.	Funded	7/19 - 6/20	New
30	Department Initiated		Be a customer-focused organization that provides excellent, timely, easily-accessible service and information to the community	HHCS	Public Works	Mental Health Wellness Center	Launch, in conjunction with Alameda County Behavioral Health Care Services, a mental health wellness center for the residents of the cities of Berkeley and Albany	Funded	7/10-6/20	New
31	Department Initiated		Provide an efficient and financially-healthy City government	HHCS	Information Technology	Results-Based Accountability Framework for Health, Housing and Community Services Programs	Develop and publish outcome data resulting from implementation of RBA in 21 HHCS Programs	Funded	7/19 - 6/20	Carryover

Strategic Plan Proposed FY2020-2021 Projects and Programs

Line No.	Source	Source Comments	Goal	Lead Dept	Support	Title	Description	Funding	Planned Start/End	New/Carryover
32	Grant		Be a customer-focused organization that provides excellent, timely, easily-accessible service and information to the community	HHCS	Finance	Mental Health Triage Grant	Establish a crisis triage line where community members can reach a clinician in the mental health division when someone is in a mental health crisis, for consultation, help, and possible referral to BPD and Mobile Crisis Team.	Funded	12/18-11/21	New
33	Grant		Create affordable housing and support services for our most vulnerable community members	HHCS	City Manager's Office	Shelter Plus Care Expansion	Expand Shelter Plus Care through addition of 53 new housing vouchers	Funded	7/19-6/20	New
34	Other (Specify)	Commission Recommendation	Champion and demonstrate social and racial equity	HHCS	City Attorney	Sugar Sweetened Beverage Policy Development	Develop a City of Berkeley healthy beverage policy	Funded	7/19 - 6/20	New
35	Other (Specify)	Response to Regulation	Create a resilient, safe, connected, and prepared city	HHCS	City Manager's Office, City Attorney	Cannabis Dispensary/ Production	Develop, propose and implement responsive education and enforcement strategies	Funded	7/19-6/20	New
36	Other (Specify)	Commission Recommendation	Create affordable housing and support services for our most vulnerable community members	HHCS	City Attorney, Information Technology, Planning & Development	Implement Highest Priority Housing Action Plan Goals	1. Propose affordable housing preference policy for ½ mile location and Ellis Act evictions/displacement 2. Identify city owned property for development of affordable housing options, including modular micro-unit buildings. 3. Develop incentive program for landlord participation in Section 8/Shelter + Care. 4. Develop pilot programs to House the Homeless in Accessory Dwelling Units	Partially funded	7/19 - 6/20	Carryover
37	Public Health Strategic Plan	Public Health Strategic Plan	Provide an efficient and financially-healthy City government	HHCS	Information Technology	Public Health Strategic Plan Implementation	Implement a tracking and reporting system for Division program performance measures	Funded	7/19 - 6/20	New
38	Voter Approved Tax		Create affordable housing and support services for our most vulnerable community members	HHCS	Planning and Development	Increase Affordable Housing: Measure O Implementation	Implement plan to expand affordable housing options with Measure O funding as defined by Council.	Funded	1/19 - 6/20	New
39	Voter Approved Tax		Create affordable housing and support services for our most vulnerable community members	HHCS	City Manager's Office	Homeless Services Expansion	Implement plan to expand homeless services with Measure P funding as defined by Council.	Funded	7/19 - 6/20	New
40	City Council Approved Project		Attract and retain a talented and diverse City government workforce	HR	City Manager's Office, City Attorney	Revision of Personnel Rules and Regulations and Employer-Employee Relations Resolution	Update the Rules to be consistent and comply with current operations and applicable laws	Funded	6/19 - 12/19	Carryover

Strategic Plan Proposed FY2020-2021 Projects and Programs

Line No.	Source	Source Comments	Goal	Lead Dept	Support	Title	Description	Funding	Planned Start/End	New/Carryover
41	City Council Approved Project		Champion and demonstrate social and racial equity	HR	City Manager's Office	Gender Pay Equity Audit for City of Berkeley Staff		Funded	12/18 - 7/20	Carryover
42	City Council Approved Project		Attract and retain a talented and diverse City government workforce	HR	Information Technology	Implement the New recruitment-onboarding software	Conduct a RFP and evaluate potential vendors to support the Human Resources onboarding process. Once a vendor is selected create a implementation workplan to transfer data for a new software to maintain records, training, forms, policies, processes and new hire information.	Funded	7/19 - 6/21	New
43	City Council Approved Project		Attract and retain a talented and diverse City government workforce	HR	All City Departments	Citywide Safety Needs Assessment	Safety assessment for staff in the field working	Proposed	7/19 - 12/19	New
44	Department Initiated		Attract and retain a talented and diverse City government workforce	HR	All City Departments	Complete Citywide Training Needs Assessment	Identify training needs for client departments to customize training as needed to meet needs	Funded	7/19 - 6/20	New
45	Department Initiated		Create a resilient, safe, connected, and prepared city	HR	City Manager's Office, City Attorney	Develop Labor Relations Strategy Plan	In preparation for contract negotiations in 2020. Prepare a plan	Proposed	10/19 - 10/20	New
46	Department Initiated		Attract and retain a talented and diverse City government workforce	HR	All City Departments	Succession Planning	Complete an analysis of the city's current workforce demographics to identify opportunity to create a written plan for succession planning. The intention of the plan will be to create a pool of talent to support the city as it experiences the wave of retirements.	Proposed	6-/20 - 6/22	Carryover
47	Department Initiated		Attract and retain a talented and diverse City government workforce	HR	City Manager's Office	Leadership Development Program	Form a 2020/2021 LDP cohort and provide continuous development for cohort cycles 2017 and 2019. This will ensure the city has a qualified pool of talent leaders for key positions.	Funded	7/20 - 6/21	Carryover
48	Department Initiated		Create a resilient, safe, connected, and prepared city	HR	All City Departments	Complete City's Illness, Injury Prevention Program Plan for all departments	Ensure every department has an injury illness prevention plan for their department for emergency preparedness and response	Funded	7/19 - 12/19	Carryover
49	Digital Strategic Plan		Attract and retain a talented and diverse City government workforce	HR	Information Technology	Implement New case management software	Conduct an RFP and evaluate potential vendors to support the Human Resources Employee Relations and EEO division to maintain records and provide a reporting methodology that includes timelines and tracking.	Funded	7/19 - 6/21	New
50	Mandate		Attract and retain a talented and diverse City government workforce	HR	City Attorney	Sexual Harassment Training for All City employees in compliance with new SB1343	In compliance with SB 1343 which become effective January 1, 2019. Training. This month be completed by January 1, 2020. Document retention.	Proposed	5/19 - 5/20	New

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Line No.	Source	Source Comments	Goal	Lead Dept	Support	Title	Description	Funding	Planned Start/End	New/Carryover
51	Department Initiated		Provide an efficient and financially-healthy City government	IT	City Attorney, City Clerk, City Manager's Office, Finance, Fire & Emergency Services, Health Housing & Community Services, Human Resources, Information Technology, Parks Recreation & Waterfront, Planning & Development, Police, Public Works	Master Address Database	Address management system to replace FUNDS land management module	Partially funded	2/20-2/22	New
52	Department Initiated		Provide an efficient and financially-healthy City government	IT	Finance	FUNDS Replacement: eProcurement	Implement an electronic procurement system	Funded	7/19-7/20	New
53	Department Initiated		Provide an efficient and financially-healthy City government	IT	All City Departments	Analytics Now	Implement a analytics tool for reporting	Funded	7/19-7/21	New
54	Department Initiated		Provide an efficient and financially-healthy City government	IT	All City Departments	KnowBe4	Provide cyber security training to staff	Funded	7/19-7/21	New

Strategic Plan Proposed FY2020-2021 Projects and Programs

Line No.	Source	Source Comments	Goal	Lead Dept	Support	Title	Description	Funding	Planned Start/End	New/Carryover
55	Department Initiated		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	IT	City Attorney, City Clerk, City Manager's Office, Finance, Fire & Emergency Services, Health Housing & Community Services, Human Resources, Information Technology, Parks Recreation & Waterfront, Planning & Development, Police, Public Works	Backup System	To replace our current enterprise backup product (Barracuda) with a more stable and expandable backup solution. The need is for a software solution that has the ability to expand when needed and can provide very quick restores.	Partially funded	7/19-7/20	New
56	Department Initiated		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	IT	All City Departments	Data Center Infrastructure Upgrade, Disaster Recovery Installation and Implementation	To replace our current server and storage infrastructure in both the City Hall and Public Safety Building Data Centers with a dependable, fault tolerant, restorable and DR (disaster recovery) failover solution. With a hyper-converged solution we can have a single solution for managing the 250 virtual servers in the City of Berkeley. This includes combining the CPU, RAM, and storage within the same fully supported infrastructure.	Funded	07/19-6/20	New
57	Department Initiated		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	IT	All City Departments	Load Balancers	To implement a load balancing to meet common expectations of the end user for all applications – performance, experience, quality of service – no matter whether are hosted internally, externally, or in the cloud through consistent, dynamic, and application-centric delivery of network and application traffic.	Funded	07/19-6/20	New
58	Department Initiated		Be a customer-focused organization that provides excellent, timely, easily-accessible service and information to the community	IT	City Manager's Office, City Attorney, Finance, Fire, Planning, Public Works	Digital Permitting System	Conduct a needs assessment, issue an RFP, and procure a new permitting software	Funded	7/19 - 6/20	New
59	Digital Strategic Plan		Provide an efficient and financially-healthy City government	IT	Parks Recreation & Waterfront, Public Works	FUND\$ Replacement: Fleet Management System	To implement the fleet management system, customer requests and work orders, preventive maintenance, resources, and inventory, best practices and regulatory compliance	Partially funded	7/19-7/21	New

Strategic Plan Proposed FY2020-2021 Projects and Programs

Line No.	Source	Source Comments	Goal	Lead Dept	Support	Title	Description	Funding	Planned Start/End	New/Carryover
60	Digital Strategic Plan		Provide an efficient and financially-healthy City government	IT	City Attorney, City Clerk, City Manager's Office, Finance, Fire & Emergency Services, Health Housing & Community Services, Human Resources, Information Technology, Parks Recreation & Waterfront, Planning & Development, Police, Public Works	GIS Master Plan	Year 2 of GIS Master Plan: Multiple projects, both new and carryover, including GreenCity GIS (interactive map application integrated with GIS asset management for Parks), Here Data (resource for base map data and routing for Public Safety and other departments), Panoramic – Imagery (360 degree panoramic imagery for rights-of-way)	Funded	07/19-6/20	New
61	Digital Strategic Plan		Provide an efficient and financially-healthy City government	IT	City Attorney, City Clerk, City Manager's Office, Finance, Fire & Emergency Services, Health Housing & Community Services, Human Resources, Information Technology, Parks Recreation & Waterfront, Planning & Development, Police, Public Works	Digital Strategic Plan & Roadmap	Phase II: 91 projects, both new and carryover	Funded	Various	Both
62	City Council Approved Project		Be a customer-focused organization that provides excellent, timely, easily-accessible service and information to the community	OED	Public Works, Finance, Information Technology	Interactive Digital Kiosks	Facilitate the installation of interactive digital kiosks to share information about civic resources; market local businesses, arts organizations, and commercial districts; and generate revenue for the City of Berkeley	Funded	7/19 -6/21	New

Strategic Plan Proposed FY2020-2021 Projects and Programs

Line No.	Source	Source Comments	Goal	Lead Dept	Support	Title	Description	Funding	Planned Start/End	New/Carryover
63	City Council Approved Project	T1 Funded	Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	OED	Public Works, Parks Recreation & Waterfront, Planning & Development	Civic Center Project	Conduct a transparent and inclusive community process to create a community vision, conceptual designs and implementation plan for the Veteran's Memorial Building, Old City Hall, and Civic Center Park.	Funded	7/19 -12/20	New
64	City Council Approved Project	T1 Funded	Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	OED	City Clerk, Public Works, Health Housing and Community Services, Parks Recreation & Waterfront	Measure T1 Public Art Projects	Implement new public art commissions associated with T1 Bond Projects at North Berkeley Senior Center and San Pablo Park, which will be integrated into the planned improvements in order to beautify these spaces and enhance their unique character	Funded	7/19 - 6/21	New
65	City Council Referral		Foster a dynamic, sustainable, and locally-based economy	OED	Planning & Development, Finance	Small Business Support and Retention	Provide support to prevent the displacement or closure of Berkeley small businesses that provide economic opportunities, goods and services to our community, and to facilitate business establishment and expansion	Funded	9/17 -6/21	Carryover
66	City Council Referral		Foster a dynamic, sustainable, and locally-based economy	OED	Planning & Development	Expand and Modify the Downtown Arts District Overlay	Examine and develop recommendations for expanding the boundaries of the current Downtown Arts District Overlay as well as the allowable active ground-floor uses	Funded	9/19 -12/20	New
67	Department Initiated		Foster a dynamic, sustainable, and locally-based economy	OED		Berkeley Tech, Berkeley Values	Develop and implement a <i>Berkeley Tech, Berkeley Values</i> campaign to enable Berkeley's tech sector to grow in a way that reflects the community values of diversity, equity, and inclusion.	Proposed	7/19-6/21	New
68	Berkeley Resilience Strategy		Be a global leader in addressing climate change, advancing environmental justice, and protecting the environment	Planning	City Manager's Office, Information Technology, Public Works	Solar + Storage Project	Latest strategy from previous Microgrid pilot program to co-locate solar and storage capacity, especially for emergency backup uses	Funded	7/19 - 6/20	New
69	Berkeley Resilience Strategy		Create a resilient, safe, connected, and prepared city	Planning	City Manager's Office, Fire	Planning DOC	Planning Departmental Operations Center (DOC) and Emergency Operations Plan (EOP)	Funded	7/19 - 6/20	New
70	City Council Approved Project		Be a customer-focused organization that provides excellent, timely, easily-accessible service and	Planning	City Attorney	Zoning Ordinance Revision Project (ZORP)	On-going restructuring, streamlining and clarifying of zoning ordinance regulations and procedures	Funded	7/17 - 6/20	Carryover
71	City Council Approved Project		Be a global leader in addressing climate change, advancing environmental justice, and protecting the environment	Planning	Information Technology	Energy efficiency in existing buildings/BESO evaluation	Implement and monitor program to improve energy efficiency in buildings. Next milestone includes ongoing measurement of improvements to Home Energy scores	Funded	7/15 - 6/21	Carryover
72	City Council Approved Project		Create a resilient, safe, connected, and prepared city	Planning	Information Technology	Seismic safety programs	Implement and expand programs to bolster safety of vulnerable buildings through FEMA Hazard Mitigation grants. Next milestone Phase III grant app deadline, June 2019	Funded	9/15 - 12/20	Carryover

Strategic Plan Proposed FY2020-2021 Projects and Programs

Line No.	Source	Source Comments	Goal	Lead Dept	Support	Title	Description	Funding	Planned Start/End	New/Carryover
73	City Council Approved Project		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	Planning	City Manager's Office, City Attorney, Health Housing & Community Services, Information Technology, Parks Recreation & Waterfront, Public Works	Adeline Corridor Plan	Create a community-based long-range plan for development of area. Next milestones will be Draft Plan and Draft EIR, early 2019.	Funded	1/15 - 12/19	Carryover
74	City Council Referral		Be a global leader in addressing climate change, advancing environmental justice, and protecting the environment	Planning	Information Technology, Public Works	Increased EV infrastructure	Expand infrastructure for Electric Vehicle charging throughout City to reduce barriers to EV usage. Contract for EV Strategic Plan awarded at Council 9/25/2018; next milestone plan delivery ~7/31/2019	Funded	6/17 - 6/21	Carryover
75	City Council Referral		Be a global leader in addressing climate change, advancing environmental justice, and protecting the environment	Planning		Clean energy (i.e., Fuel switching) and Energy Efficiency / Electrification Transfer Tax Rebate	Seeking incentives to promote residential and commercial switchovers to electricity from natural gas. Next milestone forum promoting electrification switchover Jan 2019. Develop draft ordinance granting transfer tax rebates to persons making qualifying energy efficiency upgrades	Partially funded	11/16 - 6/21	Carryover
76	City Council Referral		Create affordable housing and support services for our most vulnerable community members	Planning	City Attorney	Increased Student Housing	Zoning revisions and other steps to increase student housing capacity. Includes consultant work with community and commissions to describe, define and revise density standards in corridors. Working groups underway, next milestone Planning Commission, Public Hearing, Jun 2019.	Funded	1/17 - 12/20	Carryover

Strategic Plan Proposed FY2020-2021 Projects and Programs

Line No.	Source	Source Comments	Goal	Lead Dept	Support	Title	Description	Funding	Planned Start/End	New/Carryover
77	City Council Referral		Create affordable housing and support services for our most vulnerable community members	Planning	City Attorney	Development Fee feasibility analysis	Assess impact of all fees--Land Use, Building, mitigations, BUSD, etc--on development feasibility. Consultant work underway; completion milestone report to Council, summer 2019	Funded	7/17 - 3/19	Carryover
78	City Council Referral		Create affordable housing and support services for our most vulnerable community members	Planning	City Attorney	Local density bonus policy	Pilot a local density bonus program with in-lieu fees leveraged for affordable housing. Next milestone Joint Sub-committee for Implementation for State Housing Law (JSISHL) meeting, Mar 2019	Funded	7/15 - 9/19	Carryover
79	City Council Referral		Create affordable housing and support services for our most vulnerable community members	Planning	City Attorney	Expanded and streamlined rental housing safety program	Enable proactive inspection program to ensure safety of City rental housing stock. New manager classification created; next milestone staffing position and program, Mar 2019	Funded	1/16 - 12/19	Carryover
80	City Council Referral		Create affordable housing and support services for our most vulnerable community members	Planning	City Attorney, Information Technology	Accessory Dwelling Units	Enable increased development by streamlining approval process. Next milestone is Ordinance revisions per latest Council referral, mid-2019	Funded	1/15 - 7/19	Carryover
81	City Council Referral		Be a customer-focused organization that provides excellent, timely, easily-accessible service and information to the community	Planning	City Attorney, Health Housing & Community Services	Cannabis Policy Development	Develop administrative and regulatory policies and procedures in response to emerging cannabis legislation and public health needs	Funded	7/19 - 6/20	New
82	City Council Referral		Be a global leader in addressing climate change, advancing environmental justice, and protecting the environment	Planning	Public Works	New Municipal Building Energy Policy	Develop options for a new Municipal Building Energy Policy	Funded	7/19 - 6/20	New
83	City Council Referral		Create affordable housing and support services for our most vulnerable community members	Planning	City Attorney, Health Housing & Community Services	Demolition Ordinance and Affordable Housing	Study issues pertaining to demolition and replacement of existing rent controlled and affordable housing. Depending on outcomes of study, may result in a revised fee and/or ordinance	Partially funded	7/19 - 6/20	New
84	City Council Referral		Create affordable housing and support services for our most vulnerable community members	Planning	City Attorney	Development/Density Standards Project	Study options and proposed comprehensive density standards	Funded	7/19 - 6/20	New

Strategic Plan Proposed FY2020-2021 Projects and Programs

Line No.	Source	Source Comments	Goal	Lead Dept	Support	Title	Description	Funding	Planned Start/End	New/Carryover
85	City Council Referral		Create affordable housing and support services for our most vulnerable community members	Planning	City Attorney	Development Standards	Consultant work with community and commissions to describe, define and revise density standards in corridors	Funded	7/19 - 6/20	New
86	City Council Referral		Create affordable housing and support services for our most vulnerable community members	Planning	City Attorney	BART Station Area Plan	State-mandated zoning study and updates at the North Berkeley and Ashby BART Stations	Partially funded	7/19 - 6/20	New
87	City Council Referral		Create affordable housing and support services for our most vulnerable community members	Planning	Public Works	Parking Reform	Strategies to unbundle parking requirements from development requirements to facilitate housing production and car-free modes of transit.	Funded	1/19-6/20	New
88	Climate Action Plan		Be a global leader in addressing climate change, advancing environmental justice, and protecting the environment	Planning		Climate Adaptation Work	New climate adaptation work	Funded	7/19 - 6/21	New
89	Department Initiated		Be a customer-focused organization that provides excellent, timely, easily-accessible service and information to the community	Planning	Fire, Public Works	Coffee with Inspectors Event	Informal meet-and-greet to allow clients to ask questions and learn what inspectors are looking for	Funded	7/19 - 6/20	New
90	Department Initiated		Be a customer-focused organization that provides excellent, timely, easily-accessible service and information to the community	Planning	City Attorney	Sign Policy	Evaluate and update design review processes/policies and Sign Ordinance	Funded	7/19 - 6/20	New
91	Department Initiated		Be a customer-focused organization that provides excellent, timely, easily-accessible service and information to the community	Planning	City Manager's Office	Permit Service Center and Land Use Planning Survey	Develop and administer a customer service survey relating to permitting services and land use planning processes	Funded	7/19 - 6/20	New
92	Department Initiated		Create a resilient, safe, connected, and prepared city	Planning	City Manager's Office, City Attorney	Permit Conditions Enforcement Process	Review process/approach to monitoring and enforcing agreed-to conditions on Land Use permits	Funded	1/19 - 6/20	New
93	Mandate		Create a resilient, safe, connected, and prepared city	Planning	City Manager's Office	2019 Cal. Building Standards Code and local amendments	Triennial mandatory adoption of 2019 Cal Building Standards Code. Propose and adopt any local amendments, implement all requirements including Energy and Green "Reach" Codes, enforce new requirements. Purchase new code books for staff FYE20, possible added program manager position FYE20	Funded	1/19 - 6/20	New

Strategic Plan Proposed FY2020-2021 Projects and Programs

Line No.	Source	Source Comments	Goal	Lead Dept	Support	Title	Description	Funding	Planned Start/End	New/Carryover
94	Berkeley Resilience Strategy		Champion and demonstrate social and racial equity	Police	City Manager's Office	BPD Community Engagement Strategy	Develop strategies to engage and inform community members. Work with stakeholders, including community members, the Police Review Commission, community organizations and experts to strengthen relationships and trust, share and consider data collected by BPD, and address real or perceived racial disparities in policing, with an overall goal to reduce disparities and increase community trust and dialogue. Engage the community to understand the community's perceptions around what makes their community feel safer, and what their expectations are of police, and what actions the police can take to increase and enhance neighborhood safety.	Partially funded	7/19 - 6/21	Carryover
95	Berkeley Resilience Strategy		Attract and retain a talented and diverse City government workforce	Police	Human Resources, Information Technology	Expand and enhance targeted recruitment efforts	BPD's Recruitment & Retention Team will work with a marketing firm to drive strategic online advertising, create a video- and content-rich hiring website, bringing consistent branding and design across all materials, including social media accounts, to serve on-going recruitment goals.	Partially funded	9/18 - 6/21	New
96	Berkeley Resilience Strategy		Attract and retain a talented and diverse City government workforce	Police		Develop resources and programs for employee resiliency	Expand Police employee wellness and resiliency programs, including mental health, fitness, and nutrition resources.	Partially funded	7/19 - 6/21	New
97	City Council Approved Project	ber	Create a resilient, safe, connected, and prepared city	Police		Develop a Bike-trained patrol resource	Create a bike-trained cadre of officers, who can deploy on bikes to protect and facilitate free speech and first amendment expression, and who can use bikes while working other assigned duties, such as special events, focused patrols, and community engagement efforts.	Unfunded	7/19 - 6/20	New
98	Department Initiated		Create a resilient, safe, connected, and prepared city	Police	City Manager's Office	Reducing deaths and injuries resulting from traffic collisions	Increase and enhance Traffic enforcement, with a focus on reducing deaths and injuries, through education and enforcement. Apply for annual California Office of Traffic Safety Grants for enhanced enforcement in addition to implementation of Vision Zero efforts with City resources to increase public safety and awareness.	Partially funded	7/19 - 6/21	Carryover
99	Department Initiated		Champion and demonstrate social and racial equity	Police	Information Technology	Capture stop data through the implementation of software, which will comply with the Racial Identity and Profiling Act.	Implement a software solution for the gathering of stop data. The solution will take into account currently required data, as well as data collection to be required in the coming years by Assembly Bill 953, the Racial Identity and Profiling Act (RIPA). Goals for this solution will be to capture data which is easier to work with than current data collection, continue to publicly post data on the City's Open Data Portal, and to develop our reporting capacity ahead of SB 953 mandates.	Partially funded	7/19 - 6/20	New
100	Mandate		Create a resilient, safe, connected, and prepared city	Police	City Manager's Office, Information Technology	Revise use-of-force policy and implement software	Implement software enhancements used to report and review department commendations and uses of force, in conjunction with a revised use of force policy. This will enable the BPD ability to report aggregate information internally and externally.	Funded	4/19 - 12/19	New

Strategic Plan Proposed FY2020-2021 Projects and Programs

Line No.	Source	Source Comments	Goal	Lead Dept	Support	Title	Description	Funding	Planned Start/End	New/Carryover
101	Vision 0		Attract and retain a talented and diverse City government workforce	Police	Human Resources	Hire, Train, and Retain excellent employees	Hire, train, and retain excellent police personnel by expediently filling vacancies. Staffing remains a top priority for the BPD in order to maintain excellent service to the community	Partially funded	7/19 - 6/21	Carryover
102	City Council Approved Program		Foster a dynamic, sustainable, and locally-based economy	PRW	City Manager, City Attorney, Information Technology, Planning, Police	Berkeley Marina Area Specific Plan [BMASP] (Conceptual Plan for the Berkeley Waterfront)	A master planning process to develop a Specific Plan for an economically and environmentally sustainable Waterfront.	Funded	7/19 - 6/22	Carryover
103	City Council Approved Program		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PRW	City Manager, City Attorney, Information Technology, Planning	Berkeley Tuolumne Camp Rebuild Project (Cazadero Camp Landslide Fix and Dormitory Replacement)	Complete the construction documents and permits for bidding purposes.	Funded	1/18 - 6/22	Carryover
104	City Council Approved Program		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PRW	City Manager, City Attorney	WETA MOU and Ferry Feasibility Study	Develop an MOU with WETA and conduct an engineering feasibility study for potential WETA ferry service and recreation at the existing or a new Berkeley Pier.	Funded	7/19 - 6/21	New
105	City Council Referral	Also a department initiative	Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PRW	Public Works	Tree Planting Project in South and West Berkeley	Plant 500 trees in South and West Berkeley.	Funded	7/19 - 6/21	New
106	Department Initiated		Attract and retain a talented and diverse City government workforce	PRW	City Attorney	Sports Coaches and Officials Training and Certification (Training and Certification for Sports Coaches and Officials)	Training and Certification for Sports Coaches and Officials for City programs.	Funded	7/19 - 6/21	Carryover
107	Department Initiated		Foster a dynamic, sustainable, and locally-based economy	PRW	City Manager, City Attorney	Doubletree Hotel Lease Agreement	Develop a new lease agreement with the Doubletree Hotel.	Funded	7/19 - 6/21	New

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Line No.	Source	Source Comments	Goal	Lead Dept	Support	Title	Description	Funding	Planned Start/End	New/Carryover
108	Department Initiated		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PRW	City Manager, City Attorney, Public Works	South Waterfront Area Parking Plan	Develop rules and procedures to improve the availability of parking for multiple uses in the South Waterfront Area.	Funded	7/19 - 6/21	New
109	Department Initiated		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PRW	City Manager, City Attorney	Cazadero Music Camp Lease Agreement	Develop a new lease agreement with the operator of Cazadero Performing Arts Music Camp.	Funded	7/19 - 6/21	New
110	Mandate		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PRW	City Attorney, Planning, Public Works	Cazadero Camp Dormitory Rebuild Project	Rebuild the Jensen Dorm that was damaged by the landslide.	Funded	7/19 - 12/20	Carryover
111	Voter-Approved General Obligation Bond		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PRW	Public Works	Tom Bates (Gilman) Fields Fieldhouse Conceptual Plan	Develop conceptual plans and conduct public process for a new fieldhouse/ restroom at the Tom Bates (Gilman) Fields.	Funded	7/19 - 6/20	New
112	Voter-Approved General Obligation Bond		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PRW	Public Works	Aquatic Park Tide Tubes Renovation Project	Design, permitting, and environmental documents.	Funded	7/19 - 6/21	New
113	Voter-Approved General Obligation Bond		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PRW	City Attorney, Public Works	Waterfront Roadway Improvement Project (University Ave, Marina Blvd, and Spinnaker Way)	Renovate the major roadway system at the Berkeley Waterfront (University Avenue Extension, Marina Blvd., and Spinnaker Way).	Funded	7/18 - 6/21	Carryover
114	Voter-Approved General Obligation Bond		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PRW	City Attorney, Public Works	Berkeley Municipal Pier Feasibility Study	Conduct an engineering feasibility study on options to re-build the existing or install a new pier for recreation and potential ferry service.	Funded	7/19 - 6/20	Carryover
115	Voter-Approved General Obligation Bond		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PRW	City Attorney, Public Works	George Florence Mini Park Play Equipment Renovation Project	Renovate the existing play equipment.	Funded	7/19 - 6/20	Carryover
116	Voter-Approved General Obligation Bond		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PRW	City Attorney, Public Works	San Pablo Park Play Equipment Renovation Project (San Pablo Park Tennis Courts and Play Equipment Upgrade)	Renovate the play equipment.	Funded	7/19 - 6/20	Carryover
117	Voter-Approved General Obligation Bond		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PRW	City Attorney, Public Works	San Pablo Park Tennis Courts Renovation Project (San Pablo Park Tennis Courts and Play Equipment Upgrade)	Renovate the tennis Courts.	Funded	7/19 - 6/20	Carryover

Strategic Plan Proposed FY2020-2021 Projects and Programs

Line No.	Source	Source Comments	Goal	Lead Dept	Support	Title	Description	Funding	Planned Start/End	New/Carryover
118	Voter-Approved General Obligation Bond		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PRW	City Attorney, Public Works	Strawberry Creek Park Restroom Replacement Project	Replace existing restroom.	Funded	7/19 - 6/20	Carryover
119	Voter-Approved General Obligation Bond		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PRW	City Attorney, Public Works	Berkeley Rose Garden Pathways, Tennis Courts, and Pergola Renovation Project	Renovate existing pathways, tennis courts, and build out the pergola.	Funded	7/19 - 12/20	Carryover
120	Voter-Approved General Obligation Bond		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PRW	City Attorney, Public Works	Willard Clubhouse Renovation Planning Project	Develop conceptual plans for the renovation of the Willard Clubhouse.	Funded	7/19 - 6/20	Carryover
121	Voter-Approved General Obligation Bond		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PRW	City Attorney, Public Works	Live Oak Community Center Seismic Upgrade and Renovation Project	Construct seismic upgrades and other renovations at the Live Oak Community Center.	Funded	6/19 - 6/20	Carryover
122	Voter-Approved General Obligation Bond		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PRW	City Attorney, City Manager's Office, Finance, Health Housing & Community Services, Human Resource, Information Technology, Planning, Public Works	Citywide Restroom Assessment	Conduct an assessment of existing and potential public restrooms throughout the City.	Funded	2/19 - 6/20	Carryover
123	Department Initiated		Provide an efficient and financially-healthy City government	PW	Parks Recreation & Waterfront, Public Works	Substation relocation project	Relocation of the BPD Traffic Substation to a City of Berkeley-owned facility.	Funded	7/19 - 6/21	New
124	City Council Action		Create a resilient, safe, connected, and prepared city	PW		Vision Zero	Vision Zero policy development to eliminate all traffic-related fatalities and severe injuries in Berkeley through a safe systems approach, which prioritizes roadway design and policy strategies, complimented by proven education and enforcement strategies.	Funded	11/18 - 7/20	New
125	City Council Approved Program		Be a global leader in addressing climate change, advancing environmental justice, and protecting the environment	PW	OED	Compostable or Recyclable Foodware	Implementation: Phase 2 - All foodware certified compostable & vendor charges \$0.25 per disposal cup Phase 3 - Only onsite foodware provided by vendor.	Funded	6/19-7/21	New

Strategic Plan Proposed FY2020-2021 Projects and Programs

Line No.	Source	Source Comments	Goal	Lead Dept	Support	Title	Description	Funding	Planned Start/End	New/Carryover
126	City Council Approved Program		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PW	Health, Housing & Community Services	North Berkeley Senior Center (NBSC) Seismic Upgrades and Renovations	NBSC has been in operation for over 40 years and is in need of comprehensive upgrades. The work will include seismic upgrades, a new fire sprinkler system, a front patio remodel for better access and community space, and deferred maintenance upgrades such as roof replacement; mechanical, electrical, and plumbing improvements; foundation upgrades; accessibility improvements; and other miscellaneous interior and exterior improvements.	Funded	6/19-6/20	Carryover
127	City Council Approved Program		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PW		50/50 Sidewalk Program	Reduce 50/50 sidewalk backlog	Funded	7/19 - 7/20	New
128	Mandate		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PW	Police, Fire, Health Housing & Community Services, Parks Recreation & Waterfront	Bicycle Plan	Construct bikeway projects and implement encouragement, education, enforcement, and evaluation programs to make Berkeley a model bicycle-friendly city where bicycling is a safe, comfortable, and convenient form of transportation and recreation for people of all ages and abilities	Funded	1/21-6/22	New
129	City Council Approved Project		Provide an efficient and financially-healthy City government	PW	City Manager's Office, Finance, Human Resources, Information Technology, Police	Residential Preferential Parking (RPP) Program	Assess the potential for and interest in expansion of RPP in additional commercial districts.	Funded	4/14 -7/21	Carryover
130	City Council Approved Project		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PW	City Attorney, City Manager's Office	Gilman Street Interchange Project	Improve the mobility and safety of the Gilman Street Corridor by reconstructing the Gilman Street Interchange and creating a new gateway into North Berkeley. In FY 2018-2019, complete the environmental documents and begin final design for the I-80 Gilman Interchange and pedestrian overcrossing projects.	Funded	10/15 -7/20	Carryover
131	City Council Approved Project		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PW	City Manager's Office, Information Technology, Parks Recreation & Waterfront, Planning & Development	Major Improvements to Downtown Berkeley Infrastructure and Amenities (Shattuck Reconfiguration)	Improve pedestrian safety by changing traffic flow and turning patterns at the Shattuck/University intersection. Put all through traffic in both directions on the newly two-way west leg of Shattuck between Cener and University. Improve parking capacity and shorten pedestrian crosssigns on the east leg of Shattuck. Provide enhanced transit plaza on the east side of Shattuck between Alston and Center. Contract award by Council is scheduled for October 2018 and Construction is scheduled to commence January 2019.	Funded	7/18 - 7/20	Carryover

Strategic Plan Proposed FY2020-2021 Projects and Programs

Line No.	Source	Source Comments	Goal	Lead Dept	Support	Title	Description	Funding	Planned Start/End	New/Carryover
132	City Council Referral		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PW	City Manager's Office	Street Sweeping Improvement Plan	Referral to the City Manager, Public Works commission, and Zero Waste commission to develop a new strategy to ensure that street sweeping is not obstructed by waste/recycling pick-up. In addition to being unsightly, without proper street sweeping, trash and debris are more likely to go into the stormwater drains. Specifically 1. Staff should provide a map of streets in which sweeping days and waste/recycling pickup coincide to better understand where and when this problem occurs; and 2. Staff and Commissions should return to Council with a proposed solution including, but not limited to, rescheduling street sweeping and waste/recycling pickups to ensure that both services do not occur on the same day.	Funded	11/18 - 1/19	New
133	Climate Action Plan		Be a global leader in addressing climate change, advancing environmental justice, and protecting the environment	PW		Long-Term Waste Operations Strategy	Develop a long term Zero Waste Strategic Plan	Funded	3/18 - 6/20	Carryover
134	Department Initiated		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PW		Transfer Station Master Plan/Redesign Process	Re-construct the nearly 8-acre West Berkeley site where waste materials are sorted. The eventual goal of a new site is simple: if we recover more of what can be re-used or recycled, we slash what Berkeley trucks to the mountains of garbage that fill landfills.	Funded	4/18 - 5/20	Carryover
135	Department Initiated		Be a global leader in addressing climate change, advancing environmental justice, and protecting the environment	PW	Planning & Development	Update Watershed Management and Storm Drain Master Plans	Undertaking a necessary update to citywide watershed management and storm drain master plans	Funded	7/19 - 7/21	New
136	Department Initiated		Provide an efficient and financially-healthy City government	PW	Finance	Zero Waste Rate Evaluation	Developing a study that provides for a new five year rate structure that sets rates through the Proposition 218 process.	Funded	7/19 - 7/20	New
137	Department Initiated		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PW	City Manager's Office, Finance	Undergrounding Utility Wires	Finalize design and begin construction of Underground Utility District #48 (Grizzly Peak). The City is responsible for installation of decorative solar street lighting in support of this Undergrounding District.	Funded	7/20- 7/22	New
138	Department Initiated		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PW		LED Streetlight Replacement	Resolve LED streetlight issue.	Funded	7/19 - 7/22	New
139	Department Initiated		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PW		Sewer Master Plan	The plan will provide flow monitoring, hydraulic modeling and capacity assessment, and condition assessment of the sewer system. These services will allow for identification of areas of high inflow and infiltration and capacity deficiency in the sewer system. In addition, they will provide prioritization of capital sewer improvements and a sanitary sewer rate study	Funded	7/19 -12/20	New

Strategic Plan Proposed FY2020-2021 Projects and Programs

Line No.	Source	Source Comments	Goal	Lead Dept	Support	Title	Description	Funding	Planned Start/End	New/Carryover
140	Mandate		Champion and demonstrate social and racial equity	PW	All City Departments	American Disabilities Act Transition Plan Survey	The ADA survey will provide a path forward to achieve a uniform level of physical access to the City's buildings, streets, parks and facilities, and consistent program access for the public and people with disabilities. The survey along with public input will be used to develop an ADA Transition Plan.	Funded	6/18 - 3/21	Carryover
141	Mandate		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PW	City Manager's Office, Information Technology, Parks Recreation & Waterfront, Planning & Development	Green Infrastructure Plan	The Green Infrastructure Plan is an implementation guide and reporting tool to set goals for reducing the adverse water quality impacts of urban runoff on receiving waters. The Countywide Cleanwater program has prepared a template as guidance for the City to use in developing our Green Infrastructure Plan. The City is currently using that template to develop our Plan.	Funded	9/17 -7/21	Carryover
142	Mandate		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PW	Health, Housing & Community Services, Fire, Police	Pedestrian Plan Update	Update the 2010 Pedestrian Master Plan to guide City efforts to make walking in Berkeley safe, attractive, easy, and convenient for people of all ages and abilities.	Funded	4/18-12/19	Carryover
143	City Council Approved Program		Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities	PW	Health, Housing & Community Services, Fire, Police	Bicycle and Pedestrian Infrastructure Improvements: Implement Protected Bicycle Lanes on Milvia Street	Plan, design, and construct a bikeway that is physically protected from motor traffic through downtown along Milvia Street between Hearst Avenue and Blake Street	Partially funded	7/18-6/21	Carryover



Planning Commission

INFORMATION CALENDAR

January 29, 2019

To: Honorable Mayor and Members of the City Council

From: Planning Commission

Submitted by: Chris Schildt, Chairperson, Planning Commission and Jeff Vincent,
Chairperson of the Workplan Subcommittee

Subject: Planning Commission Workplan 2018-2019

INTRODUCTION

The City of Berkeley Planning Commission (PC) hereby submits its work plan for Fiscal Year 2018, pursuant to the Berkeley City Council's request.

CURRENT SITUATION AND ITS EFFECTS

Unlike other city commissions, the PC's workload is almost exclusively dictated by referrals from the City Council. Each year, the Council goes through an extensive referral ranking process, which shapes the prioritization of work for the PC. Thus, by design, the PC has far less latitude than other city commissions in setting its agenda. As of October 2018, the PC has a workload of more than 40 referrals from the City Council.

The PC's workplan organizes the referrals around three strategic areas of PC interest/outcome, as described below. Across these strategic outcome areas, the PC aims to **demonstrate state-wide leadership in promoting social equity, affordability, and climate resilience issues**. In some cases this requires action to comply with new state laws, and in some cases this may involve going "beyond" state laws to recommend local land use policies that the PC feels will achieve more equitable results than state requirements.

Strategic Outcome Areas:

1. **Increase affordable housing.** This includes retaining and expanding the stock of affordable housing available throughout the city. The commission has identified three mechanisms by which we can advance this strategic outcome:
 1. Modify development standards to create more affordable housing;
 2. Revise administrative procedures and levels of discretion to streamline affordable housing;
 3. Develop community benefits and other value capture mechanisms in order to maximize affordability in new development.

2. **Promote healthy, livable communities.** This includes ensuring Berkeley residents live in safe, healthy, and accessible communities with parks, schools, local businesses, and cultural institutions, and promoting healthy mobility options for all residents.
3. **Support community economic development and commercial vitality.** This includes preserving and enhancing Berkeley's thriving neighborhood commercial areas and ensuring a vibrant downtown.

Resources: Significant staff time is required to conduct the research, write reports, and draft zoning language. In some cases, consultants are brought on board to assist staff.

Activities: For each referral, the PC's action requires staff time for substantive reports on each topic within each referral as well as developing draft zoning language changes. Often the draft zoning language goes through multiple revisions across multiple PC meetings.

Outputs: On nearly all referrals, the PC output consists of recommendations to the City Council.

BACKGROUND

City Council has requested that each commission provide a workplan that explains the mission and goals of each appointed body. The mission of the Planning Commission, as outlined in the City Charter, reads:

"The Commission recommends modifications to the City of Berkeley General Plan and related policy documents. All Zoning Ordinance amendments are developed through this Commission and recommended to the City Council. Other purviews include subdivision map consideration and review and comments on substantial projects from surrounding jurisdictions."

Members of the PC have discussed their goals and prioritized three strategic outcomes to guide their 2018-2019 work as described above: 1) Increase affordable housing; 2) Promote healthy, livable communities; and 3) Support community economic development and commercial vitality.

At its meeting of November 7, 2018, the Planning Commission voted to adopt this workplan with Commissioner Vincent's edits and send it to City Council. [Vote: 8-0-0-1; Ayes: Martinot, Kapla, Schildt, Vincent, Fong, Pinto, Beach, Lacey. Noes: None. Abstain: None. Absent: Wrenn. Motion/Second: Kapla/Schildt]

The attached Planning Commission Workplan Table 2018-2019 (see Attachment 1) shows prioritized referrals, referrals awaiting action from other commission(s), referrals ranked by City Council that are slated for PC action to begin after the current work planning period (ending June 2019) based on resources and capacity, and referrals not

ranked by City Council for 2018-2019 work plan but which will be added to PC work schedule in priority order once ranked by Council.

ENVIRONMENTAL SUSTAINABILITY

The PC's workplan aids in advancing the city's goals around sustainability and greenhouse gas reduction.

POSSIBLE FUTURE ACTION

The PC's pace in working through City Council referrals is determinant on staff support. Currently, the Long Range Policy Group has two FTE staff planners (with plans to hire a 3rd and 4th soon) that support the growing workload of the PC. The PC is understaffed relative to its workload, as created by the City Council and relative to other Commissions. The PC's ability to move more quickly through City Council referrals could be greatly improved by increasing staff support to the PC.

The PC also makes additions or changes to the workplan as expedited referrals and other timely requests which arise from the City Council.

Resources Needed: Given the urgency of the housing situation in the City of Berkeley, additional staff support for the PC seems to be a prudent priority for city leaders to address.

FISCAL IMPACTS OF POSSIBLE FUTURE ACTION

Increasing staff support to the PC will likely incur expense to the City of Berkeley Planning Department.

CONTACT PERSON

Alene Pearson, Commission Secretary, Land Use Planning Division, 510-981-7489

Attachments:

1: PC Workplan Table 2018-2019

REFERRALS to Planning Commission by the City Council	RANKING* - RRV & HAP	STRATEGIC OUTCOME AREAS			Waiting on other Commission ?
		1. Increase Affordable Housing	2. Promote Healthy, Livable Communities	3. Support Economic Development and Commercial Vitality	
A. Referrals Prioritized by PC for 2018-2019 Workplan					
Small Business Package	started			x	
Moderate Impact Home Occupations	started			x	
Comprehensive Cannabis Ordinance	3 started referrals		x	x	
Density Bonus Package	56, 16, and 2 started referrals	x			JSISHL
Student Housing Package	16, 56, and two started referrals	x			JSISHL
Adeline Community Benefits/Land Value Capture	10	x	x		
Streamline Permitting for Affordable Housing	started	x			JSISHL
Zoning Ordinance Revision Project Phase 1 & 2	started		x		
Green Affordable Housing	started	x			
Flexible Ground Floor Uses	25 and one started referral	x			
Housing Linkage Fees	started (short-term)	x			

B. Referrals Awaiting Action by Other Commission(s)	RANKING* - RRV & HAP	STRATEGIC OUTCOME AREAS			Waiting on other Commission ?
		1. Increase Affordable Housing	2. Promote Healthy, Livable Communities	3. Support Economic Development and Commercial Vitality	
Reclassify 1050 Paker from MU-LI to C-W	57			x	ZAB approval

REFERRALS to Planning Commission by the City Council	RANKING* - RRV & HAP	STRATEGIC OUTCOME AREAS
Green Stormwater Requirements from CEAC		x CEAC
Air Pollution Performance Standards from CEAC		x CEAC
Denial of Permits to Violators		x HAC

C. Referrals ranked by City Council, work to begin after end of this work planning period (June 2019) TBD, based on resources and capacity		3. Support Economic Development and Commercial Vitality			Waiting on other Commission ?
		1. Increase Affordable Housing	2. Promote Healthy, Livable Communities		
Toxic Remediation Regulations	started		x		
Green Development Standards from CEAC	started (by CEAC)		x		
Lower discretion for internal remodeling	14		x		
Expand boundaries of Downtown Arts District	17			x	
Junior ADUs	20				
San Pablo Ave Specific Area Plan	23		x		
ADUs in very high fire zones	43		x		
Health Equity and Innovation District	49		x		
Research Tiny Homes, YSA Tiny Homes	63	x			
Commercial Square Footage in C-E	59			x	

REFERRALS to Planning Commission by the City Council	RANKING* - RRV & HAP	STRATEGIC OUTCOME AREAS			Waiting on other Commission ?
		1. Increase Affordable Housing	2. Promote Healthy, Livable Communities	3. Support Economic Development and Commercial Vitality	
D. Referrals not ranked by City Council for 2018-2019 work plan; will be added to work schedule once ranked based on ranking.					
Demolition Ordinance		x			
ADUs for Homeless		x			
Fee Waivers for Housing Trust Fund Projects		x			
Auto Uses in C-SA				x	
ADA Improvements in ADUs			x		
Inclusionary Requirement for Live/Work		x			
Mini Dorms (student housing)		x			
ADU Mods			x		

* "started" is a referral on which substantive work began before last Council RRV, thus not subject to re-ranking. If blank, the referral has not yet been ranked by the City Council

NOTE: Many of these referrals touch on all 3 strategic outcome areas.

REFERRALS to Planning Commission by the City Council	RANKING* - RRV & HAP	STRATEGIC OUTCOME AREAS			
		1. Increase Affordable Housing	2. Promote Healthy, Livable Communities	3. Support Economic Development and Commercial Vitality	4. Comply with or Exceed State Law
Referrals Prioritized by PC for 2018-2019 Workplan					Waiting on other Commission ?
Small Business Package	started	x			
Moderate Impact Home Occupations	started		x		
Comprehensive Cannabis Ordinance	3 started referrals		x		x
Density Bonus Package					
Develop Community Benefits with C-T development standards (see Student Housing Package)	started				
Create pilot program for in-lieu fees for City Density Bonus (see Student Housing Package)	56	x			
Revise General Plan & Zoning Ord. to add written standards including density standards for parcels	started				
Amend Zoning Ord. to increase max height by 20' and adjust FAR in area bounded by Bancroft, College, and Fulton (see Student Housing Package)	16				
Student Housing Package	16, 56, and two started referrals	x			
Adeline Community Benefits/Land Value Capture	10	x	x		
Streamline Permitting for Affordable Housing	started	x			JSISHL
Zoning Ordinance Revision Project Phase 1 & 2	started		x		
Green Affordable Housing	started	x			
Flexible Ground Floor Uses	25 and one started referral	x			
Housing Linkage Fees	started (short-term)	x			

RESOURCES	ACTIVITIES	OUTPUTS
LUP & OED staff time to write staff reports and Staff time to write staff reports		
Cannabis Commission Staff time to write Zoning	Commission will review language and provide feedback	Commission makes recommendations to Council
Staff time to write staff reports		
Staff time to write staff reports		
Consultant Staff time		
Staff time to write staff reports		
Staff time to write staff reports		
Adeline consultant Staff time		
JSISHL Subcommittee Staff time to write staff reports	JSISHL will review state housing laws, provide	JSISHL will make recommendations to the Council
Consultant ZOPP Subcommittee		
Staff time to write staff reports and zoning		
Staff time to write staff reports		
Consultant Staff time		

Referrals Awaiting Action by Other Commission(s)	STRATEGIC OUTCOME AREAS			
	1. Increase Affordable Housing	2. Promote Healthy, Livable Communities	3. Support Economic Development and Commercial Vitality	4. Comply with or Exceed State Law
Reclassify 1050 Paker from MU-L1 to C-W				
Green Stormwater Requirements from CEAC		x		
Green Development Standards from CEAC		x		
Air Pollution Performance Standards from CEAC		x		
Denial of Permits to Violators		x		
	57			
				ZAB approval
				CEAC
				CEAC
				CEAC
				HAC

RESOURCES	ACTIVITIES	OUTPUTS
Staff time and ZAB		

REFERRALS to Planning Commission by the City Council	RANKING* - RRV & HAP	STRATEGIC OUTCOME AREAS			
		1. Increase Affordable Housing	2. Promote Healthy, Livable Communities	3. Support Economic Development and Commercial Vitality	4. Comply with or Exceed State Law
Referrals ranked by City Council, work to begin after end of this work planning period (June 2019) TBD, based on resources and capacity					Waiting on other Commission ?

RESOURCES	ACTIVITIES	OUTPUTS

Toxic Remediation Regulations	started				x	
Lower discretion for internal remodeling	14		x			
Expand boundaries of Downtown Arts District	17			x		
Junior ADUs	20		x			
San Pablo Ave Specific Area Plan	23		x			
ADUs in very high fire zones	43		x			
Health Equity and Innovation District	49		x			
Research Tiny Homes, YSA Tiny Homes	63		x			
Commercial Square Footage in C-E	59				x	

Staff time to write staff reports		
Staff time to write staff reports		
Staff time to write staff reports		
Staff time to write staff reports		
Funding Staff time Consultant? Subcommittee?		
Staff time to write staff reports		
Staff time to write staff reports		
Staff time to write staff reports		
Staff time to write staff reports		
Staff time to write staff reports		
Staff time to write staff reports		

Referrals not ranked by City Council for 2018-2019 work plan; will be added to work schedule once ranked based on ranking.	1. Increase Affordable Housing		2. Promote Healthy, Livable Communities		3. Support Economic Development and Commercial Vitality		4. Comply with or Exceed State Law		Waiting on other Commission ?
Demolition Ordinance		x							
ADUs for Homeless		x							
Fee Waivers for Housing Trust Fund projects		x							
Auto Uses in C-SA					x				
ADA Improvements in ADUs			x						
Inclusionary Requirement for Live/Work		x							

Mini Dorms (student housing)							
ADU Mods	x				x		

* "started" is a referral on which substantive work began before last Council RRV, thus not subject to re-ranking. If blank, the referral has not yet been ranked by the City Council

Policy Group Organizational Chart (June 2019)

