



Office of the City Manager

CONSENT CALENDAR
July 29, 2025

To: Honorable Mayor and Members of the City Council
From: Paul Buddenhagen, City Manager
Submitted by: Terrance Davis, Director, Department of Public Works
Subject: Updated Sewer System Management Plan

RECOMMENDATION

Adopt a Resolution approving the update of the Sewer System Management Plan, as mandated by the State Water Resources Control Board.

FISCAL IMPACTS OF RECOMMENDATION

Approval of the updated Sewer System Management Plan (SSMP) has no direct fiscal impact. Staff will submit reports for Council approval when authority is required to implement specific work.

CURRENT SITUATION AND ITS EFFECTS

The State Water Resources Control Board (SWRCB) issued a new General Order WQ 2022-0103-DWQ which defines the statewide wastewater discharge requirements. This Order supersedes the previous Order 2006-0003-DWQ. The new Order requires the City to develop and implement an updated Sewer System Management Plan (SSMP).

Council last approved the SSMP in July 2019. Staff updated the attached SSMP to meet the requirements of General Order WQ 2022-0103-DWQ. The updating process includes staff implementing the new requirements through training, internal meetings, and continued sewer system maintenance. These steps were completed in May 2025. The last action required is council approval of the updated SSMP.

Council approval of the updated SSMP authorizes the Senior Public Works Supervisor to be the City's Legally Responsible Official (LRO) for the purpose of certifying sewer overflow reports to the SWRCB. It also delegates authority to the Public Works Director to make administrative and other minor procedural changes in order to keep the SSMP current.

BACKGROUND

In 2005, the San Francisco Bay Regional Water Quality Control Board (RWQCB) initiated a program that requires electronic reporting of Sanitary Sewer Overflows (SSOs) and development of SSMPs.

After the implementation of the RWQCB program, the SWRCB issued an order in May 2006. This order mandated a statewide program very similar to the RWQCB program, in that it required electronic reporting of all SSOs and the preparation and implementation of an SSMP. The RWQCB was replaced with the SWRCB program in 2006. The previous SWRCB program required collection agencies to present the SSMP to the agency's governing board for approval and re-approval every 5 years. The last approval happened in July 2019.

The SWRCB issued the current order WQ 2022-0103-DWQ which serves as statewide wastewater discharge requirements. This Order supersedes the previous Order 2006-0003-DWQ. Order WQ 2022-0103-DWQ introduced a new three-year internal audit period and requires the City to at a minimum update the SSMP every six years.

ENVIRONMENTAL SUSTAINABILITY AND CLIMATE IMPACTS

Adoption and implementation of the revised SSMP will improve the efficiency of the maintenance programs and will minimize the frequency of sanitary sewer overflows. Ultimately, it will minimize pollution impacts to the San Francisco Bay. The SSMP assists staff in properly managing, operating, and maintaining all portions of the City's wastewater collection system, and protecting the water quality.

RATIONALE FOR RECOMMENDATION

The City, as a sanitary sewer system collection agency is required to maintain and periodically update its SSMP, as well as recertify conditions set forth in the SWRCB Order WQ 2022-0103-DWQ.

ALTERNATIVE ACTIONS CONSIDERED

None. If the SSMP is not updated, the City will be out of compliance with the SWRCB requirements. A contractor was not needed to complete this task, as it is within the expertise of existing City staff.

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Attachments:

- 1: Resolution
- 2: Updated SSMP and Appendices
- 3: Record of Changes to the SSMP

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

UPDATED SANITARY SEWER SYSTEM MANAGEMENT PLAN

WHEREAS, in July 2005, the San Francisco Bay Regional Water Quality Control Board (RWQCB) required municipalities that own and operate sanitary sewer collection systems to prepare a Sewer System Management Plan (SSMP), and issued guidelines for the preparation of the SSMP; and

WHEREAS, in May 2006, the State Water Resources Control Board (SWRCB), issued Order No. 2006-0003 General Waste Discharge Requirements for Sanitary Sewer Systems (GWDR); and

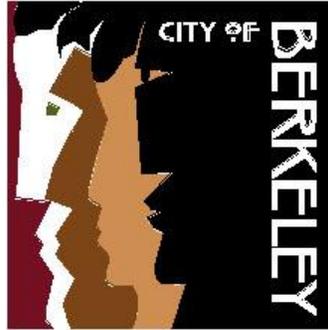
WHEREAS, the City of Berkeley last updated the SSMP in June 2019, and posted the revised document on its website; and

WHEREAS, in December 2022, the State Water Resources Control Board (SWRCB), issued Order WQ 2022-0103-DWQ Statewide Waste Discharge Requirements General Order for Sanitary Sewer Systems (WDR); and

WHEREAS, pursuant to the statewide WDR, public agencies that own and operate sanitary sewer systems greater than one mile in length must develop an SSMP, and in accordance with SWRCB requirements, the agency must update, recertify, and have their governing body approve the SSMP every 6 years; and

WHEREAS, the City of Berkeley, Department of Public Works, updated the SSMP in May 2025, and will post the revised document on its website.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that it hereby approves the 2025 Sewer System Management Plan consisting of a comprehensive update of the existing 2019 SSMP to comply with the adopted statewide General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2022-0103-DWQ.



City of Berkeley

Sewer System Management Plan

May 2025

Document Version Control

This Sewer System Management Plan (SSMP) is a living document that is anticipated change over time. This version control sheet is intended to support the City's efforts to keep the copies of the SSMP that have been assigned to City Staff current. Please contact Tiffany Pham at (510) 981-6427 prior to making copies for use by others, initiating changes, or for information regarding the current version of this document.

SSMP Copy No. _____

This copy assigned to _____ Telephone No. _____

SSMP Section	Original Version Date	Last Updated Version Date	Current Version Date
Title Page	April 16, 2009	May 31, 2019	May 2, 2025
1. Goal and Introduction	April 16, 2009	March 31, 2014	May 2, 2025
2. Organization	April 16, 2009	May 31, 2019	May 2, 2025
3. Legal Authority	April 16, 2009	March 31, 2014	May 2, 2025
4. Operation and Maintenance Activities	April 16, 2009	May 8, 2019	May 2, 2025
5. Design and Performance Provisions	April 16, 2009	May 8, 2019	May 2, 2025
6. Spill Emergency Response Plan	April 16, 2009	May 31, 2019	May 2, 2025
7. Sewer Pipe Blockage Control Program	April 16, 2009	May 31, 2019	May 2, 2025
8. System Evaluation and Capacity Assurance Plan	April 16, 2009	May 31, 2019	May 2, 2025
9. Monitoring, Measurement, and Program Modifications	April 16, 2009	May 8, 2019	May 2, 2025
10. Internal Audit	April 16, 2009	May 31, 2019	May 2, 2025
11. Communication Program	April 16, 2009	May 31, 2019	May 2, 2025

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None

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None

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None

Abbreviations and Definitions

ACDEH	Alameda County Department of Environmental Health
AMIP	Asset Management Implementation Plan
AO	Administrative Order for Compliance
BMC	City of Berkeley Municipal Code
BMP	Best Management Practices. Refers to the procedures employed in commercial kitchens to minimize the quantity of fats, oils, and grease that are discharged to the sanitary sewer system. Examples include scraping food scraps into the garbage can and dry wiping dishes and utensils prior to washing.
CalOES	California Office of Emergency Services
CCTV	Closed-Circuit Television. Refers to the process and equipment that are used to internally inspect the condition of gravity sewers.
CDFW	California Department of Fish and Wildlife
CIP	Capital Improvements Plan
City	City of Berkeley
CIWQS	California Integrated Water Quality System. Refers to the SWRCB online electronic reporting system that is used to report SSOs, certify completion of the SSMP, and provide information on the sanitary sewer system.
CMMS	Computerized Maintenance Management System
Consent Decree	Since September 2014, the seven Satellites and EBMUD entered into a Consent Decree with EPA, the SWRCB, and the RWQCB, which established requirements for achieving the elimination of WWF discharges over the next 20 to 25 years.
CWEA	California Water Environment Association
CY	Calendar Year
Design Storm	A 7-hour rainfall event, as defined for the East Bay I/I Study conducted during the 1980s, which determines the peak flow rate that the City's sewer system must have capacity to convey. The design storm event is assumed to occur under saturated soil conditions and concurrently with the diurnal peak base wastewater flow.
EBMUD	East Bay Municipal Utility District
EPA	U.S. Environmental Protection Agency
First Responder	Refers to the City employee who provides the City's initial response to a sewer system event.

FOG	Fats, Oils and Grease
Force Main	Refers to a pressure sewer used to convey wastewater from a pump station to the point of discharge.
FSE or FHF	Food Service Establishment or Food Handling Facilities. Refers to commercial or industrial facilities where food is handled, prepared, and/or served that discharge to the sanitary sewer system.
FY	Fiscal Year
GIS	Geographic Information System. Refers to the City’s system that is used to store, analyze, and manage geospatial data associated with the City’s sanitary sewer system assets.
GPS	Global Positioning System
GRD	Grease Removal Device. Refers to grease traps or grease interceptors that are installed to remove FOG from the wastewater flow at food service establishments.
I/I	Infiltration and Inflow. Refers to storm water or groundwater that enter the sanitary sewer system through defects in pipes and manholes (infiltration) or direct drainage connections (inflow).
LBNL	Lawrence Berkeley National Laboratory
Lower Lateral	Refers to the portion of the sewer service lateral located in the public right-of-way, extending from the City Cleanout near the property line to the public sewer.
LRO	Legally Responsible Official. Refers to the individual who has the authority to certify reports and other actions that are submitted through CIWQS.
MH	Manhole or Maintenance Hole. Refers to an engineered structure that is intended to provide access to a sanitary sewer for maintenance and inspection.
MWWTP	EBMUD Main Wastewater Treatment Plant
NASSCO	National Association of Sewer Service Companies
OES	California State Office of Emergency Services
O&M	Operations and Maintenance
NPDES	National Pollutant Discharge Elimination System
PACP	Pipeline Assessment Certification Program
PLSD	Private Lateral Sewage Discharge

PSL	Private Sewer Lateral. Refers to the portion of the sewer service lateral that connects a building drain to the City’s Lower Lateral or Yard Sewer Main.
PM	Preventive Maintenance
RWQCB	Regional Water Quality Control Board, San Francisco Bay Region
SECAP	System Evaluation and Capacity Assurance Plan
Sewer Main or Main Sewer	A sanitary sewer line directly controlled by the City of Berkeley and located in the public right-of-way or City easement that collects flow from more than one sewer lateral.
MWWTP	EBMUD Main Wastewater Treatment Plant
Sanitary Sewer System	Any system of pipes, pump stations, sewer lines, or other conveyances, upstream of a wastewater treatment plant headworks used to collect and convey wastewater to the publicly owned treatment facility.
SERP	Spill Emergency Response Plan
SO	Stipulated Order for Preliminary Relief
SSMP	Sewer System Management Plan
SSO	Any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system. Temporary storage and conveyance facilities (such as vaults, temporary piping, construction trenches, wet wells, impoundment, tanks, etc) are considered to be part of the sanitary sewer system, and discharges into these temporary storage facilities are not considered to be SSOs.
SWRCB	State Water Resources Control Board
UCB	University of California, Berkeley Campus
VCP	Vitrified Clay Pipe
WDR	Refers to SWRCB Order No. 2006-0003 Statewide General Waste Discharge Requirements for Sanitary Sewer Systems
Work Order	Refers to a document (paper or electronic) that is used to assign work and to record the results of the work.
WWF	Wet Weather Facility
Yard Sewer Main	A Sewer Main that is subject to the City’s control and maintenance but that is not located in a public right-of-way.

Chapter 1 Goal and Introduction

The goal of the Sewer System Management Plan is to provide a plan and schedule to properly manage, operate, and maintain all parts of the City's sanitary sewer system to prevent SSOs and mitigate any SSOs that do occur.

1.1 Regulatory Context

The WDR includes the following goal for the SSMP:

The goal of the Sewer System Management Plan (Plan) is to provide a plan and schedule to: (1) properly manage, operate, and maintain all parts of the Enrollee's sanitary sewer system(s), (2) reduce and prevent spills, and (3) contain and mitigate spills that do occur.

1.2 Sewer System Management Plan Update Schedule

The City will conduct an internal Sewer System Management Plan Audit at a minimum frequency of once every three years as stated in section 5.4 of the WDR.

Audit No.	Due date
1	May 2025
2	May 2028
3	May 2031

The City will also update its Sewer System Management Plan every six years as stated in section 5.5 of the WDR, with the six-year period commencing on the due date identified in section 3.11 of Attachment E1 of the WDR.

Update No.	Due Date
1	May 2, 2025
2	May 2, 2031
3	May 2, 2037

1.3 Sewer System Asset Overview

The City's collection system located in Berkeley, Ca and part of Alameda County, includes approximately 254 miles of City-owned sanitary sewers, 7,200 manholes and other sewer structures, seven sewage pump stations, and approximately 31,600 service laterals. The City's service connections

are estimated to be 92% residential and the remaining 8% are a mix of commercial and industrial. The activities related to these assets are recorded using NexGen, for work orders, and Accela, for permitting. The City's Collection System serves approximately 125,354 residents. The City is responsible for maintenance and repair of the lower portion of the service laterals (located within the public right-of-way) from the property line cleanout to the connection to the City's sewer main. The collection system serving the University of California at Berkeley (UCB) campus, located within the City, is owned and maintained by the University but discharges to the City's sewer system, as do the sewer systems serving the Lawrence Berkeley National Laboratory (LBNL) and Golden Gate Fields. The City's system also receives wastewater from small adjacent areas of the City of Albany, City of Oakland, and the Stege Sanitary District (Kensington).

Wastewater generated in the City's collection system is conveyed to the East Bay Municipal Utility District (EBMUD) wastewater interceptor system, and is treated at EBMUD's Main Wastewater Treatment Plant (MWWTP) located near the eastern terminus of the San Francisco-Oakland Bay Bridge. EBMUD also receives flows from six other "Satellite" collection system agencies: the cities of Alameda, Albany, Emeryville, Oakland, and Piedmont, and the Stege Sanitary District. The City has unique service boundary conditions where the sewer system lies in areas that are regulated or affected by Caltrans, UC Berkeley, and Bart. The area in which the City is located brings issues such as being located near various earthquake fault lines, sea level rise, and high quantity of sewer mains in private property.

During the 1980s, EBMUD and the seven Satellite agencies conducted studies to address the problem of overflows and bypasses of untreated wastewater that occurred during large wet weather events due to excessive infiltration and inflow (I/I) into the collection systems. These studies resulted in a long-term program of construction of collection system relief sewers and sewer rehabilitation (called the East Bay I/I Correction Program), and construction by EBMUD of improvements at the MWWTP as well as three new remote Wet Weather Facilities (WWFs) designed to store, provide primary-level treatment, and discharge flows that exceeded the capacity of its interceptor system during wet weather.

Through the I/I Correction Program, the City has rehabilitated or replaced over 200 miles of its gravity sewers and associated lower laterals over the past 30 years. Since 2006, the City has also implemented a private sewer lateral (PSL) certification program requiring the inspection and/or repair or replacement of private (upper) sewer laterals at the time of property transfer or major building remodel. To date, approximately 7,000 private laterals have been certified for compliance under the program.

In 2009, the U.S Environmental Protection Agency (EPA), State Water Resources Control Board (SWRCB), and the San Francisco Bay Regional Water Quality Control Board (RWQCB) prohibited future discharges from the WWFs, and entered into a legal settlement with EBMUD to establish programs focused on reducing wet weather flows. Shortly thereafter, the EPA issued Findings of Violation and Orders for Compliance, also called Administrative Orders (AOs), to each of the seven EBMUD Satellite agencies requiring the development of specific plans and programs to reduce SSOs and control wet weather I/I into the collection systems. The AOs were subsequently replaced in 2011 by a Stipulated Order for Preliminary Relief (SO) with the EPA, SWRCB, and RWQCB. As required by the SO, the City has prepared various plans and reports related to the management, operation, and maintenance of its

sewer system, including an Asset Management Implementation Plan (AMIP), Inflow Identification and Elimination Plan, Subbasin Flow Monitoring and I/I Assessment Plan and Report, as well as annual progress reports.

The seven Satellites and EBMUD are currently in joint negotiations with EPA, the SWRCB, and the RWQCB on a Consent Decree, which will establish requirements for achieving the elimination of WWF discharges over the next 20 to 25 years. This SSMP will be updated as needed to incorporate any additional changes to sewer system programs and practices that are required as part of the final Consent Decree.

Chapter 2 Organization

This chapter identifies the City’s authorized representatives and describes the organization of City staff, their chain of communication, and roles in implementation of the SSMP.

The duly authorized representative, also referred to as Legally Responsible Official (LRO), as defined in Section 5.1 of the WDR, is the Senior Public Works Supervisor.

Figure 2-1 is an organization chart summarizing positions and lines of authority for staff responsible for SSMP implementation. **Table 2-1** summarizes the roles and responsibilities relevant to the sanitary sewer system infrastructure of the key positions shown on the organization chart. The positions with overall responsibility for implementing the specific elements and measures of the SSMP are identified in **Table 2-2**. The names, telephone numbers, and emails for management, administrative, and maintenance positions are included in **Appendix 2-A**.

Figure 2-1: SSMP Organization Lines of Authority

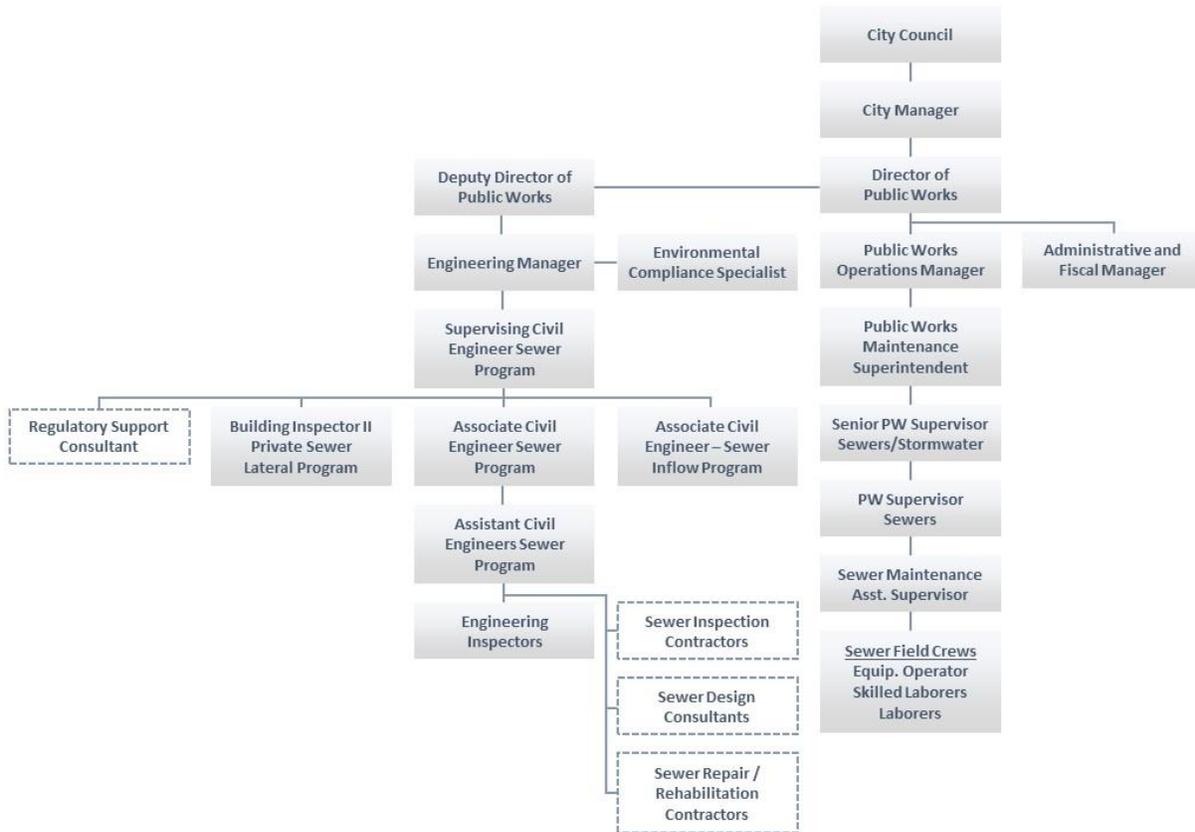


Table 2-1: Narrative Explanation of Responsibilities of SSMP Organization Positions

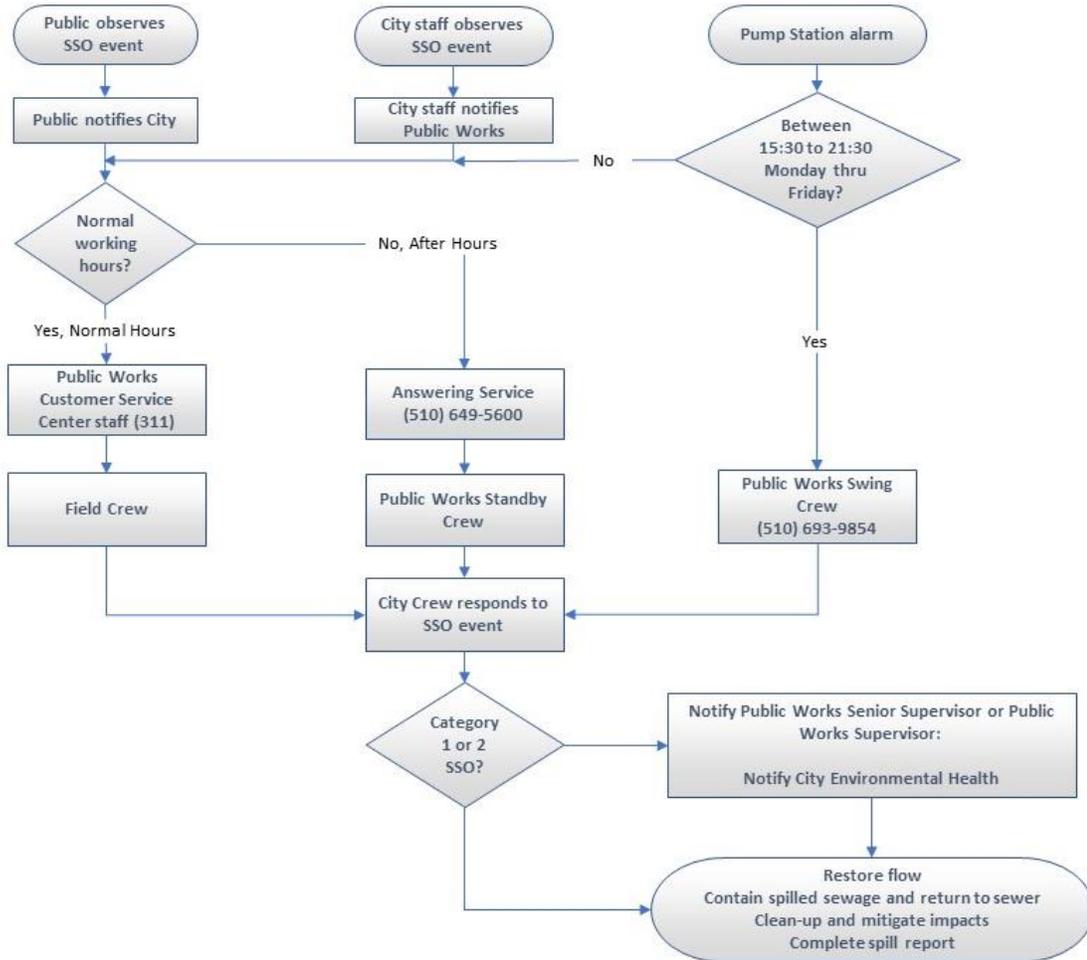
Position	Narrative Explanation
City Council	Provides policy direction, approves SSMP, and appropriates funds to implement SSMP activities
City Manager	Implements City Council policy
Director of Public Works	Supervises Public Works engineering, operations, and administrative staff. Regulatory agency liaison. Overall responsibility for capital and operating budgets.
Deputy Director of Public Works	Supervises Public Works engineering and administrative staff. Regulatory agency liaison.
Public Works Operations Manager	Oversees the O&M aspects of the SSMP. Supervises operations and maintenance staff.
Administrative and Fiscal Manager	Responsible for establishing sewer operating and capital budgets.
Manager of Engineering	Oversees programs related to the sewer rehabilitation and I/I correction programs, including sewer condition assessment, rehabilitation, inflow, and private sewer lateral compliance programs. Supervises engineering staff.
Supervising Civil Engineer	Supervises engineering staff working on the sewer program. Oversees preparation of plans and reports required by regulatory orders; serves as technical advisor to Director of Public Works on regulatory issues.
Associate Civil Engineer – Sewer CIP Program	Oversees sewer rehabilitation design and construction projects and GIS updates; coordinates with O&M staff on referrals for sewer repairs and map updates.
Associate Civil Engineer – Sewer Inflow Program	Manages smoke testing contractor, compiles and tracks smoke testing results and related enforcement activities, sends out notices and citations for violations
Assistant Civil Engineers – Sewer CIP Program	Manage sewer rehabilitation design and construction projects and contractor CCTV and manhole inspection. Perform GIS updates.
Engineering Inspectors	Inspect sewer rehabilitation construction.
Building Inspector II – Private Sewer Lateral Program	Manages the PSL compliance program, including issuing sewer lateral certificates, tracking compliance, and issuing notices and citations for violations.
Public Works Maintenance Superintendent	Oversees sewer system O&M program and supervises sewer system O&M staff. Responsible for City’s reporting to CIWQS.
Senior Public Works Supervisor	LRO. Responsible for training and tracking performance of sewer O&M staff, maintaining and reporting O&M metrics. Authorized representative for reporting to CIWQS.
Public Works Supervisors	Supervise sewer field personnel; assign and track completion of work. Support planning, scheduling, dispatch, and tracking of sewer maintenance activities. Authorized representative for reporting to CIWQS.
Sewer Maintenance Assistant Supervisors	Assist in leading and supervising sewer field personnel.
Sewer Field Personnel	Perform sewer system emergency response, cleaning, inspection, and repair work.
Environmental Compliance Specialist	Provides data management support for tracking and reporting sewer maintenance activities; supports CMMS implementation. Authorized representative for reporting to CIWQS.

Table 2-2: Positions Responsible for SSMP Implementation

SSMP Element	SSMP Element/Measure	Responsible Position
1	Goal and Introduction	Director of Public Works
2	Organization	Director of Public Works
3	Legal Authority	Director of Public Works
4	Operations and Maintenance Program – Mapping	Supervising Civil Engineer - Sewers
4	Operations and Maintenance Program – Preventive and Routine Maintenance; Sewer Inspection	Public Works Maintenance Superintendent
4	Operations and Maintenance Program – Condition Assessment; Rehabilitation and Replacement Program	Supervising Civil Engineer - Sewers
4	Operations and Maintenance Program – CIP Program Funding	Director of Public Works
4	Operations and Maintenance Program – Field Crew Training; O&M Contractor Training	Public Works Maintenance Superintendent
4	Operations and Maintenance Program – Inspection and CIP Contractor Training	Supervising Civil Engineer - Sewers
4	Operations and Maintenance Program – Equipment and Replacement Parts Inventory	Public Works Maintenance Superintendent
5	Design and Performance Provisions	Supervising Civil Engineer - Sewers
6	Spill Emergency Response Plan	Public Works Maintenance Superintendent
7	Sewer Pipe Blockage Control Program	Public Works Maintenance Superintendent
8	System Evaluation, Capacity Assurance and Capital Improvements	Supervising Civil Engineer - Sewers
9	Monitoring, Measurement, and Program Modifications	Operations Manager
10	Internal Audits	Operations Manager and Engineering Manager
11	Communication Program	Deputy Director of Public Works

The City's chain of communications for reporting sewer overflows is shown in **Figure 2-2**. Refer to Chapter 6, Overflow Emergency Response Plan, for additional information on SSO notification and reporting.

Figure 2-2: Chain of Communications for Reporting SSOs



Chapter 3 Legal Authority

This section of the SSMP discusses the City's legal authority to comply with the SSMP requirements, as provided in its Municipal Code and agreements with other agencies.

The Berkeley Municipal Code (BMC) and the California Plumbing Code, which has been adopted by the City, provide the City with the required legal authorities. The City's legal authorities are also provided by EBMUD Ordinances and Regulations. The City's current legal authorities are summarized in **Table 3-1**. Each of the documents providing the City of Berkeley with required legal authorities can be accessed via the internet at the following websites:

- Berkeley Municipal Code: <http://codepublishing.com/ca/berkeley/>
- California Plumbing Code: <https://epubs.iapmo.org/CPC/>
- EBMUD Wastewater Control Ordinance: <https://www.ebmud.com/wastewater/collection-treatment/wastewater-control-ordinance-discharge-limits>

As noted previously, other public agency sewer systems discharging to the City's system include the University of California Berkeley (UCB), Lawrence Berkeley National Laboratory (LBNL), and small portions of the City of Albany, City of Oakland, and Stege Sanitary District. The City communicates with these agencies on a regular basis, as described in Section 11.2. The City plans to develop more formal agreements with these agencies in the future in order to better define their specific responsibilities with respect to sewer discharge into the City of Berkeley sewer system and, in applicable cases, each agency's responsibilities for jointly-used facilities.

Table 3-1: Summary of City of Berkeley's Legal Authorities

Requirement	Legal Authority Reference
ILLICIT DISCHARGES	
Prevent illicit discharges into the wastewater collection system	BMC 17.16.020, EBMUD Wastewater Control Ordinance
Limit the discharge of fats, oils, and grease and other debris that may cause blockages	BMC 17.16.020
Control infiltration and inflow (I/I) from private service laterals	BMC 17.24.050,060,070
PROPER DESIGN AND CONSTRUCTION	
Require that sewers and connection be properly designed and constructed	BMC 17.16.050
Require proper installation, testing, and inspection of new and rehabilitated sewers	BMC 17.16.050, 17.24.120
ACCESS TO LATERALS	
Clearly define City responsibility and policies	BMC 17.24.020
Ensure access for maintenance, inspection, or repairs for portions of the service lateral owned or maintained by the City	BMC 17.24.040
FOG SOURCE CONTROL	
Requirements to install grease removal devices (such as traps or interceptors)	EBMUD Wastewater Control Ordinance
Design standards for the grease removal devices	BMC 19.34.010
Maintenance requirements, BMP requirements, record keeping and reporting requirements for grease removal devices	EBMUD Wastewater Control Ordinance
Authority to inspect grease producing facilities	EBMUD Wastewater Control Ordinance
ENFORCEMENT	
Enforce any violations of its sewer ordinances	BMC 1.20

Chapter 4 Operation and Maintenance Program

This section of the SSMP provides an overview of the City's sewer system operations and maintenance (O&M) program. The elements of the City's sewer system O&M Program include maintenance of gravity sewers, operational inspection and maintenance of pump stations, and sewer and manhole inspection, rehabilitation and replacement. The details of the City's O&M programs are described in this section.

4.1 Updated Map of Sanitary Sewer System

The City has a geographic information system (GIS) that includes the information for its wastewater collection system assets. The GIS information is available to appropriate City staff.

The field crews use GIS sectional maps called sector maps. The sector maps contain individual segments as well as manhole structures and are updated as needed. Corrections that are identified by the field crews are entered on a single map set and referred to sewer engineering for GIS updating.

4.2 Preventive Operation and Maintenance Activities

4.2.1 Overview of Sewer Maintenance Program

The objectives for the City's sewer maintenance program are:

1. Clean each of the gravity sewer line segments on a preventive maintenance frequency that will minimize the occurrence of repeat blockages and/or overflows;
2. If determined necessary, modify preventive maintenance frequency following a blockage/SSO event or after a closed-circuit television (CCTV) inspection identifies a maintenance defect where the loss of flow area, based on pipe diameter, is greater than 20 percent;
3. The initial round of cleaning and inspections of the entire sewer system, which began in 2010, has been completed. The City will now clean or inspect each gravity sewer line segment at a future frequency determined by conditions that were observed and recorded during cleaning and inspection, with at least 60 miles of sewer cleaned or inspected per fiscal year.

Appendix 4-A contains the Sanitary Sewer Maintenance section of the Public Works Streets and Utilities Division Field Manual, which includes procedures for sewer maintenance activities conducted by the Division.

4.2.2 Sewer Preventive Maintenance

The City employs a preventive maintenance approach to maintaining the sewer system designed to minimize the occurrence of repeat blockages and/or SSOs from gravity sewer line segments with a known history of problems. It consists of cleaning problematic gravity sewer line segments on an aggressive preventive maintenance frequency of every 1, 2, 3, 6, 12, 18, 24 or 36 months and all other sewer line segments at a frequency determined by observed conditions. Sewer preventive maintenance activities

will be scheduled and recorded in the City's Nexgen computerized maintenance management system (CMMS). The City's standard operating procedure for sewer cleaning is included in **Appendix 4-A**.

Aggressive ("Hot Spot") Preventive Maintenance

The City's current sewer preventive maintenance program includes aggressive ("hot spot") preventive maintenance for all sewers that have experienced a blockage and/or SSO event since CY 2007, and where the underlying cause of the event has not been corrected through source control, chemical root control, repair, or rehabilitation/replacement. The gravity sewer line segments that are currently maintained on an aggressive preventive maintenance frequency are listed in **Appendix 4-B**.

Guidelines for managing aggressive preventive maintenance are as follows:

- Any gravity sewer line segment that experiences a blockage and/or SSO event will be cleaned during the City's response to the service call, and will be added to the hot spot program at an appropriate frequency (the default frequency will be 6 months, unless otherwise indicated by results of the investigation on the primary cause).
- A line segment may also be added to the hot spot program based on the results of CCTV inspection identifying an area where the loss of flow area, based on pipe diameter constriction, is greater than 20 percent.
- Field crew observations regarding the nature and extent of the materials removed from the gravity sewer line segment will be noted on the work orders associated with subsequent cleaning activities, and that information will be used to establish future cleaning frequencies and methods, following the process outlined in Appendix 4-A.
- The maintenance frequency for gravity sewer line segments may be reduced if the line has been rehabilitated; spot repaired; had a FOG case closure; or had a clear CCTV inspection one year after the last cleaning event. A reduction in maintenance frequency also requires approval of the Senior Public Works Supervisor or the Public Works Superintendent.

System-Wide Routine Maintenance

Sewer pipelines not assigned an aggressive preventive maintenance frequency will be cleaned as part of a system-wide preventive maintenance program. The City's gravity sewer system has been divided into 286 cleaning sectors for planning and scheduling system-wide preventive maintenance. These cleaning sectors were defined by field crews, based on being geographically related gravity sewer line segments with similar risk of blockage or SSOs, and based on their size and material. The sewer cleaning sectors have total lengths ranging from 440 feet to over 15,900 feet (over 3 miles). The cleaning sector for each pipe is identified in GIS. The cleaning sectors and their respective pipe length and scheduled or completed service date are listed in **Appendix 4-C**.

The cleaning sectors were developed using the following priorities:

- Age of pipe,
- Size of pipe, 6 inch diameter having the highest priority with priority decreasing by pipe size,
- Material, vitrified clay pipe (VCP) was the highest priority,
- Areas where FOG was problematic, i.e. in business areas, and
- Areas where roots are problematic.
- Pipe segments with a history of SSOs (hot spots)

The City performed spatial analysis of these factors to determine where high priority concerns overlapped. The City then divided geographically related line segments with similar risks into cleaning sectors that could be accomplished by a crew in a 1 to 4 day period.

System-wide preventive maintenance will be scheduled each month using the CMMS and will follow the completion of aggressive preventive maintenance activities (e.g., in the latter part of each month).

Root Control

The City employs both mechanical and chemical root control methods. Both the system-wide and hot spot cleaning programs address areas with root intrusion, particularly sewers located in easements. Chemical root control is used to maximize the remaining life of the sewers by minimizing damage to the pipe related to continuing root growth and frequent mechanical root cleaning activities

Pump Stations

The City conducts a weekly operational inspection of its pump stations including the wet well cleaning. The mechanical and electrical equipment preventive maintenance is scheduled annually. Lift station maintenance procedures are included in the Sanitary Sewer Maintenance Field Manual in Appendix 4-A. A copy of the City's lift station maintenance work order form is included in **Appendix 4-D**.

4.2.3 Non-Routine Maintenance

Non-routine maintenance activities include investigation and response to any complaints regarding a manhole overflow, missing or shifted manhole covers, manhole covers that are excessively noisy, residential plumbing troubles, pump station malfunction, unexpected sewer odor, etc. Sewer complaints

received by the Public Works Department are entered into the CMMS and investigated, and appropriate actions are taken to resolve the source of the problem.

4.3 Training

City Staff

The City uses a combination of in-house classes; on-the-job training; and conferences, seminars, and other training opportunities to train its wastewater collection system staff.

In most cases, equipment and operations training is initially provided by the vendor or manufacturer of the equipment. Ongoing technical training is provided through on-the-job training and rotation among the different maintenance crews and equipment. The City also relies on regional and statewide training available through seminars and conferences. The City has also provided training classes for California Water Environment Association (CWEA) collection system certification and NASSCO PACP certification. Training resources available through conferences, seminars, and educational institutions are shown in **Table 4-1**.

Staff Contracted for City Projects

The City's contract language requires contractors working in the wastewater collection system to provide training for their employees regarding the potential to cause SSOs and the importance of preventing non-stormwater discharges into the local waterways, as well as develop and submit a Spill Response Plan for review and approval.

The City construction specifications require that all contractors and subcontractors be experienced with sanitary sewer work and that they fully comply with all laws, regulations, and standards governing sewer work, sanitation, and public health.

Table 4-1: Training Resources

Sponsor	Event/Material	Timeframe	Reference
Bay Area Clean Water Agencies	Collection System Committee	Monthly	http://www.bacwa.org
California Water Environment Association	State Conference	April	www.cwea.org
	Northern Regional Training Conference	September	

	San Francisco Bay Section Collection System Committee	Quarterly	
California State University, Sacramento	Videos, manuals, home study courses		www.owp.csus.edu

4.4 Equipment Inventory

Appendix 4-F includes lists of the major equipment that the City uses in the operation and maintenance of its sewer system, and **Appendix4-G** is a list of critical sewer system replacement parts.

Chapter 5 Design and Performance Provisions

This element of the SSMP presents the City’s Design and Construction Standards for sewer systems.

5.1 Updated Design Criteria and Construction Standards and Specifications

The City’s standards pertaining to the design, construction, and inspection of gravity sewer systems, sewer force mains, and other facilities to be operated and maintained by the City consist of the *Standards for Sanitary Sewers* included in **Appendix 5-A**, the *California Plumbing Code*, the *City of Berkeley Specifications for Sanitary Sewer Rehabilitation* and associated Appendices, Details, and Detail Specifications included in **Appendix 5-B**, Regional Standards for Sanitary Sewer Installation, Rehabilitation and Repair, and the Standard Specifications for Public Works Construction by Public Works Standards, Inc., also known as the *Greenbook*.

5.2 Procedures and Standards

The City’s standards pertaining to the inspection and testing of newly constructed, installed, repaired, or rehabilitated system sewers consist of the *California Plumbing Code*, the *City of Berkeley Specifications for Sanitary Sewer Rehabilitation* and associated Appendices, and the Standard Specifications for Public Works Construction by Public Works Standards, Inc., also known as the *Greenbook*.

Chapter 6 Spill Emergency Response Plan

The purpose of the Spill Emergency Response Plan (SERP) is to support an orderly and effective response to sanitary sewer overflows (SSOs). The SERP provides guidelines for City personnel to follow in responding to, cleaning up, and reporting SSOs that may occur within the City's service area.

6.1 Goals for SSO Response

The City's goals with respect to responding to SSOs are:

- Respond quickly to minimize the volume of the SSO;
- Eliminate the cause of the SSO;
- Contain the spilled wastewater to the extent feasible;
- Minimize public contact with the spilled wastewater;
- Mitigate the impact of the SSO; and
- Meet the regulatory reporting requirements.

6.2 Definitions

See **Table 6-1** for the definitions for the different spill categories.

Table 6-1: Spill Category Definitions

CATEGORIES	CATEGORY DEFINITIONS
CATEGORY 1	<p>A spill of any volume of sewage from or caused by a sanitary sewer system regulated under the WDR that results in a discharge to:</p> <ul style="list-style-type: none"> • A surface water, including a surface water body that contains no flow or volume of water; or • A drainage conveyance system that discharges to surface waters when the sewage is not fully captured and returned to the sanitary sewer system or disposed of properly. <p>Any spill volume not recovered from a drainage conveyance system is considered a discharge to surface water, unless the drainage conveyance system discharges to a dedicated stormwater infiltration basin or facility. A spill from an Enrollee-owned and/or operated lateral that discharges to a surface water is a Category 1 spill; the Enrollee shall report all Category 1 spills per section 3.1 of Attachment E1 (Notification, Monitoring, Reporting and Recordkeeping Requirements) of this General Order.</p>
CATEGORY 2	<p>A spill of 1,000 gallons or greater, from or caused by a sanitary sewer system regulated under this General Order that does not discharge to a surface water.</p> <p>A spill of 1,000 gallons or greater that spills out of a lateral and is caused by a failure or blockage in the sanitary sewer system, is a Category 2 spill.</p>
CATEGORY 3	<p>A spill of equal to or greater than 50 gallons and less than 1,000 gallons, from or caused by a sanitary sewer system regulated under this General Order that does not discharge to a surface water.</p> <p>A spill of equal to or greater than 50 gallons and less than 1,000 gallons, that spills out of a lateral and is caused by a failure or blockage in the sanitary sewer system is a Category 3 spill.</p>
CATEGORY 4	<p>A spill of less than 50 gallons, from or caused by a sanitary sewer system regulated under this General Order that does not discharge to a surface water.</p> <p>A spill of less than 50 gallons that spills out of a lateral and is caused by a failure or blockage in the sanitary sewer system is a Category 4 spill.</p>

6.3 Response to Notification of Spill

The processes that are employed to notify the City of the occurrence of an SSO include observation by the public, receipt of an alarm, or observation by City staff during the normal course of their work.

The City of Berkeley has adopted service call/overflow response procedures requiring immediate response to minimize or eliminate an overflow. The City provides all necessary spill response supplies, which are available for use at any time.

When a notification of an SSO is received, it should be clearly communicated who will respond, the estimated time of arrival, and what areas will need to be accessed. The information provided by the caller should be verified before dispatching a field crew. This includes verifying the address and nearest cross street and making sure it is part of the City's collection system. If not, provide the caller with the phone number of the responsible agency and follow up by calling the agency and providing the details of the call. Contact information for neighboring agencies is included in **Appendix 6-A**.

6.3.1 Public Observation

Public observation is the most common way that the City is notified of blockages and spills. Contact information for reporting sewer spills and backups is in the phone book and on the City's website: <https://berkeleyca.gov/>. The City's telephone number for reporting sewer problems is (510) 981-6620 (8 am to 5 pm) or 311 Sewer calls that are received during normal working hours are routed through the City's 311 call center.

Normal Work Hours

The City's regular working hours are Monday through Friday from 7:30 a.m. to 3:30 p.m., except holidays. When a report of a sewer spill or backup is made during normal work hours, the Public Works Customer Service Call Center receives the call, takes the information from the caller, and communicates it to the field crew. The information regarding the service call is electronically documented.

After Hours

Service calls are forwarded to the Answering Service who receives the call, takes the information from the caller, and communicates it to the City's on call staff. The Answering Service confirms receipt of the service call with the pertinent information received from the caller is electronically sent to Public Works Customer Service.

6.3.2 City Staff Observation

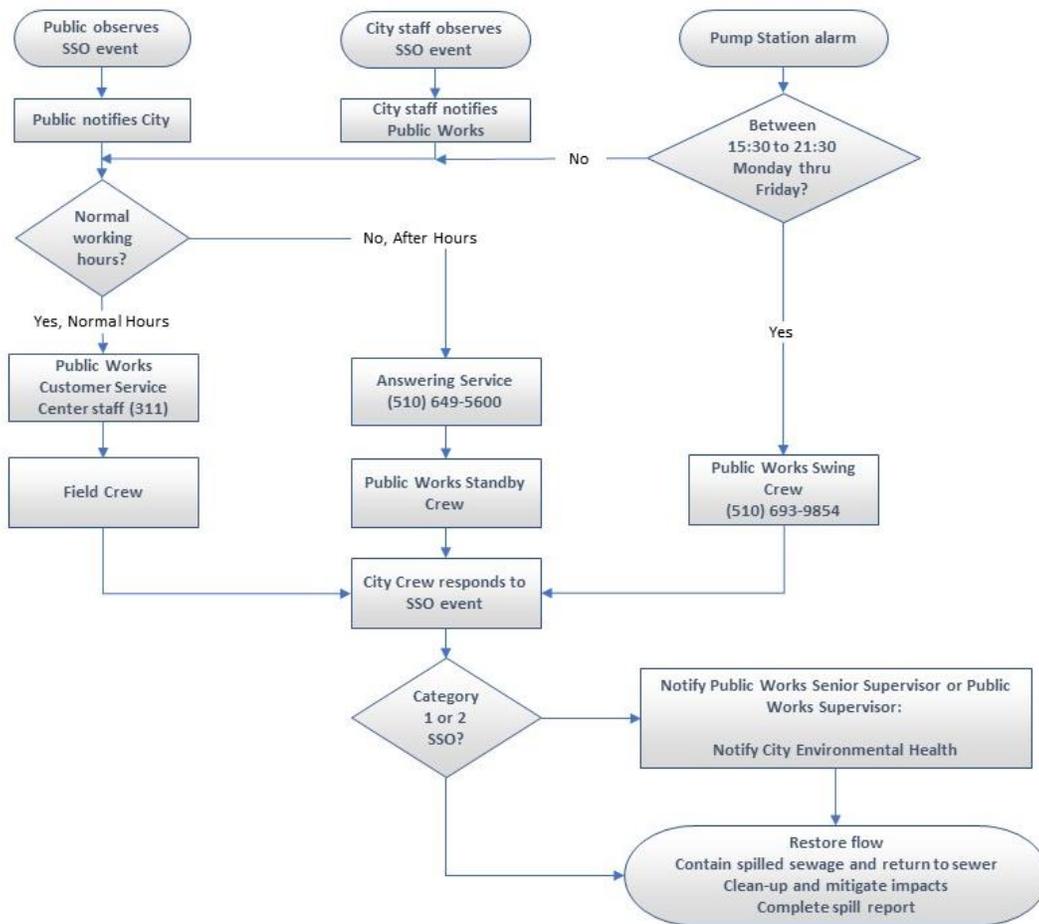
City staff conducts periodic inspections of its sewer system facilities as part of their routine activities. Any problems noted with the sewer system facilities are reported to appropriate City staff who, in turn, respond to emergency situations. Work orders are issued to correct non-emergency conditions.

6.3.3 Alarms

Pump station alarms are transmitted via autodialer to the City’s Emergency Communication Center. The information is communicated to field crews or standby personnel for response as described above.

SSO Response Procedures Sewer service calls are considered high priority events that demand a prompt response. The notification and response procedure flow chart is shown in **Figure 6-1**.

Figure 6-1: Notification and Response Flow Chart



6.3.4 Customer Relations Practices

As representatives of the City, field staff will occasionally have to deal with an irate homeowner. A sewer backup is a stressful event and even a reasonable homeowner can become irate if it is perceived that staff members as being indifferent, uncaring, unresponsive, and/or unprepared.

Although sometimes difficult, effective management of a sewage backup situation is critical. If it is not managed well, the situation can end up in a costly, prolonged process with the homeowner. The homeowner should feel assured that the City is responsive and the homeowner's best interest is a top priority.

It is important for employees to communicate effectively with customers, especially in sewage backup situations. How they communicate – on the phone, in writing, or in person – is how the City is perceived. Good communication with the homeowner results in greater confidence in the City's ability to address the problem satisfactorily, less chance of having the homeowner prolong the claims process, and less chance of the customer exaggerating the damage done on the property. Some communication tips for City staff in dealing with homeowners affected by an SSO are listed below.

- Give the homeowner ample time to explain the situation or to vent. Show interest in what the homeowner has to say, no matter how many times you have heard it before, or how well you understand the problem.
- As soon as possible, let the customer know that you will determine if the source of the sewer backup is in the sewer main and, if it is, will have it corrected as quickly as you can.
- Acknowledge the homeowner's concerns. For example, if the homeowner appears angry or worried about property damage, respond with something like, "I understand that you're concerned about the possible damage to your property, but a professional cleanup crew can restore the area."
- Express understanding and empathy for any inconveniences caused by the incident, but do not admit fault. If it is determined that the City is at fault, the property owner has the right to file a claim for any reasonable repairs or losses resulting from the incident.
- As much as possible, keep the homeowner informed on what is being done and will be done to correct the problem.
- Keep focused on getting the job done in a very professional manner. Don't wander from the problem with too much unnecessary small talk with the homeowner.
- Don't find fault or lay blame on anyone.
- Provide Satisfaction Survey

6.3.5 First Responder Priorities

The first responder's priorities are:

- To follow safe work practices.

- To respond promptly with the appropriate equipment.
- To evaluate the cause of spill and determine responsibility.
- To contain the spill wherever feasible.
- To restore the flow as soon as practicable.
- To minimize public access to and/or contact with the spilled sewage.
- To promptly notify the Public Works Senior Supervisor or Public Works Supervisor and City Environmental Health Division, and City's Clean Storm Water Program in event of major SSO.
- To return the spilled sewage to the sewer system.
- To restore the area to its original condition (or as close as possible).

6.3.6 Safety

The first responder is responsible for following safety procedures at all times. Special safety precautions must be observed when performing sewer work.

There may be times when City personnel responding to a sewer system event are not familiar with potential safety hazards peculiar to sewer work. In such cases it is appropriate to take the time to discuss safety issues, consider the order of work, and check safety equipment before starting the job.

6.3.7 Initial Response

The first responder must respond to the reporting party/problem site and visually check for potential sewer stoppages or overflows.

The first responder should:

- Note arrival time at site using Sewer Field Crew Report form. A sample report is included as **Appendix 6-B**.
- Verify the existence of a sewer system spill or backup.
- Identify and assess the affected area and extent of spill.
- Contact caller if time permits.
- Notify the Public Works Senior Supervisor or Public Works Supervisor (working hours) or the On-Call Supervisor (after hours)
 - If the spill appears to be large, flowing to a storm drain, in a sensitive area, or there is doubt regarding the extent, impact, or how to proceed.
 - If additional help is needed.
- If the spill is large or in a sensitive area, document conditions upon arrival with photographs.

- Decide whether to proceed with clearing the blockage to restore the flow or to initiate containment measures. The guidance for this decision is:
 - Small spills – proceed with clearing the blockage.
 - Moderate or large spill where containment is anticipated to be simple – proceed with the containment measures.
 - Moderate or large spills where containment is anticipated to be difficult – proceed with clearing the blockage; however, call for additional assistance after 15 minutes without clearing the blockage and implement containment measures.

6.3.8 Restore Flow

Using the appropriate cleaning equipment, set up downstream of the blockage and hydro clean upstream from a clear manhole. Attempt to remove the blockage from the system and observe the flows to ensure that the blockage does not recur downstream.

If the blockage cannot be cleared within a reasonable time (15 minutes), or the sewer requires construction repairs to restore flow, then initiate containment and/or bypass pumping. If assistance is required, immediately contact other employees, contractors, and equipment suppliers.

6.3.9 Initiate Spill Containment Measures

The first responder should attempt to contain as much of the spilled sewage as possible using the following steps:

- Determine the immediate destination of the overflowing sewage.
- Plug storm drains using air plugs, sandbags, and/or plastic mats to contain the spill, whenever appropriate. If spilled sewage has made contact with the storm drainage system, attempt to contain the spilled sewage by plugging downstream storm drainage facilities.
- Contain/direct the spilled sewage using dike/dam or sandbags.
- Pump around the blockage/pipe failure/pump station or vacuum flow from upstream of the blockage and dispose of downstream of the blockage to prevent further overflow.
- When an SSO occurs inside of a house or building, the property owner should be instructed to follow these guidelines:
 - Keep all family members and pets away from the affected area.
 - Place towels, rags, blankets, etc between areas that have been affected and areas that have not been affected.
 - Do not remove any contaminated items
 - Turn off the HVAC system
 - Move any uncontaminated property away from the overflow area.

6.3.10 Equipment

The following is a list of specialized equipment that is required to support SSO response.

Camera -- A digital or disposable camera is required to record the conditions upon arrival, during clean up, and upon departure.

Emergency Response Truck -- A utility body pickup truck is required to store and transport the equipment needed to effectively respond to sewer emergencies. The equipment and tools should include containment and clean up materials.

Global Positioning System (GPS) Unit -- A hand held GPS unit is required to determine the coordinates of spills for use in meeting RWQCB SSO reporting requirements.

Portable Generators, Portable Pumps, Piping, and Hoses -- The list of portable equipment that is required to support this plan is included in the Public Works Standby procedures book.

Combination Sewer Cleaning Truck -- A combination high velocity sewer cleaning truck with vacuum tank is required to clear blockages in gravity sewers, vacuum spilled sewage, and wash down the impacted area following the SSO event.

Closed Circuit Television (CCTV) Inspection Unit -- A CCTV Inspection Unit is required to determine the root cause for all SSOs from gravity sewers.

6.4 SSO Volume Estimation

An initial estimation of the volume of spilled sewage and determination of SSO category should be made by the first responder as soon as possible upon arriving at the SSO site. The first responder will use the initial estimation and determination to determine appropriate internal and external notifications. A final estimation should be based on the best available information. Methods that can be used for estimating spill volume are described in **Appendix 6-C**. Wherever possible, document the estimate using photos of the SSO site before and during the recovery operation.

6.5 Water Quality Sampling and Monitoring Program

Water quality sampling and testing are required in order to determine the extent and impact of the SSO whenever 50,000 or more of spilled sewage enters a water body. Sampling will be done in accordance with Attachment E1 of the WDR see **Appendix A**. Water quality sampling may also be performed for smaller spills based on the recommendation of the City Environmental Health Division. Samples should be collected as soon as possible after the discovery of the SSO event. Environmental Health Division staff will be responsible for collection of samples.

6.6 Recovery and Clean-Up

The recovery and clean-up phase begins when the flow has been restored and the spilled sewage has been contained to the extent possible. The SSO recovery and clean-up procedures are:

6.6.1 Recovery of Spilled Sewage

Vacuum up and/or pump the spilled sewage and discharge it back into the sanitary sewer system.

If sewage has reached the storm drain system, the combination sewer cleaning truck should be used to vacuum/pump out the catch basin and any other portion of the storm drain that may contain sewage.

6.6.2 Clean-up and Disinfection

Clean-up and disinfection procedures should be implemented to reduce the potential for human health issues and adverse environmental impacts that are associated with an SSO event. The procedures described are for dry weather conditions and should be modified as required for wet weather conditions. In the event that an overflow occurs at night, the location should be reinspected first thing the following day. The operator should look for any signs of sewage solids and sewage-related material that may warrant additional cleanup activities. Where clean-up is beyond the capabilities of City staff, a clean-up contractor will be used.

Private Property

The City's procedures for responding to SSOs on private property are included in the Sanitary Sewer Maintenance Field Manual in Appendix 4-A.

Hard Surface Areas

- Collect all signs of sewage solids and sewage-related material with the use of rakes, shovels, and brooms.
- Wash down the affected area with clean water until the water runs clear. Take reasonable steps to contain and vacuum up the wastewater.
- Disinfect all areas that were contaminated from the overflow using disinfectant solution. Apply minimal amounts of the disinfectant solution using a hand sprayer. Document the volume and application method of disinfectant that was employed.
- Allow area to dry. Repeat the process if additional cleaning is required.

Landscaped and Unimproved Natural Vegetation

- Collect all signs of sewage solids and sewage-related material with the use of rakes, shovels, and brooms.
- If deemed necessary, wash down the affected area with clean water. Take reasonable steps to contain and vacuum up the wastewater.

Natural Waterways

The California Department of Fish and Wildlife (CDFW) should be notified in the event an SSO impacts any riparian habitat. CDFW will provide the professional guidance needed to effectively clean-up spills that occur in these sensitive environments.

Clean-up should proceed quickly in order to minimize negative impact. Any water that is used in the clean up should be de-chlorinated prior to use.

Storm Drain System

Flush the storm drain system catch basins and pipelines impacted by an SSO. Vacuum excess water utilized for flushing. In cases where the SSO travelled long distances through the storm drain system, dump a large volume of water into the storm drain system and set up a vacuum truck downstream to recover the flush water.

Wet Weather Modifications

Omit flushing and sampling during heavy storm events with heavy runoff where flushing is not required and sampling would not provide meaningful results.

6.7 Public Notification

Post signs and place barricades to keep vehicles and pedestrians away from contact with spilled sewage. Do not remove the signs until directed by the City Environmental Health Division. A sample warning sign is included as **Appendix 6-D**.

Creeks, streams and beaches that have been contaminated as a result of an SSO should be posted at visible access locations until the risk of contamination has subsided to acceptable background levels. The warning signs, once posted, should be checked every day to ensure that they are still in place.

In the event that an overflow occurs at night, the location should be inspected first thing the following day. The field crew should look for any signs of sewage solids and sewage-related material that may warrant additional clean-up activities.

Major spills may warrant broader public notice. The City Manager will authorize contact with local media when significant areas may have been contaminated by sewage.

6.8 Post-Spill Assessment

The objective of the Post-Spill Assessment is to determine the causes of the SSO and to identify corrective action(s) needed that will reduce or prevent a recurrence of that type of SSO.

The investigation should include reviewing all relevant data to determine appropriate corrective action(s) for the line segment. The investigation should include, but not be limited to:

- Reviewing and completing the Sewer Field Crew Report form,

- Reviewing past maintenance records,
- Reviewing available photographs,
- Conducting a CCTV inspection to determine the condition of the line segment immediately following the SSO and reviewing the video and logs, and
- Interviewing staff that responded to the spill.

The results of the investigation will be documented in an internal report and any Operations and Maintenance activities updates in the City's CMMS. If capital improvements are necessary the work will be scheduled in the next capital improvement cycle.

6.9 SSO Documentation and Reporting

All SSOs should be thoroughly investigated and documented for use in managing the sewer system and meeting established notification and reporting requirements. The procedures for documenting and reporting SSOs are described below.

6.9.1 Internal SSO Notification and Reporting Procedures

Category 1 and 2 SSOs

The field crew will immediately notify the Public Works Senior Supervisor or Public Works Supervisor (working hours) or the On Call Supervisor (after hours). The Supervisor will notify the Public Works Maintenance Superintendent or the Deputy Director of Public Works.

The field crew will fill out the Sewer Field Crew Report form and turn it in to the Public Works Senior Supervisor or Public Works Supervisor. The Public Works Senior Supervisor or Public Works Supervisor will forward the report to the Public Works Maintenance Superintendent.

The Public Works Senior Supervisor or Public Works Supervisor (working hours) or the On Call Supervisor (after hours) will meet with field crew(s) at the site of the SSO event to assess the situation and to document the conditions with photos.

In the event of a very large overflow or an overflow in a sensitive area, the Deputy Public Works Director or the Public Works Director will notify the City Manager. The City Manager may notify the City Council.

In the event of a Category 1 SSO, the first responder should notify the City Environmental Health Division to collect water samples for determining water quality impacts of the SSO. Samples should be collected as soon as possible after the discovery of the SSO event.

Category 3 and 4 SSOs

The field crew will fill out the Sewer Field Crew Report form and turn it in to the Public Works Senior Supervisor or the Public Works Supervisor. The Public Works Senior Supervisor or Public Works Supervisor will forward the report to the Public Works Maintenance Superintendent.

6.9.2 External SSO Reporting Procedures

The California Integrated Water Quality System (CIWQS) electronic reporting system is used for reporting SSO information to the SWRCB.

Table 6-2 summarizes notification, reporting, monitoring, and record keeping requirements as specified in **Appendix A**. A flow chart showing the external reporting response requirements based on the type of SSO is included as **Figure 6-2**.

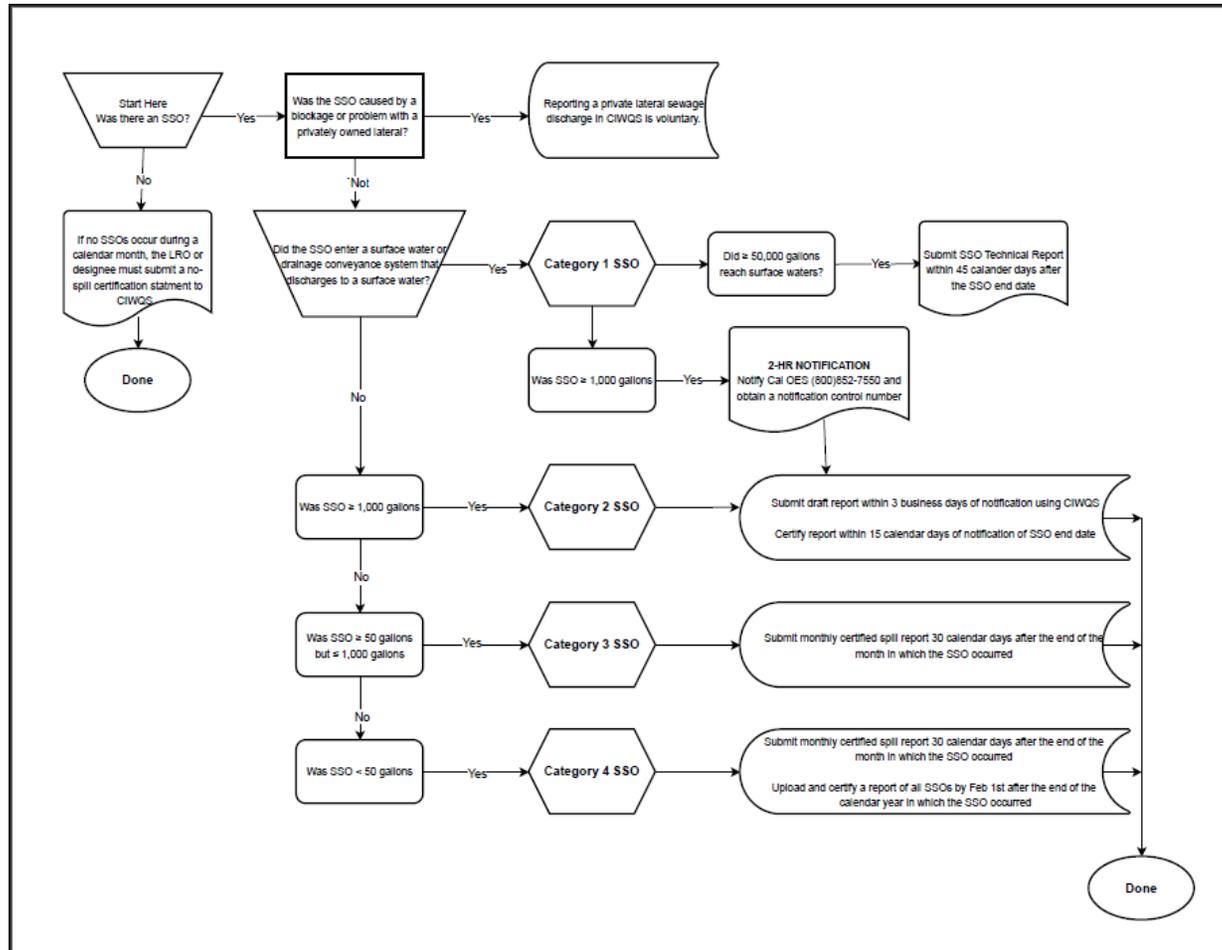
Table 6-2: Notification, Reporting, Monitoring, and Record Keeping Requirements

ELEMENT	REQUIREMENT	METHOD
NOTIFICATION (see Section 1*)	<ul style="list-style-type: none"> • Within 2 hours of the Enrollee’s knowledge of a Category 1 or Category 2 SSO of 1,000 gallons or greater, discharging or threatening to discharge to surface waters, notify the California Office of Emergency Services (Cal OES) and obtain a notification control number. 	Call Cal OES at: (800) 852-7550
REPORTING (see Section 3*)	<ul style="list-style-type: none"> • Category 1 SSO: Submit Draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date. Submit Amended Spill Report within 90 calendar days of SSO end date • Category 2 SSO: Submit Draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date. Submit Amended Spill Report within 90 calendar days of SSO end date • Category 3 SSO: Submit Certified report within 30 calendar days of the end of month in which SSO occurred. Submit Amended Spill Report within 90 calendar days of SSO end date • Category 4 SSO: Certify monthly, the estimated total spill volume exiting the sanitary sewer system, and the total number of all Category 4 spills into the online CIWQS Sanitary Sewer System Database, within 30 days after the end of the calendar month in which the spills occurred. Certify by February 1st after the end of calendar year in which the spills occur. • SSO Technical Report: Certify within 45 calendar days after the end date of any Category 1 SSO in which 50,000 gallons or greater is spilled to surface waters. • “No Spill” Monthly Certification: Certify that no SSOs occurred within 30 calendar days of the end of the month in which no SSOs occurred. • Annual Report: Update and Certify every 12 months. 	Enter data into the California Integrated Water Quality System (CIWQS) Online SSO Database (http://ciwqs.waterboards.ca.gov/), certified by enrollee’s Legally Responsible Official(s).

<p>WATER QUALITY MONITORING (see Section 2*)</p>	<ul style="list-style-type: none"> • Conduct water quality sampling of the receiving water within 18 hours of initial knowledge of Category 1 SSOs of 50,000 gallons or greater to surface waters. 	<p>Water quality results are required to be uploaded into CIWQS for Category 1 SSOs in which 50,000 gallons or greater is spilled to surface waters.</p>
<p>RECORD KEEPING (see Section 4*)</p>	<ul style="list-style-type: none"> • SSO event records. • Sanitary Sewer Management Plan (SSMP) implementation and changes/updates to SSMP. • Records to document Water Quality Monitoring for SSOs of 50,000 gallons or greater spilled to surface waters. • Collection system telemetry records if relied upon to document and/or estimate SSO Volume. 	<p>Self-maintained records shall be available during inspections or upon request.</p>

*Refers to section in Attachment E1, Notification, Monitoring, Reporting and Recordkeeping Requirements, of Order WQ 2022-0103-D

Figure 6-2: External Notification and Reporting Requirement Flow Chart



Category 1 SSOs

The following reporting requirements apply to any Category 1 SSO:

Within two hours of notification of the spill event, the Public Works Senior Supervisor or Public Works Supervisor will:

- Notify OES (and obtain spill number for use in other reports), and
- Notify the City Environmental Health Division

Within 3 business days of the spill event, the Public Works Maintenance Superintendent or his/her designee will submit the initial report using CIWQS.

Within 15 calendar days of the SSO end date, the Public Works Maintenance Superintendent or other authorized representative will submit the Final Certification.

The Public Works Maintenance Superintendent will attach additional information to the certified report, in the form of an attachment, as needed at any time.

Category 2 SSOs

The following reporting requirements apply to any Category 2 SSO:

Within 3 business days of the spill event, the Public Works Maintenance Superintendent or his/her designee will submit the initial report using CIWQS.

Within 15 calendar days of the SSO end date, the Public Works Maintenance Superintendent or other authorized representative will submit the Final Certification.

The Public Works Maintenance Superintendent will attach additional information to the certified report, in the form of an attachment, as needed at any time.

Category 3 SSOs

Within 30 calendar days after the end of the calendar month in which the SSO occurs, the Public Maintenance Superintendent or his/her designee will submit an electronic report using CIWQS. The Public Works Maintenance Superintendent or other authorized representative will certify the report.

Category 4 SSOs

Within 30 calendar days after the end of the calendar month in which the SSO occurred, the Public Maintenance Superintendent or his/her designee will certify the estimated total spill volume and total number of SSOs into CIWQS. The Public Works Maintenance Superintendent or other authorized representative will upload and certify the report for all category 4 SSOs that occurred by February 1st after the end of the calendar year in which the SSOs occurred.

SSO Technical Report

The City will submit an SSO Technical Report in the CIWQS Online SSO Database within 45 calendar days of the SSO end date for any SSO in which 50,000 gallons or greater are spilled to surface waters. This report will include the following:

Causes and Circumstances of the SSO:

- a) Complete and detailed explanation of how and when the SSO was discovered.
- b) Diagram showing the SSO failure point, appearance point(s), and final destination(s).
- c) Detailed description of the methodology employed and available data used to calculate the volume of the SSO and, if applicable, the SSO volume recovered.
- d) Detailed description of the cause(s) of the SSO.
- e) Copies of original field crew records used to document the SSO.
- f) Historical maintenance records for the failure location.

City's Response to SSO:

- a) Chronological narrative description of all actions taken by enrollee to terminate the spill.
- b) Explanation of how the City's SERP was implemented to respond to and mitigate the SSO.
- c) Final corrective action(s) completed and/or planned to be completed, including a schedule for actions not yet completed.

Water Quality Monitoring:

- a) Description of all water quality sampling activities conducted including analytical results and evaluation of the results.
- b) Detailed location map illustrating all water quality sampling points.

Private Lateral Sewage Discharges

The Public Works Maintenance Superintendent or his/her designee may report private lateral SSOs using CIWQS **at the City's discretion**, specifying that the sewage discharge occurred and was caused by a private lateral and identifying the responsible party (other than the City), if known.

No Spill Certification (Monthly)

If there are no SSOs during the calendar month, the Public Works Senior Supervisor or Public Works Supervisor will submit an electronic report that the City did not have any SSOs. The Public Works Maintenance Superintendent or his/her designee will certify the report **within 30 calendar days after the end of each calendar month**.

Amended SSO Report

The City may update or add additional information to a certified SSO report in CIWQS within 90 calendar days after the SSO end date. If update or additional information is needed, the Public Works Maintenance Superintendent will update or attach additional information to the certified report.

CIWQS Not Available

In the event that CIWQS is not available, the Public Works Senior Supervisor or Public Works Supervisor will fax all required information to the RWQCB office in accordance with the time schedules identified above. In such event, the City will submit the appropriate reports using CIWQS as soon as practical. The RWQCB fax number is (510) 622-2460.

6.9.3 Internal Procedures to Ensure Timely and Accurate CIWQS SSO Certification

The following are the internal procedures that ensure a timely and accurate CIWQS SSO certification:

- Responsibility for SSO Certification is assigned to the Senior Supervisor responsible for sewer maintenance; additionally, CIWQS SSO Certification training is provided to other senior staff.
- Status of the reporting and certification of SSOs is covered during regular Operations Sewer Staff meetings held every other week.
- Reporting on the status of SSO Certification is included as an agenda item to the standing monthly Sewer meeting between Operations and Engineering, including review of the CIWQS database to verify that it is up to date.
- A shared Operations/Sewer scheduling calendar is created in Outlook for the purpose of tracking the certification of SSOs in the CIWQS database.
- The City's Computerized Sewer Maintenance Management System, Nexgen, has been modified to include a mandatory SSO field; this field must be populated to close the incident in Nexgen, ensuring capture of SSO data.
- The Senior Sewer Supervisor retrieves regular reports from Nexgen to compare against CIWQS, verifying that all SSO data captured in Nexgen has been reported and certified in the CIWQS database.

6.9.4 Internal SSO Documentation

Category 1, 2, 3 and 4 SSOs

The first responder will complete a work order and the Sewer Field Crew Report form and provide copies to the Public Works Senior Supervisor or Public Works Supervisor.

The Public Works Senior Supervisor or Public Works Supervisor will complete the Private Property Incident Form if an SSO has occurred in a residence or building.

The Public Works Senior Supervisor or Public Works Supervisor will create and maintain a file for each individual SSO. The file should include the following information:

- Initial service call information
- Sewer Field Crew Report form
- Copies of the CIWQS report forms
- Volume estimate
- Post-Spill Assessment results

The following are for Category 1 and 2 SSOs, but optional for Category 3 and 4 SSOs:

- Appropriate maps showing the spill location
- Photographs of spill location
- Water quality sampling and test results, if applicable

Private Lateral SSOs

The first responder will complete the Sewer Field Crew Report form and provide copies to Public Works Senior Supervisor or Public Works Supervisor.

A separate file will be prepared for each individual SSO, at the Public Works Maintenance Superintendent's discretion. The file should include any relevant information from the above list.

6.9.5 External SSO Record Keeping Requirements

Attachment E1 of the WDR requires that individual SSO records be maintained by the City for a minimum of **five years** from the date of the SSO.

All records (electronic or hard copies) shall be made available for review upon SWRCB or RWQCB staff's request during on-site inspection or through an information request. Records shall be retained for all SSOs, including but not limited to the following when applicable:

- Service call and complaint call records received by the City, documenting how the City responded to all notifications of possible or actual SSOs (including complaints that did not result in SSOs), including:
 - Date, time, and method of notification
 - Date and time the complainant or informant first noticed the SSO
 - Narrative description of the complaint, including any information the caller can provide regarding whether or no he/she knows if the SSO has reached surface waters, drainage channels, or storm drains

- Follow-up return contact information for the caller for each service call and complaint call, if not reported anonymously
 - Final resolution
- Electronic monitoring records relied upon for documenting SSO events and/or estimating SSO volume discharged, including:
 - Supervisory Control and Data Acquisition (SCADA) systems
 - Alarm systems
 - Flow monitoring devices or other instruments used to estimate wastewater levels, flow rates, or volumes;
- Records documenting steps and/or remedial actions taken to control and terminate the SSO and recover as much of the discharged volume as possible;
- Records documenting how estimates of volume discharged and volume recovered were calculated.

When water quality sampling is conducted by the City or its agent(s) as a result of any SSO, records of monitoring information shall include:

- The date, location, and time of sampling or measurements;
- The individual(s) who performed the sampling or measurements;
- The date(s) analyses were performed;
- The individual(s) who performed the analyses;
- The analytical technique or method used; and
- The results of such analyses.

6.10 Post SSO Event Debriefing

Every SSO event is an opportunity to evaluate the response and reporting procedures. Each SSO event is unique, with its own elements and challenges including volume, cause, location, terrain, and other parameters.

As soon as possible after major SSO events, all of the participants, from the person who received the call to the last person to leave the site, should meet to review the procedures used and to discuss what worked and where improvements could be made in responding to and mitigating future SSO events. The results of the debriefing should be recorded and tracked to ensure the action items are completed.

6.11 SSO Response Training

This section provides information on the training that is required to support this SERP.

6.11.1 Initial and Annual Refresher Training

All City personnel who may have a role in responding to, reporting, and/or mitigating a sewer system overflow should receive training on the contents of this SERP. All new employees should receive training before they are placed in a position where they may have to respond. Current employees should receive annual refresher training on this plan and the procedures to be followed.

6.11.2 SSO Response Drills

Periodic training drills should be held to ensure that employees are up-to-date on the procedures, the equipment is in working order, and the required materials are readily available. The training drills should cover scenarios typically observed during sewer-related emergencies (e.g. mainline blockage, mainline failure, force main failure, pump station failure, and lateral blockage). The results and the observations during the drills should be recorded and action items should be tracked to ensure completion.

6.11.3 SSO Training Record Keeping

Records should be kept of all training that is provided in support of this plan. The records for all scheduled training courses and for each overflow emergency response training event and should include date, time, place, content, name of trainer(s), and names of attendees.

6.12 Contractors Working on City Sewer Facilities

All contractors working on City sewer facilities will be required to develop a project-specific SERP that is subject to City approval. All contractor personnel will be required to receive training in the contractor's SERP and to follow that SERP in the event that they cause or observe an SSO.

Chapter 7 Sewer Pipe Blockage Control Program

This section presents the City's Fats, Oils, and Grease (FOG) Control Program. This FOG Control Program will be managed, staffed, and administered by the East Bay Municipal Utility District (EBMUD), with the exception of enforcement, which is the City's responsibility. The City Environmental Health Division will assist EBMUD in investigating problem areas.

7.1 Nature and Extent of FOG Problem

Data on SSOs and causes were analyzed to define the nature and extent of the FOG problems in the City's sewer system. The City has reported 143 SSOs during the period 2014 through 2024, 68 of which were associated with sewer mainlines. Twenty-four of the 68 SSOs (16% of the total) were caused by grease. The City is currently experiencing one to two grease-related SSOs per year.

The City's preventive maintenance efforts combined with the EBMUD FOG Source Control Program appear to be effective in minimizing the problems associated with commercial FOG sources.

7.2 FOG Source Control Program

The City will continue to contract with EBMUD for FOG Source Control Program services. EBMUD's services include targeted FOG hot spot investigations (as reported by the City), food service establishment (FSE) and grease interceptor inspections, and public outreach and education. EBMUD also maintains a FOG control database to manage information about FSEs, inspections, FOG hotspots, and enforcement status. A quarterly report is prepared for each agency. The EBMUD Regional FOG Control Program is described in **Appendix 7-A**. An example quarterly report for Berkeley is included in **Appendix 7-B**.

The City Environmental Health Division has a Commercial Food Facility Inspection Program that inspects restaurants and other food service establishments within the City. The inspections for sanitation compliance include checking the food handling facilities practices and storm water inspections, as well as for wastewater discharge in order to control FOG in identified hot spots. The City Environmental Health Division will assist EBMUD in the investigation of problem restaurants and other food service establishments.

7.3 Public Outreach Program

City crews provide information on proper FOG disposal to residents that have experienced a FOG-related blockage or SSO.

EBMUD prepares materials to be used as the basis for a focused public education/outreach program. EBMUD and the City provide public education/outreach materials to commercial and residential sources

that are tributary to sewers that experience FOG-related stoppages and SSOs. The City's FOG brochure is included in **Appendix 7-C**.

7.4 Acceptable FOG Disposal Facilities

A list of grease haulers approved by EBMUD is included as **Appendix 7-D**. There is adequate disposal capacity for FOG from commercial sources within the City's service area.

7.5 FOG Preventive Maintenance

The City's preventive maintenance program is focused on the problematic sewer line segments. The City uses the results from the sewer cleaning operations to revise sewer cleaning frequencies as required to address maintenance issues. City staff provides the EBMUD FOG Source Control Program staff with timely notice when gravity sewers experience FOG-related blockages or SSOs. **Appendix 7-E** contains a copy of the form used to report grease SSOs and blockages to EBMUD for investigation.

7.6 Legal Authorities

The City's legal authorities to control the discharge of FOG to its sanitary sewer system are described in Chapter 3, Legal Authority. The Engineering Division is responsible for enforcement of FOG violations.

Chapter 8 System Evaluation and Capacity Assurance Plan

This section of the SSMP presents the City's approach to ensuring that its sanitary sewer system has adequate hydraulic capacity through a System Evaluation and Capacity Assurance Plan (SECAP) and a Masterplan.

8.1 System Evaluation and Condition Assessment

The City's system evaluation and condition assessment efforts are driven by the Consent Decree. The City inspects pipes no less than once every 20 years. The City has adopted the National Association of Sewer Service Companies (NASSCO) Pipeline Assessment Certification Program (PACP) standards for inspection and condition assessment of sewer pipelines. Pipe line inspection frequency can be modified based on observed pipe conditions, SSO frequency, observations while cleaning pipes, known soil instability, etc. The information gathered during the condition assessment will be used to identify acute defects in need of near-term repair, pipes with maintenance issues requiring attention, and to prioritize gravity sewers for rehabilitation and replacement. CCTV data is stored in the City's POSM CCTV database. Additionally, the City conducts manhole inspections and smoke testing. These results are incorporated into Operation and Maintenance, and repairs as needed.

8.2 Capacity Assessment and Design Criteria

In October 2012, the City completed a *Sewer System Hydraulic Modeling and Capacity Assessment* study that included wet weather flow monitoring in the system, development of a dynamic hydraulic model of the collection system calibrated to the flow monitoring data, and use of the model to identify potential capacity deficiencies in the system. The results of this study are incorporated into this SSMP. The capacity analysis was based on use of winter water use data to estimate dry weather base wastewater flows for existing development and I/I rates determined based on the flow monitoring. The design storm used in the analysis is the 5-year return period event developed as part of the 1980s East Bay I/I Study. **Appendix 8-A** contains excerpts from the report describing the design flow, hydraulic, and capacity analysis criteria used for the analysis.

Capacity deficiencies were identified when the model predicted surcharge to within 5 feet of manhole rims during design storm peak wet weather flow conditions, and needed capacity improvements (either upsizing of existing pipes or flow diversions to route flow away from capacity-deficient pipes) were identified for each deficiency. The estimated amount of I/I reduction that would be required to eliminate the need for capacity improvements was also determined.

The City is currently updating its capacity assessment through an update of an all pipe Sewer System Master Plan. The City will provide the update once the master plan is complete.

Note that overflow events (SSOs) in the City's sewer system have generally been associated with maintenance or construction related issues (e.g., blockages due to roots, debris, or construction material or defects) rather than wet weather. As a result of the 1980s I/I studies conducted by EBMUD and the Satellites, the City constructed a number of relief trunk sewers, completed sewer rehabilitation to reduce I/I the system, and removed any wet weather bypasses that existed at the time. These efforts over the past 25 years have eliminated capacity-related overflows in the system. Some localized capacity restrictions may remain, as indicated by the model results; however, wet weather overflows have not been observed at these locations.

8.3 Prioritization of Corrective Action

The City has an annual sewer rehabilitation and replacement program to rehabilitate or replace the portions of its wastewater collection system where conditions warrant and to comply with the Consent Decree. During the condition assessment the City identifies acute defects that are either immediately repaired or included in the yearly Urgent Sewer Repair projects as required by the Consent Decree. The City's Operation and Maintenance Division has the ability to carry out any urgent repairs that are considered less complex. In the case that the Operation and Maintenance Division is not equipped to handle an urgent repair the City will have a contractor make the repair.

Sewer rehabilitation and replacement work includes sewer mainlines, manholes, and associated lower laterals. Since 1986, the City has rehabilitated over 95 percent of the sewers in its collection system. The City plans to complete rehabilitation of the remaining portions of the system at an average rate of approximately 4.2 miles per year.

8.4 Capital Improvement Plan

In October of 2012 The City evaluated each of the capacity deficient areas identified in the 2012 report and developed an approach for addressing each area. As of 2020 the 14 capacity upsize sewer projects identified in 2012 were either completed or were determined to have sufficient capacity based on the updated all pipe Sewer System Master Plan. The table in **Appendix 8-B** lists current and future capital improvement projects. The projects are fully funded by the City's sewer service fee. Additionally, the City sewer service fee fully funds the Capital Improvement Program and Operations and Maintenance. The sewer fund is an enterprise fund and sewer fees are established to meet projected needs. The City will update the CIP schedule on an on-going basis as planning and design is completed for each project.

Note also that as part of the work being conducted under the City's EPA Stipulated Order, the City is conducting smoke testing in areas with high peak I/I flows to identify potential sources of direct inflow and infiltration into the sewer system from both private property and the public portions of the system. The City is conducting follow-up notification and enforcement for sources of I/I found on private property, and investigating and correcting any such sources in the public system. The City's on-going sewer rehabilitation program and Private Sewer Lateral (PSL) compliance program will also serve to further reduce I/I in the system that may be contributing to capacity issues.

Chapter 9 Monitoring, Measurement, and Program Modifications

This section of the SSMP describes how the City uses adaptive management to assess effectiveness and identify steps necessary to improve the SSMP.

9.1 Maintaining Information to Establish and Prioritize Appropriate Activities

The City utilizes its geographical information system (GIS), computerized maintenance management system (CMMS), the State Water Resources Control Board's California Integrated Water Quality System (CIWQS) database, and the City's SSO records to monitor and measure its performance in implementing the SSMP. This information is used to accomplish the following:

- Establish and prioritize appropriate SSMP activities
- Monitor the implementation and effectiveness of the SSMP
- Assess the success of the preventive maintenance program
- Identify and illustrate SSO trends including frequency, volume, and location

The City monitors SSO performance and other sewer program parameters annually and documents performance in annual reports as required under its Stipulated Order.

9.2 Monitoring and Measuring Effectiveness of Each Plan Element

The City collects the information in **Table 9-1** and uses this information to monitor and measure each plan element on an annual basis. City's Engineering Division and Operations Division meets 6 to 12 times a month to review O&M activities, identify projects, and coordinate activities.

Table 9-1: Performance Metrics for Monitoring and Measurement

	Performance Measure	Source
System Statistics	Total miles of gravity sewer	GIS
	Total miles of pressure sewer	GIS
	Total number of manholes	GIS
	Total number of sewage pumping stations	GIS
Measures Based on SSO Characteristics	Total number and percentage of SSOs by Category	CIWQS
	Number and percentage of dry weather versus wet weather SSOs	CIWQS
	Number of SSOs by cause	CIWQS
	Number of SSOs per 100 miles of sewer per year	CIWQS
	Number of locations with repeat SSOs	CIWQS
	Number of locations where SSOs occurred in pipes previously rehabilitated	CIWQS and GIS
Measures Based on SSO Volume	Volume of SSOs per 100 miles per Year	CIWQS
	Number and percentage of SSOs by Volume	CIWQS
	Total volume of SSOs	CIWQS
	Mean and median SSO volume	CIWQS
	Total SSO volume recovered and percentage of overall total SSO volume	CIWQS
	Net volume of SSOs (total minus recovered) and percentage of overall total SSO volume	CIWQS
	Total volume reaching storm drainage channel and not recovered or reaching surface waters and percentage of overall total SSO volume	CIWQS
SSO Response Time	Average response time during business hours	CIWQS
	Average response time outside of business hours	CIWQS
Maintenance	Number of blockages in the past year by cause	Nexgen CMMS
	Amount of “hot spot” cleaning performed (LF)	Nexgen CMMS
	Amount of routine cleaning performed (LF)	Nexgen CMMS
	Amount of cleaning QA/QC CCTV performed (% of cleaning footage)	POSM
	Amount of root control performed (LF)	Nexgen CMMS
Condition Assessment, Rehabilitation, and I/I Control	Amount of CCTV inspection performed (LF)	POSM
	Number of manholes inspected	POSM
	Amount of mainlines (LF) and number of manholes and lower laterals rehabilitated	GIS, Contract Documents
	Number of inflow sources detected and corrected	Spreadsheet
	Number of PSLs repaired or replaced and certified	HTE

In addition to the parameters listed in the table, performance measures related to the FOG control program (e.g., number of reported FOG hotspots, inspections completed, etc.) are reported by EBMUD in its quarterly summary reports for Berkeley (see Appendix 7-B).

9.3 SSO Trends

The City annually reviews SSO trends to identify changes in SSO frequency, locations and volume. The City identifies SSOs that happen on pipes that have been rehabilitated with in the last 10 years. The City identifies SSOs that have occurred multiple times in the same location. The City correlates SSOs against unusual storm events such as the December 2022 event.

Chapter 10 Internal Audits

This section of the SSMP presents the process the City will follow to audit its SSMP and related programs.

10.1 Plan for SSMP Program Audits

The City will audit its SSMP and SSMP implementation every three years. The audit will evaluate the effectiveness of the SSMP using the criteria identified in Chapter 9 and will review whether the SSMP meets the current requirements of the WDR, whether the SSMP reflects the City's current practices, and whether the City is following the SSMP.

A team of Public Works staff will conduct the audit. The scope of the audit will cover each of the sections of the SSMP. The results of the audit will be included in an SSMP Program Audit Report. The SSMP Program Audit Report will focus on the effectiveness of the SSMP program, compliance with the WDR requirements, and identification of any deficiencies in the SSMP or SSMP implementation. The SSMP Program Audit Report will identify revisions that may be needed for a more effective program. The City will maintain copies of the SSMP Program Audit reports for a period of 5 years.

The City conducted the last audit in March, 2025. A copy of the Audit Report is included as **Appendix 10-A**. Deficiencies and recommendations identified in the Audit Report have been incorporated into this updated SSMP. Subsequent audits will be completed every three years (or at a higher frequency if deemed necessary).

Chapter 11 Communication Program

This section of the SSMP outlines the process involved in communicating with interested members of the public regarding the development, implementation, and performance of this plan. This Communication Program also addresses communication between Berkeley and its satellite sewer systems.

11.1 Communication with Public

The City procedures for communicating with the public regarding spills and discharges is primarily on the spot notification and barricades. These are further described in section 6.7.

The City communicates on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system provides the public the opportunity to provide input to the District's SSMP and SSMP implementation. This communication occurs in the form of public notices at City Hall and on the City's website on the Sanitary Sewer Program webpage. Both postings during the update of the SSMP read as follows:

The City of Berkeley is updating its Sewer System Management Plan (SSMP) to meet the requirements established by the State Water Resources Control Board Order WQ 2022-0103 DWQ, Statewide General Discharge Requirements of Sanitary Sewer Systems. The goal of the SSMP is to minimize the frequency and severity of sanitary sewer overflows. The SSMP will cover the management, planning, design, operation and maintenance of the City's sanitary sewer system. The update began in March 2025 and it is expected to be complete by May 2025. The City's draft updated SSMP is available for review at the Engineering Offices, 1947 Center Street, 4th Floor, during normal business hours. Interested parties can contact Francisco Alonso at (510) 981-6405 or falonso@berkeleyca.gov for additional information.

The information provided to interested parties upon request included: a copy of the current SSMP and contact information and/or opportunities for input into the SSMP update and implementation process.

Table 11-1 lists the various strategies the City employs to communicate with the public on the development, implementation, and performance of the City's SSMP. The City's Sanitary Sewer Program webpage can be seen using the following link <https://berkeleyca.gov/city-services/streets-sidewalks-sewers-and-utilities/sewers>.

Table 11-1: Strategies for Communication with Public on SSMP Development, Implementation and Performance

Subject Matter	Strategy	Description	Frequency
SSMP Development	Public Posting and Website Posting	The City posted a notice on its website and with the official notices on the Bulletin Board at City Hall to inform interested members of the public it was updating the SSMP. The public was given the opportunity to request and review the draft SSMP and to provide the City with input in person, via mail, via e-mail, or via phone. Public comments were accepted via e-mail or via phone. The City evaluated public input when provided and addressed questions and comments as appropriate.	During development of SSMP update
SSMP Implementation	Website	The City has a Sanitary Sewer Program webpage (Sewers City of Berkeley) dedicated to the City's sewer services. The page includes an e-mail address and phone number for whom to call to view or request a copy of the SSMP, as well as to ask questions regarding SSMP content, implementation, and performance.	Always available on City webpage

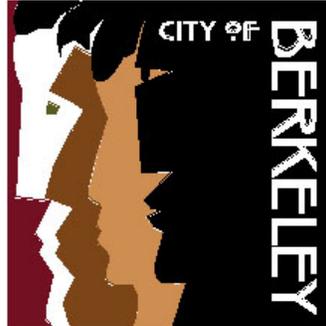
Subject Matter	Strategy	Description	Frequency
Private Sewer Lateral Compliance Policy	Website	The City website has a webpage (https://berkeleyca.gov/city-services/streets-sidewalks-sewers-and-utilities/private-sewer-lateral) providing information regarding recent changes to the City’s private sewer lateral compliance policy. The webpage provides a Compliance Guide, section 17.24 of the Berkeley Municipal Code providing the City with authority to implement this program, and a phone number for the public to contact City staff for further information.	Always available on City webpage
SSMP Performance	CIWQS Website	Sewer overflow performance information is available to the public on the State Water Resources Control Board (SWRCB) California Integrated Water Quality System (CIWQS). Go to https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/PublicReportSSOServlet?reportAction=criteria&reportId=sso_main . Type in “2SSO10096” in the Enter WDID field. Click on “Generate Report” button.	Always available on internet

11.2 Outside Owners/Operators and Satellite Systems

The City of Berkeley has regular communication with systems that are tributary, satellite, and/or neighboring to the City's sanitary sewer system. Through the Consent Decree the City meets monthly with the City of Albany, EBMUD, City of Emeryville, and Stege Sanitary District. The City meets with the City of Oakland on an as needed basis.

Table 11-2: Plan for Communication with Tributary and/or Satellite Agencies

Agency	Relationship	Communication Plan
Cities of Albany and Oakland	Neighboring agencies. Some flow from these systems discharge into Berkeley's collection system and vice versa.	Regular communication at CSTAC meetings. Other meetings as needed.
East Bay Municipal Utility District (EBMUD)	Berkeley is a satellite of EBMUD.	Regular communication at Monthly CSTAC meetings and quarterly coordination meetings.
Alameda, Albany, Emeryville, Oakland, Piedmont, and Stege Sanitary District	Other satellite agencies of EBMUD that discharge to the EBMUD wastewater treatment plant and or EBMUD interceptors.	Regular communication at CSTAC meetings.
University of California, Berkeley (UCB)	UCB discharges into the City of Berkeley's wastewater collection system.	The City has a copy of UCB's SSMP and contact information and communicates when necessary.
Lawrence Berkeley National Laboratory (LBNL)	LBNL wastewater is conveyed through City of Berkeley and UCB wastewater collection systems.	The City has a copy of LBNL's SSMP and contact information and communicates when necessary.



City of Berkeley Sewer System Management Plan Appendices

May 2025

Document Version Control

This Sewer System Management Plan (SSMP) is a living document that is anticipated change over time. This version control sheet is intended to support the City's efforts to keep the copies of the SSMP that have been assigned to City Staff current. Please contact Adadu Yemane at (510) 981-6413 prior to making copies for use by others, initiating changes, or for information regarding the current version of this document.

SSMP Copy No. _____

This copy assigned to _____ Telephone No. _____

SSMP Section	Original Version Date	Last Updated Version Date	Current Version Date
Title Page	April 16, 2009	May 31, 2019	May 2, 2025
1. Goal and Introduction	April 16, 2009	March 31, 2014	May 2, 2025
2. Organization	April 16, 2009	May 31, 2019	May 2, 2025
3. Legal Authority	April 16, 2009	March 31, 2014	May 2, 2025
4. Operation and Maintenance Activities	April 16, 2009	May 8, 2019	May 2, 2025
5. Design and Performance Provisions	April 16, 2009	May 8, 2019	May 2, 2025
6. Spill Emergency Response Plan	April 16, 2009	May 31, 2019	May 2, 2025
7. Sewer Pipe Blockage Control Program	April 16, 2009	May 31, 2019	May 2, 2025
8. System Evaluation and Capacity Assurance Plan	April 16, 2009	May 31, 2019	May 2, 2025
9. Monitoring, Measurement, and Program Modifications	April 16, 2009	May 8, 2019	May 2, 2025
10. Internal Audit	April 16, 2009	May 31, 2019	May 2, 2025
11. Communication Program	April 16, 2009	May 31, 2019	May 2, 2025

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Appendix A

SWRCB Order WQ 2022-0103-DWQ – Statewide Waste Discharge Requirements General Order For Sanitary Sewer Systems

STATE WATER RESOURCES CONTROL BOARD
1001 I Street, Sacramento, California 95814
ORDER WQ 2022-0103-DWQ
STATEWIDE WASTE DISCHARGE REQUIREMENTS
GENERAL ORDER FOR SANITARY SEWER SYSTEMS

This Order was adopted by the State Water Resources Control Board on December 6, 2022.

This Order shall become effective **180 days after the Adoption Date of this General Order**, on June 5, 2023.

The Enrollee shall comply with the requirements of this Order upon the Effective Date of this General Order.

This General Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, protect the Enrollee from liability under federal, state, or local laws, nor create a vested right for the Enrollee to continue the discharge of waste.

CERTIFICATION

I, Jeanine Townsend, Clerk to the Board, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the State Water Board on December 6, 2022.

AYE: Chair E. Joaquin Esquivel
Vice Chair Dorene D'Adamo
Board Member Sean Maguire
Board Member Laurel Firestone
Board Member Nichole Morgan

NAY: None

ABSENT: None

ABSTAIN: None

Courtney Tyler for
Jeanine Townsend
Clerk to the Board

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1. INTRODUCTION

This General Order regulates sanitary sewer systems designed to convey sewage. For the purpose of this Order, a sanitary sewer system includes, but is not limited to, pipes, valves, pump stations, manholes, siphons, wet wells, diversion structures and/or other pertinent infrastructure, upstream of a wastewater treatment plant headworks. A sanitary sewer system includes:

- Laterals owned and/or operated by the Enrollee;
- Satellite sewer systems; and/or
- Temporary conveyance and storage facilities, including but not limited to temporary piping, vaults, construction trenches, wet wells, impoundments, tanks and diversion structures.

Sewage is untreated or partially treated domestic, municipal, commercial and/or industrial waste (including sewage sludge), and any mixture of these wastes with inflow or infiltration of stormwater or groundwater, conveyed in a sanitary sewer system. Sewage contains high levels of suspended solids, non-digested organic waste, pathogenic bacteria, viruses, toxic pollutants, nutrients, oxygen-demanding organic compounds, oils, grease, pharmaceuticals, and other harmful pollutants.

For the purpose of this General Order, a spill is a discharge of sewage from any portion of a sanitary sewer system due to a sanitary sewer system overflow, operational failure, and/or infrastructure failure. Sewage and its associated wastewater spilled from a sanitary sewer system may threaten public health, beneficial uses of waters of the State, and the environment.

This General Order serves as statewide waste discharge requirements and supersedes the previous State Water Resources Control Board (State Water Board) Order 2006-0003-DWQ and amendments thereafter. All sections and attachments of this General Order are enforceable by the State Water Board and Regional Water Quality Control Boards (Regional Water Boards). Through this General Order, the State Water Board requires an Enrollee to:

- Comply with federal and state prohibitions of discharge of sewage to waters of the State, including federal waters of the United States;
- Comply with specifications, and notification, monitoring, reporting and recordkeeping requirements in this General Order that implement the federal Clean Water Act, the California Water Code (Water Code), water quality control plans (including Regional Water Board Basin Plans) and policies;
- Proactively operate and maintain resilient sanitary sewer systems to prevent spills;
- Eliminate discharges of sewage to waters of the State through effective implementation of a Sewer System Management Plan;
- Monitor, track, and analyze spills for ongoing system-specific performance improvements; and
- Report noncompliance with this General Order per reporting requirements.

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An Enrollee is a public, private, or other non-governmental entity that has obtained approval for regulatory coverage under this General Order, including:

- A state agency, municipality, special district, or other public entity that owns and/or operates one or more sanitary sewer systems:
 - greater than one (1) mile in length (each individual sanitary sewer system);
 - one (1) mile or less in length where the State Water Board or a Regional Water Board requires regulatory coverage under this Order; or
- A federal agency, private company, or other non-governmental entity that owns and/or operates a sanitary sewer system of any size where the State Water Board or a Regional Water Board requires regulatory coverage under this Order in response to a history of spills, proximity to surface water, or other factors supporting regulatory coverage.

For the purpose of this Order, a sanitary sewer system includes only systems owned and/or operated by the Enrollee.

2. REGULATORY COVERAGE AND APPLICATION REQUIREMENTS

2.1. Requirements for Continuation of Existing Regulatory Coverage

To continue regulatory coverage from previous Order 2006-0003-DWQ under this General Order, **within the 60-days-prior-to the Effective Date of this General Order**, the Legally Responsible Official of an existing Enrollee shall electronically certify the Continuation of Existing Regulatory Coverage form in the online California Integrated Water Quality System (CIWQS) Sanitary Sewer System Database. The Legally Responsible Official will receive an automated CIWQS-issued Notice of Applicability email, confirming continuation of regulatory coverage under this General Order. All regulatory coverage under previous Order 2006-0003-DWQ will cease on the Effective Date of this Order.

An Enrollee continuing existing regulatory coverage is not required to submit a new application package or pay an application fee for enrollment under this General Order. The annual fee due date for continued regulatory coverage from previous Order 2006-0003-DWQ to this General Order remains unchanged.

A previous Enrollee of Order 2006-0003-DWQ that fails to certify the Continuation of Existing Regulatory Coverage form in the online CIWQS database by the Effective Date of this Order is considered a New Applicant, and will not have regulatory coverage for its sanitary sewer system(s) until:

- A new application package for system(s) enrollment is submitted per section 2.2 (Requirements for New Regulatory Coverage) below; and
- The new application package is approved per section 2.2.2 (Approval of Application Package (For New Applicants Only)).

2.2. Requirements for New Regulatory Coverage

No later than 60 days prior to commencing and/or assuming operation and maintenance responsibilities of a sanitary sewer system, a duly authorized representative that

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maintains legal authority over the public or private sanitary sewer system is required to enroll under this General Order by submitting a complete application package as specified below and as provided in Attachment B (Application for Enrollment Form) of this General Order.

Unless required by a Regional Water Board, a public agency that owns a combined sewer system subject to the Combined Sewer Overflow Control Policy (33 U.S. Code § 1342(q)), is not required to enroll, under this Order, the portions of its sanitary sewer system(s) that collects combined sanitary wastewater and stormwater.

2.2.1. Application Package Requirements

The Application for Enrollment package for new applicants must include the following items:

- **Application for Enrollment Form.** The form in Attachment B of this General Order must be completed, signed, and certified by a Legally Responsible Official, in accordance with section 5.1 (Designation of a Legally Responsible Official) of this General Order. If an electronic Application for Enrollment form is available at the time of application, a new applicant shall submit its application form electronically; and
- **Application Fee.** A fee payable to the “State Water Resources Control Board” in accordance with the Fee Schedule in the California Code of Regulations, Title 23, section 2200, or subsequent fee regulations updates.

The application fee for this General Order is based on the sanitary sewer system’s threat to water quality and complexity designations of category 2C or 3C, which is assigned based on the population served by the system. The current Fee Schedule for sanitary sewer systems is listed under subdivision (a)(2) at the following website: [Fee Schedule](https://www.waterboards.ca.gov/resources/fees/water_quality/) (https://www.waterboards.ca.gov/resources/fees/water_quality/).

2.2.2. Approval of Application Package (For New Applicants Only)

The Deputy Director of the State Water Board, Division of Water Quality (Deputy Director) will consider approval of each complete Application for Enrollment package. The Deputy Director will issue a Notice of Applicability letter which serves as approved regulatory coverage for the new Enrollee.

If the submitted application package is not complete in accordance with section 2.2.1 (Application Package Requirements) of this General Order, the Deputy Director will send a response letter to the applicant outlining the application deficiencies. The applicant will have 60 days from the date of the response letter to correct the application deficiencies and submit the identified items necessary to complete the application package to the State Water Board.

2.2.3. Electronic Reporting Account for New Enrollee

Within 30 days after the date of the Approval of Complete Application Package for System Enrollment, a duly authorized representative for the Enrollee shall obtain a CIWQS Sanitary Sewer System Database user account by clicking the “User Registration” button and following the directions on the [CIWQS Login Page](#)

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(<https://ciwqs.waterboards.ca.gov>). If additional assistance is needed to establish an online CIWQS user account, contact State Water Board staff by email at CIWQS@waterboards.ca.gov. The online user account will provide the Enrollee secure access to the online CIWQS database for electronic reporting.

2.3. Regulatory Coverage Transfer

Regulatory coverage under this General Order is not transferable to any person or party except after an existing Enrollee submits a written request for a regulatory coverage transfer to the Deputy Director, at least 60 days in advance of any proposed system ownership transfer. The written request must include a written agreement between the existing Enrollee and the new Enrollee containing:

- Acknowledgement that the transfer of ownership is solely of an existing system with an existing waste discharge identification (WDID) number;
- The specific ownership transfer date in which the responsibility and regulatory coverage transfer between the existing Enrollee and the new Enrollee becomes effective; and
- Acknowledgement that the existing Enrollee is liable for violations occurring up to the ownership transfer date and that the new Enrollee is liable for violations occurring on and after the ownership transfer date.

The Deputy Director will consider approval of the written request. If approved, the Deputy Director will issue a Notice of Applicability letter which serves as an approved transfer of regulatory coverage to the new Enrollee.

3. FINDINGS

3.1. Legal Authorities

3.1.1. Federal and State Regulatory Authority

The objective of the Clean Water Act is to restore and maintain the chemical, physical, and biological integrity of the waters of the United States (33 U.S.C. 1251). The Water Code authorizes the State Water Board to implement the Clean Water Act in the State and to protect the quality of all waters of the State (Water Code sections 13000 and 13160).

3.1.2. Discharge of Sewage

A discharge of untreated or partially treated sewage is a discharge of waste as defined in Water Code section 13050(d) that could affect the quality of waters of the State and is subject to regulation by waste discharge requirements issued pursuant to Water Code section 13263 and Chapter 9, Division 3, Title 23 of the California Code of Regulations. A discharge of sewage may pollute and alter the quality of the waters of the State to a degree that unreasonably affects the beneficial uses of the receiving water body or facilities that serve those beneficial uses (Water Code section 13050(l)(1)).

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3.1.3 Water Boards Authority to Require Technical Reports, Monitoring, and Reporting

Water Code sections 13267 and 13383 authorize the Regional Water Boards and the State Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. Water Code section 13267(b), authorizes the Regional Water Boards to “require any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region... or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of water within its region shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires...In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports and shall identify the evidence that supports requiring that person to provide the reports.” Water Code section 13267(f) authorizes the State Water Board to require this information if it consults with the Regional Water Boards and determines that it will not duplicate the efforts of the Regional Water Boards. The State Water Board has consulted with the Regional Water Boards and made this determination.

The technical and monitoring reports required by this General Order and Attachment E (Notification, Monitoring, Reporting and Recordkeeping Requirements) are necessary to evaluate and ensure compliance with this General Order. The effort to develop required technical reports will vary depending on the system size and complexity and the needs of the specific technical report. The burden and cost of these reports are reasonable and consistent with the interest of the state in protecting water quality, which is the primary purpose of requiring the reports.

Water Code section 13383(a) authorizes the Water Boards to “establish monitoring, inspection, entry, reporting, and recordkeeping requirements... for any person who discharges, or proposes to discharge, to navigable waters, any person who introduces pollutants into a publicly owned treatment works, any person who owns or operates, or proposes to own or operate, a publicly owned treatment works or other treatment works treating domestic sewage, or any person who uses or disposes, or proposes to use or dispose, of sewage sludge.” Section 13383(b) continues, “the state board or the regional boards may require any person subject to this section to establish and maintain monitoring equipment or methods, including, where appropriate, biological monitoring methods, sample effluent as prescribed, and provide other information as may be reasonably required.”

Reporting of spills from privately owned sewer laterals and systems pursuant to section 5.15 (Voluntary Reporting of Spills from Privately-Owned Sewer Laterals and/or Private Sanitary Sewer Systems) of this General Order is authorized by Water Code section 13225(c) and encouraged by the State Water Board, wherein a local agency may investigate and report on any technical factors involved in water quality control provided the burden including costs of such reports bears a reasonable relationship to the need for the report and the benefits to be obtained therefrom. The burden of reporting private spills under section 5.15 (Voluntary Reporting of Spills from Privately-Owned Sewer Laterals and/or Private Sanitary Sewer Systems) is minimal and is outweighed by the benefit of providing Regional Water Boards an opportunity to respond to these spills

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when an Enrollee, which in many cases has a contractual relationship with the owner of the private system, has knowledge of the spills.

3.1.4. Water Board Authority to Prescribe General Waste Discharge Requirements

Water Code section 13263(i) provides that the State Water Board may prescribe general waste discharge requirements for a category of discharges if the State Water Board finds or determines that:

- The discharges are produced by the same or similar operations;
- The discharges involve the same or similar types of waste;
- The discharges require the same or similar treatment standards; and
- The discharges are more appropriately regulated under general waste discharge requirements than individual waste discharge requirements.

Since 2006, the State Water Board has been regulating over 1,100 publicly owned sanitary sewer systems (See section 3.1.5 (Previous Statewide General Waste Discharge Requirements) of this General Order). California also has a large unknown number of unregulated privately owned sanitary sewer systems. All waste conveyed in publicly owned and privately owned sanitary sewer systems (as defined in this General Order) is comprised of untreated or partially treated domestic waste and/or industrial waste. Generally, sanitary sewer systems are designed and operated to convey waste by gravity or under pressure; system-specific design elements and system-specific operations do not change the common nature of the waste, the common threat to public health, or the common impacts on water quality. Spills of waste from a sanitary sewer system prior to reaching the ultimate downstream treatment facility are unauthorized and enforceable by the State Water Board and/or a Regional Water Board. Therefore, spills from sanitary sewer systems are more appropriately regulated under general waste discharge requirements.

As specified in Water Code sections 13263(a) and 13241, the implementation of requirements set forth in this Order is for the reasonable protection of past, present, and probable future beneficial uses of water and the prevention of nuisance. The requirements implement the water quality control plans (Basin Plans) for each Regional Water Board and take into account the environmental characteristics of sewer service areas and hydrographic units within the state. Additionally, the State Water Board has considered water quality conditions that could reasonably be achieved through the coordinated control of all factors that affect water quality, costs associated with compliance with these requirements, the need for developing housing within California, and the need to protect sources of drinking water and other water supplies.

3.1.5. Previous Statewide General Waste Discharge Requirements

On May 2, 2006, the State Water Board adopted Order 2006-0003-DWQ serving as Waste Discharge Requirements pursuant to Article 4, Chapter 4, Division 7 of the Water Code (commencing with section 13260) for inadvertent discharges to waters of the State. Order 2006-0003-DWQ prohibited discharges of untreated or partially treated sewage. Order 2006-0003-DWQ also required system-specific management, operation, and maintenance of publicly owned sewer systems greater than one mile in length.

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To decrease the impacts on human health and the environment caused by sewage spills, the previous Order required enrollees to develop a rehabilitation and replacement plan that identifies system deficiencies and prioritizes short-term and long-term rehabilitation actions. The previous Order also required enrollees to:

1. Maintain information that can be used to establish and prioritize appropriate Sewer System Management Plan activities; and
2. Implement a proactive approach to reduce spills.

The previous Order required Sewer System Management Plan elements for “the proper and efficient management, operation, and maintenance of sanitary sewer systems, while taking into consideration risk management.”

On July 30, 2013, the State Water Board amended General Order 2006-0003-DWQ with Order WQ 2013-0058-EXEC, Amending Monitoring and Reporting Program for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems.

Many enrollees of Order 2006-0003-DWQ have already implemented proactive measures to reduce sewage spills. Other enrollees, however, still need technical assistance and funding to improve sanitary sewer system operation and maintenance for the reduction of sewage spills.

3.1.6. Existing Memorandum of Agreement with California Water Environment Association

The California Water Environment Association is a nonprofit organization dedicated to providing water industry certifications, training, and networking opportunities. The Association’s Technical Certification Program provides accredited sanitary sewer system operator certification for collection system operators and maintenance workers.

On February 10, 2016, the State Water Board entered into a collaborative agreement with the Association titled *Memorandum of Agreement Between the California State Water Resources Control Board and the California Water Environment Association - Training Regarding Requirements Set Forth in Statewide General Waste Discharge Requirements for Sanitary Sewer Systems*. The Memorandum sets forth collaborative training necessary for regulated sanitary sewer system personnel to operate and maintain a well operating system and ensure full compliance with statewide sewer system regulations.

On March 15, 2018, the State Water Board and the California Water Environment Association amended the existing Memorandum of Agreement to include collaborative outreach and expand training needs associated with further updates to Water Board regulations for sanitary sewer systems. The State Water Board encourages further Agreement updates as necessary to support improved sewer system operations and the professionalism of collection system operators.

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3.2. General**3.2.1. Waters of the State**

Waters of the State include any surface water or groundwater, including saline waters, within the boundaries of the state as defined in Water Code section 13050(e), and are inclusive of waters of the United States.

3.2.2. Sanitary Sewer System Spill Threats to Public Health and Beneficial Uses

Sewage contains high levels of suspended solids, pathogenic organisms, toxic pollutants, nutrients, oxygen-demanding organic compounds, oil and grease and other pollutants. Sewage spills may cause a public nuisance, particularly when sewage is discharged to areas with high public exposure such as streets and surface waters used for drinking, irrigation, fishing, recreation, or other public consumption or contact uses.

More specifically, sanitary sewer spills may:

- Adversely affect aquatic life and/or threaten water quality when reaching receiving waters;
- Inadvertently release trash, including plastics;
- Impair the recreational use and aesthetic enjoyment of surface waters by polluting surface water or groundwater;
- Threaten public health through direct public exposure to bacteria, viruses, intestinal parasites, and other microorganisms that can cause serious illness such as gastroenteritis, hepatitis, cryptosporidiosis, and giardiasis;
- Negatively impact ecological receptors and biota within surface waters; and
- Cause nuisance including odors, closure of beaches and recreational areas, and property damage.

Sanitary sewer system spills may pollute receiving waters and threaten beneficial uses of surface water and groundwater. Potentially threatened beneficial uses include, but are not limited to the following (with associated acronym representations as included in statewide water quality control plans and Regional Water Boards' Basin Plans):

- Municipal and Domestic Supply (MUN)
- Water Contact Recreation (REC-1) and Non-Contact Water Recreation (REC-2)
- Cold Freshwater Habitat (COLD)
- Warm Freshwater Habitat (WARM)
- Native American Culture (CUL)
- Wildlife Habitat (WILD)
- Rare, Threatened, or Endangered Species (RARE)
- Spawning, Reproduction, and/or Early Development (SPWN)
- Wetland Habitat (WET)
- Agricultural Supply (AGR)
- Estuarine Habitat (EST)

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- Commercial and Sport Fishing (COMM)
- Subsistence Fishing (SUB)
- Tribal Tradition and Culture (CUL)
- Tribal Subsistence Fishing (T-SUB)
- Aquaculture (AQUA)
- Marine Habitat (MAR)
- Preservation of Biological Habitats of Special Significance (BIOL)
- Migration of Aquatic Organisms (MIGR)
- Shellfish Harvesting (SHELL)
- Industrial Process Supply (PROC)
- Industrial Service Supply (IND)
- Hydropower Generation (POW)
- Navigation (NAV)
- Flood Peak Attenuation/Flood Water Storage (FLD)
- Water Quality Enhancement (WQE)
- Fresh Water Replenishment (FRSH)
- Groundwater Recharge (GWR)
- Inland Saline Water Habitat (SAL)

3.2.3. Proactive Sanitary Sewer System Management to Eliminate Spill Causes

Finding 3 of the previous Order, 2006-0003-DWQ, states: “Sanitary sewer systems experience periodic failures resulting in discharges that may affect waters of the state. There are many factors (including factors related to geology, design, construction methods and materials, age of the system, population growth, and system operation and maintenance), which affect the likelihood of an SSO [sanitary sewer overflow]. A proactive approach that requires Enrollees to ensure a system-wide operation, maintenance, and management plan is in place will reduce the number and frequency of SSOs within the state. This approach will in turn decrease the risk to human health and the environment caused by SSOs.”

Many spills are preventable through proactive attention on sanitary sewer system management using the best practices and technologies available to address major causes of spills, including but not limited to:

- Blockages from sources including but not limited to:
 - Fats, oils and grease;
 - Tree roots;
 - Rags, wipes and other paper, cloth and plastic products; and
 - Sediment and debris.
- Sewer system damage and exceedance of sewer system hydraulic capacity from identified system-specific environmental, and climate-change impacts, including but not limited to:

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- Sea level rise impacts including flooding, coastal erosion, seawater intrusion, tidal inundation and submerged lands;
- Increased surface water flows due to higher intensity rain events;
- Flooding;
- Wildfires and wildfire induced impacts;
- Earthquake induced damage;
- Landslides; and
- Subsidence.
- Infrastructure deficiencies and failures, including but not limited to:
 - Pump station mechanical failures;
 - System age;
 - Construction material failures;
 - Manhole cover failures;
 - Structural failures; and
 - Lack of proper operation and maintenance.
- Insufficient system capacity (temporary or sustained), due to factors including but not limited to:
 - Excessive and/or increased storm or groundwater inflow/infiltration;
 - Insufficient capacity due to population increase and/or new connections from industrial, commercial and other system users; and
 - Stormwater capture projects utilizing a sanitary sewer system to convey stormwater to treatment facilities for reuse.
- Community impacts, including but not limited to:
 - Power outages;
 - Vandalism; and
 - Contractor-caused or other third party-caused damages.

3.2.4. Underground Sanitary Sewer System Leakage

Portions of some sanitary sewer systems may leak, causing underground exfiltration (exiting) of sewage from the system. Exfiltrated sewage that remains in the underground infrastructure trench and/or the soil matrix, and that does not discharge into waters of the State (surface water or groundwater) may not threaten beneficial uses.

Underground exfiltrated sewage may threaten beneficial uses if discharged to waters of the State. Exfiltrated sewage that discharges to groundwater may impact beneficial uses of groundwater and pollute groundwater supply. Additionally, if in close proximity, exfiltrated sewage may enter into a compromised underground drainage conveyance system that discharges into a water of the United States, or into groundwater that is hydrologically connected to (feeds into) a water of the United States, thus potentially causing: (1) a Clean Water Act violation, (2) threat and impact to beneficial uses, and/or (3) surface water pollution.

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3.2.5. Proactive Sanitary Sewer System Management to Reduce Inflow and Infiltration

Excessive inflow (stormwater entering) and infiltration (groundwater seepage entering) to sanitary sewer systems is preventable through proactive sewer system management using the best practices and technologies available. The efficiency of the downstream wastewater treatment processes is dependent on the performance of the sanitary sewer system. When the structural integrity of a sanitary sewer system deteriorates, high volumes of inflow and infiltration can enter the sewer system. High levels of inflow and infiltration increase the hydraulic load on the downstream treatment plant, which can reduce treatment efficiency, lead to bypassing a portion of the treatment process, cause illegal discharge of partially treated effluent, or in extreme situations make biological treatment facilities inoperable (e.g., wash out the biological organisms that treat the waste).

3.3. Water Quality Control Plans, Policies and Resolutions

The nine Regional Water Boards have adopted region-specific water quality control plans (commonly referred to as Basin Plans) that designate beneficial uses, establish water quality objectives, and contain implementation programs and policies to achieve those objectives. The State Water Board has adopted statewide water quality control plans, policies and resolutions establishing statewide water quality objectives, implementation programs and initiatives.

3.3.1. State Water Board Antidegradation Policy

On October 28, 1968, the State Water Board adopted Resolution 68-16, titled Statement of Policy with Respect to Maintaining High Quality of Waters in California, which incorporates the federal antidegradation policy. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings.

The continued prohibition of sewage discharges from sanitary sewer systems into waters of the State aligns with Resolution 68-16. A sewage discharge from sanitary sewers to waters of the State is prohibited by this Order. Therefore, this Order does not allow degradation of waters of the State. In addition, this Order: (1) further expands the existing prohibition of sewage discharges to include waters of the State, in addition to waters of the United States as provided in previous Order 2006-0003-DWQ, and (2) enhances the ability for Water Board enforcement of violations of the established prohibitions.

3.3.2. State Water Board Sources of Drinking Water Policy

On May 19, 1988, the State Water Board adopted Resolution 88-63 (amended on February 1, 2006), titled Sources of Drinking Water, establishing state policy that all waters of the State, with certain exceptions, are suitable or potentially suitable for municipal or domestic supply.

3.3.3. State Water Board Cost of Compliance Resolution

On September 24, 2013, the State Water Board adopted Resolution 2013-0029, titled Directing Actions in Response to Efforts by Stakeholders on Reducing Costs of

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Compliance While Maintaining Water Quality Protection. Through this resolution, the State Water Board committed to continued stakeholder engagement in identifying and implementing measures to reduce costs of compliance with regulatory orders while maintaining water quality protection and improving regulatory program outcomes.

3.3.4. State Water Board Human Right to Water Resolution

On February 16, 2016, the State Water Board adopted Resolution 2016-0010, titled Adopting the Human Right to Water as a Core Value and Directing its Implementation in Water Board Programs and Activities, addressing the human right to water as a core value and directing Water Board programs to implement requirements to support safe drinking water for all Californians.

On November 16, 2021, the State Water Board adopted Resolution 2021-0050 titled Condemning Racism, Xenophobia, Bigotry, and Racial Injustice, and Strengthening Commitment to Racial Equity, Diversity, Inclusion, Access, and Anti-racism. Among other actions, through Resolution 2021-0050, the State Water Board, in summary as corresponding to this General Order, reaffirms its commitment to its Human Right to Water resolution, upholding that every human being in California deserves safe, clean, affordable, and accessible water for human consumption, cooking, and sanitation purposes. Resolution 2021-0050 provides the State Water Board commitment to:

- Protect public health and beneficial uses of waterbodies in all communities, including communities disproportionately burdened by wastes discharge of waste to land and surface water;
- Restore impaired surface waterbodies and degraded aquifers; and
- Promote multi-benefit water quality projects.

Through Resolution 2021-0050, the State Water Board also commits to expanding implementation of its Climate Change Resolution to address the disproportionate effects of extreme hydrologic conditions and sea-level rise on Black, Indigenous, and people of color communities, prioritizing:

- The right to safe, clean, affordable, and accessible drinking water and sanitation;
- Sustainable management and protection of local groundwater resources;
- Healthy watersheds; and
- Access to surface waterbodies that support subsistence fishing.

On June 7, 2022, the State Water Board adopted a Resolution, titled Authorizing the Executive Director or Designee to Enter into One or More Multi-Year Contracts Up to a Combined Sum of \$4,000,000 for a Statewide Wastewater Needs Assessment, supporting the equitable access to sanitation for all Californians and implementation of Resolutions 2016-0010 and 2021-0050.

This General Order supports the State Water Board priority in collecting a comprehensive set of data for California's wastewater systems, including sanitary sewer systems. Data reported per the requirements of this Order will be used with data from other Water Boards' programs, to further develop criteria and create a statewide risk

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framework to prioritize critical funding and infrastructure investments for California's most vulnerable populations, including disadvantaged or severely disadvantaged communities with inadequate or failing sanitation systems and threatened access to healthy drinking water supplies.

3.3.5. State Water Board Open Data Resolution

On July 10, 2018, the State Water Board adopted Resolution 2018-0032, titled Adopting Principles of Open Data as a Core Value and Directing Programs and Activities to Implement Strategic Actions to Improve Data Accessibility and Associated Innovation, directing regulatory programs to assure all monitoring and reporting requirements support the State Water Boards' Open Data Initiative.

3.3.6. State Water Board Response to Climate Change

On March 7, 2017, the State Water Board adopted Resolution 2017-0012, titled Comprehensive Response to Climate Change, requiring a proactive response to climate change in all California Water Board actions, with the intent to embed climate change consideration into all programs and activities.

3.4. California Environmental Quality Act

The adoption of this Order is an action to reissue general waste discharge requirements that is exempt from the California Environmental Quality Act (Public Resources Code section 21000 et seq.) because it is an action taken by a regulatory agency to assure the protection of the environment and the regulatory process involves procedures for protection of the environment (Cal. Code Regs., Title 14, section 15308). In addition, the action to adopt this Order is exempt from CEQA pursuant to Cal. Code Regs., Title 14, section 15301, to the extent that it applies to existing sanitary sewer collection systems that constitute "existing facilities" as that term is used in sections 15301 and 15302, to the extent that it results in the repair or replacement of existing systems involving negligible or no expansion of capacity.

3.5. State Water Board Funding Assistance for Compliance with Water Board Water Quality Orders

The State Water Board, Division of Financial Assistance administers the implementation of the State Water Board financial assistance programs, per Board-adopted funding policies. Among other funding areas, the Division administers loan and grant funding for the planning and construction of wastewater and water recycling facilities per funding program-specific policies and guidelines. Applicants may apply for Clean Water State Revolving Fund low-interest loan, Small Community Wastewater grant funding assistance, and other funding available at the time of application, for some of the costs associated with complying with this General Order.

Funding applicants may obtain further information regarding current funding opportunities, and Division of Financial Assistance staff contact information at the following website: [Financial Assistance Funding - Grants and Loans | California State Water Resources Control Board](https://www.waterboards.ca.gov/water_issues/programs/grants_loans/).

(https://www.waterboards.ca.gov/water_issues/programs/grants_loans/)

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Section 13477.6 of the Water Code authorizes the Small Community Grant Fund. The Small Community Grant Fund allows the State Water Board to provide grant funding assistance to small, disadvantaged communities and small severely disadvantaged communities that may not otherwise be able to afford a loan or similar financing for projects to comply with requirements of this General Order. The State Water Board also considers loan forgiveness on a disadvantaged community-specific basis.

For disadvantaged communities' wastewater needs, the State Water Board places priority on the funding of projects that address:

- Public health;
- Violations of waste discharge requirements and National Pollutant Discharge Elimination System (NPDES) permits;
- Providing sewer system service to existing septic tank owners; and
- High priority public health and water quality concerns identified by a Regional Water Board.

3.6. Notification to Interested Parties

On January 31, 2022, the State Water Board notified interested parties and persons of its intent to reissue Sanitary Sewer Systems General Order 2006-0003-DWQ by issuing a draft General Order for a 60-day public comment period. State Water Board staff conducted extensive stakeholder outreach and encouraged public participation in the adoption process for this General Order. On March 15, 2022, the State Water Board held a public meeting to hear and consider oral public comments. The State Water Board considered all public comments prior to adopting this General Order.

THEREFORE, IT IS HEREBY ORDERED, that pursuant to Water Code sections 13263, 13267, and 13383 this General Order supersedes Order 2006-0003-DWQ, Order WQ 2013-0058-EXEC, and any amendments made to these Orders thereafter, except for enforcement purposes and to meet the provisions contained in Division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, the Enrollee shall comply with the requirements in this Order.

4. PROHIBITIONS

4.1 Discharge of Sewage from a Sanitary Sewer System

Any discharge from a sanitary sewer system that has the potential to discharge to surface waters of the State is prohibited unless it is promptly cleaned up and reported as required in this General Order.

4.2 Discharge of Sewage to Waters of the State

Any discharge from a sanitary sewer system, discharged directly or indirectly through a drainage conveyance system or other route, to waters of the State is prohibited.

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4.3. Discharge of Sewage Creating a Nuisance

Any discharge from a sanitary sewer system that creates a nuisance or condition of pollution as defined in Water Code section 13050(m) is prohibited.

5. SPECIFICATIONS**5.1. Designation of a Legally Responsible Official**

The Enrollee shall designate a Legally Responsible Official that has authority to ensure the enrolled sanitary sewer system(s) complies with this Order, and is authorized to serve as a duly authorized representative. The Legally Responsible Official must have responsibility over management of the Enrollee's entire sanitary sewer system, and must be authorized to make managerial decisions that govern the operation of the sanitary sewer system, including having the explicit or implicit duty of making major capital improvement recommendations to ensure long-term environmental compliance. The Legally Responsible Official must have or have direct authority over individuals that:

- Possess a recognized degree or certificate related to operations and maintenance of sanitary sewer systems, and/or
- Have professional training and experience related to the management of sanitary sewer systems, demonstrated through extensive knowledge, training and experience.

For example, a sewer system superintendent or manager, an operations manager, a public utilities manager or director, or a district engineer may be designated as a Legally Responsible Official.

The Legally Responsible Official shall complete the electronic [CIWQS "User Registration" form](https://ciwqs.waterboards.ca.gov/ciwqs/newUser.jsp) (<https://ciwqs.waterboards.ca.gov/ciwqs/newUser.jsp>). A Legally Responsible Official that represents multiple enrolled systems shall complete the electronic CIWQS "User Registration" form for each system.

The Enrollee shall submit any change to its Legally Responsible Official, and/or change in contact information, to the State Water Board within 30 calendar days of the change by emailing ciwqs@waterboards.ca.gov and copying the appropriate Regional Water Board as provided in Attachment F (Regional Water Quality Control Board Contact Information) of this General Order.

5.2. Sewer System Management Plan Development and Implementation

To facilitate adequate local funding and management of its sanitary sewer system(s), the Enrollee shall develop and implement an updated Sewer System Management Plan. The scale and complexity of the Sewer System Management Plan, and specific elements of the Plan, must match the size, scale and complexity of the Enrollee's sanitary sewer system(s). The Sewer System Management Plan must address, at minimum, the required Plan elements in Attachment D (Sewer System Management Plan – Required Elements) of this General Order. To be effective, the Sewer System Management Plan must include procedures for the management, operation, and maintenance of the sanitary sewer system(s). The procedures must: (1) incorporate the

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prioritization of system repairs and maintenance to proactively prevent spills, and (2) address the implementation of current standard industry practices through available equipment, technologies, and strategies.

For an existing Enrollee under Order 2006-0003-DWQ that has certified its Continuation of Existing Regulatory Coverage, per section 2.1 (Requirements for Continuation of Existing Regulatory Coverage) of this General Order:

Within six (6) months of the Adoption Date of this General Order:

- The Legally Responsible Official shall upload the Enrollee's existing Sewer System Management Plan to the online CIWQS Sanitary Sewer System Database.

For a new Enrollee:

Within twelve (12) months of the Application for Enrollment approval date:

- The governing entity of the new Enrollee shall approve its Sewer System Management Plan; and
- The Legally Responsible Official shall certify and upload its Sewer System Management Plan to the online CIWQS Sanitary Sewer System Database.

5.3. Certification of Sewer System Management Plan and Plan Updates

The Legally Responsible Official shall certify and upload its Sewer System Management Plan and all subsequent updates to the online CIWQS Sanitary Sewer System Database.

5.4. Sewer System Management Plan Audits

The Enrollee shall conduct an internal audit of its Sewer System Management Plan, and implementation of its Plan, at a minimum frequency of once every three years. The audit must be conducted for the period after the end of the Enrollee's last required audit period. **Within six months after the end of the required 3-year audit period**, the Legally Responsible Official shall submit an audit report into the online CIWQS Sanitary Sewer System Database per the requirements in section 3.10 (Sewer System Management Plan Audit Reporting Requirements) of Attachment E1 of this General Order.

Audit reports submitted to the CIWQS Sanitary Sewer System Database will be viewable only to Water Boards staff.

The internal audit shall be appropriately scaled to the size of the system(s) and the number of spills. The Enrollee's sewer system operators must be involved in completing the audit. At minimum, the audit must:

- Evaluate the implementation and effectiveness of the Enrollee's Sewer System Management Plan in preventing spills;
- Evaluate the Enrollee's compliance with this General Order;
- Identify Sewer System Management Plan deficiencies in addressing ongoing spills and discharges to waters of the State; and

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- Identify necessary modifications to the Sewer System Management Plan to correct deficiencies.

The Enrollee shall submit a complete audit report that includes:

- Audit findings and recommended corrective actions;
- A statement that sewer system operators’ input on the audit findings has been considered; and
- A proposed schedule for the Enrollee to address the identified deficiencies.

A new Enrollee of this General Order (that did not have a sanitary sewer system enrolled in the previous State Water Board Order 2006-0003-DWQ) shall conduct its first internal Sewer System Management Plan audit for the time period between the date of submittal of its certified Sewer System Management Plan and the third subsequent December 31st date. The audit report must be submitted into the online CIWQS Sanitary Sewer System Database **by July 1 of the following calendar year.**

See the following tables for clarification:

Initial Audit Period and Audit Due Date for New Enrollees

	Audit Period	Audit Due Date
New Enrollee	Certified Sewer System Management Plan Submittal Date through the third subsequent December 31 st date	July 1 st date after audit period
<i>Example</i>	<i>Certified Sewer System Management Plan Submittal Date of August 2, 2025 Audit Period of August 2, 2025 through December 31, 2027</i>	<i>July 1, 2028</i>

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Initial Audit Period for Transition from 2-Year Audit Required in Previous Order 2006-0003-DWQ to 3-Year Audit Required in this General Order

	Audit Period	Audit Due Date
An Enrollee previously regulated by Order 2006-003-DWQ	A 3-year period starting from the end of last required 2-year Audit Period	Within six months after end of 3-year Audit Period
<i>Example</i>	<i>Last required Audit Period start date of August 2, 2021; Audit Period of August 2, 2021 through August 1, 2024</i>	<i>February 1, 2025</i>

Three-Year Ongoing Audit Period

	Audit Period	Audit Due Date
Each Enrollee	A 3-year period starting from the end of last required Audit Period	Within six months after end of 3-year Audit Period

5.5. Six-Year Sewer System Management Plan Update

At a minimum, the Enrollee shall update its Sewer System Management Plan every six (6) years after the date of its last Plan Update due date. (For an Enrollee previously regulated by Order 2006-0003-DWQ, the six-year period shall commence on the due date identified in section 3.11 of Attachment E1 (Notification, Monitoring, Reporting and Recordkeeping Requirements) of this Order. The Updated Sewer System Management Plan must include:

- Elements required in Attachment D (Sewer System Management Plan – Required Elements) of this Order;
- Summary of revisions included in the Plan update based on internal audit findings; and
- Other sewer system management-related changes.

The Enrollee’s governing entity shall approve the updated Plan. The Legally Responsible Official shall upload and certify the approved updated Plan in the online CIWQS Sanitary Sewer System Database in accordance with section 3.11 (Sewer System Management Plan Reporting Requirements) of Attachment E1 (Notification, Monitoring, Reporting and Recordkeeping Requirements) of this General Order. During the time period in between Plan updates, the Enrollee shall continuously document changes to its Sewer System Management Plan in a change log attached to the Plan.

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5.6. System Resilience

The Enrollee shall include and implement system-specific procedures in its Sewer System Management Plan to proactively prioritize: (1) operation and maintenance, (2) condition assessments, and (3) repair and rehabilitation, to address ongoing system resilience, as specified in Attachment D (Sewer System Management Plan – Required Elements) of this General Order.

5.7. Allocation of Resources

The Enrollee shall:

- Establish and maintain a means to manage all necessary revenues and expenditures related to the sanitary sewer system; and
- Allocate the necessary resources to its sewer system management program for:
 - Compliance with this General Order,
 - Full implementation of its updated Sewer System Management Plan,
 - System operation, maintenance, and repair, and
 - Spill responses.

5.8. Designation of Data Submitters

The Legally Responsible Official may designate one or more individuals as a Data Submitter for reporting of spill data. The Legally Responsible Official shall authorize the designation of Data Submitter(s) through the online [CIWQS database](https://ciwqs.waterboards.ca.gov) (<https://ciwqs.waterboards.ca.gov>) prior to the individuals establishing a [CIWQS user account](https://ciwqs.waterboards.ca.gov/ciwqs/newUser.jsp) (<https://ciwqs.waterboards.ca.gov/ciwqs/newUser.jsp>) and entering spill data into the online CIWQS Sanitary Sewer System Database.

The Legally Responsible Official shall submit any change to its Data Submitter(s), and/or change in Data Submitter contact information, to the State Water Board within 30 calendar days of the change, by emailing ciwqs@waterboards.ca.gov and copying the appropriate Regional Water Board as provided in Attachment F (Regional Water Quality Control Board Contact Information) of this General Order.

5.9. Reporting Certification

The Legally Responsible Official shall electronically certify, on the Enrollee's behalf, all applications, reports, the Sewer System Management Plan(s) and corresponding updates, and other information submitted electronically into the online CIWQS Sanitary Sewer System Database, as follows:

"I certify under penalty of perjury under the laws of the State of California that the electronically submitted information was prepared under my direction or supervision. Based on my inquiry of the person(s) directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete, and complies with the Statewide Sanitary Sewer Systems General Order. I am aware that there are significant penalties for submitting false information."

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Hardcopy submittals to the State Water Board must be accompanied by the above certification statement.

5.10. System Capacity

The Enrollee shall maintain the system capacity necessary to convey: (1) base flows during dry weather conditions, and (2) wet weather peak flows consistent with designated local historic storms. Design storms must take into account system-specific stormwater contributions via inflow and infiltration, and location-specific depth of groundwater and storm frequencies. The Enrollee shall implement capital improvements to provide adequate hydraulic capacity to:

- Meet or exceed the design criteria as defined in the Enrollee's System Evaluation and Capacity Assurance element of its Sewer System Management Plan; and
- Prevent system capacity-related spills, and adverse impacts to the treatment efficiency of downstream wastewater treatment facilities.

5.11. System Performance Analysis

The Enrollee shall include a running 10-year system performance analysis in its Annual Report. The analysis must include two CIWQS-generated graphs presenting the following information:

Graph 1 – Total Spill Volume per Year:

X axis: A 10-year period which includes the current calendar year and the nine previous calendar years;

Y axis: The total spill volume, per Spill Category, for each calendar year.

Graph 2 – Total Number of Spills per Year:

X axis: A 10-year period which includes the current calendar year and the nine previous calendar years;

Y axis: The total number of spills, per Spill Category, for each calendar year.

The current calendar year is the calendar year covered in the Annual Report.

The Enrollee shall generate the graphs in CIWQS, using the existing data in the online CIWQS Sanitary Sewer System Database at the following graph generation link: (https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/PublicReportSSOServlet?reportAction=criteria&reportId=sso_operation_report).

5.12. Spill Emergency Response Plan and Remedial Actions

For Existing Enrollees (with regulatory coverage under Order 2006-0003-DWQ):

Within six (6) months of the Adoption Date of this General Order, the Enrollee shall update and implement its Spill Emergency Response Plan, per Attachment D, section 6 (Spill Emergency Response Plan) of this General Order.

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For New Enrollees:

Within six (6) months of the Application for Enrollment approval date, the Enrollee shall develop and implement a Spill Emergency Response Plan, per Attachment D, section 6 (Spill Emergency Response Plan) of this General Order.

The Enrollee shall certify, in its Annual Report, that its Spill Emergency Response Plan is up to date.

The Spill Emergency Response Plan shall include measures to protect public health and the environment. The Enrollee shall respond to spills from its system(s) in a timely manner that minimizes water quality impacts and nuisance by:

- Immediately stopping the spill and preventing/minimizing a discharge to waters of the State;
- Intercepting sewage flows to prevent/minimize spill volume discharged into waters of the State;
- Thoroughly recovering, cleaning up and disposing of sewage and wash down water; and
- Cleaning publicly accessible areas while preventing toxic discharges to waters of the State.

5.13. Notification, Monitoring, Reporting and Recordkeeping Requirements

The Enrollee shall comply with notification, monitoring, reporting, and recordkeeping requirements in Attachment E1 of this General Order.

5.13.1. Spill Categories

Individual spill notification, monitoring and reporting must be in accordance with the following spill categories:

- **Category 1 Spill**

A Category 1 spill is a spill of any volume of sewage from or caused by a sanitary sewer system regulated under this General Order that results in a discharge to:

- A surface water, including a surface water body that contains no flow or volume of water; or
- A drainage conveyance system that discharges to surface waters when the sewage is not fully captured and returned to the sanitary sewer system or disposed of properly.

Any spill volume not recovered from a drainage conveyance system is considered a discharge to surface water, unless the drainage conveyance system discharges to a dedicated stormwater infiltration basin or facility.

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A spill from an Enrollee-owned and/or operated lateral that discharges to a surface water is a Category 1 spill; the Enrollee shall report all Category 1 spills per section 3.1 of Attachment E1 (Notification, Monitoring, Reporting and Recordkeeping Requirements) of this General Order.

- **Category 2 Spill**

A Category 2 spill is a spill of 1,000 gallons or greater, from or caused by a sanitary sewer system regulated under this General Order that does not discharge to a surface water.

A spill of 1,000 gallons or greater that spills out of a lateral and is caused by a failure or blockage in the sanitary sewer system, is a Category 2 spill.

- **Category 3 Spill**

A Category 3 spill is a spill of equal to or greater than 50 gallons and less than 1,000 gallons, from or caused by a sanitary sewer system regulated under this General Order that does not discharge to a surface water.

A spill of equal to or greater than 50 gallons and less than 1,000 gallons, that spills out of a lateral and is caused by a failure or blockage in the sanitary sewer system is a Category 3 spill.

- **Category 4 Spill**

A Category 4 spill is a spill of less than 50 gallons, from or caused by a sanitary sewer system regulated under this General Order that does not discharge to a surface water.

A spill of less than 50 gallons that spills out of a lateral and is caused by a failure or blockage in the sanitary sewer system is a Category 4 spill.

5.13.2. Annual Report

The Enrollee shall submit an Annual Report (previously termed as Collection System Questionnaire in Order 2006-0003-DWQ) as specified in section 3.9 (Annual Report) of Attachment E1 (Notification, Monitoring, Reporting and Recordkeeping Requirements) of this General Order.

For new Enrollees: Within 30 days of obtaining a CIWQS account, a new Enrollee shall submit its initial Annual Report, as specified in section 3.9 (Annual Report) of Attachment E1 (Notification, Monitoring, Reporting and Recordkeeping Requirements) of this General Order.

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5.14. Electronic Sanitary Sewer System Service Area Boundary Map

For continuing enrollees, starting on July 1, 2025, and no later than December 31, 2025:

For new enrollees – no earlier than July 1, 2025, or within 12 months of the Application for Enrollment approval date, whichever date is later:

The Legally Responsible Official shall submit, to the State Water Board, geospatial data detailing the locations of the Enrollee's sanitary sewer system service area boundary, per the required content and specifications in section 3.8 (Electronic Sanitary Sewer System Service Area Boundary Map) of Attachment E1 of this General Order, for each system identified by a WDID number.

An Enrollee of a disadvantaged community that may need assistance developing an electronic map to comply with this requirement, may contact State Water Board staff for assistance at SanitarySewer@waterboards.ca.gov.

5.15. Voluntary Reporting of Spills from Privately-Owned Sewer Laterals and/or Private Sanitary Sewer Systems

Within 24 hours of becoming aware of a spill (as described below) from a private sewer lateral or private sanitary sewer system that is not owned/operated by the Enrollee, the Enrollee is encouraged to report the following observations to the online CIWQS Sanitary Sewer System Database at the following link:

<https://ciwqs.waterboards.ca.gov>:

- A spill equal or greater than 1,000 gallons that discharges (or has a potential to discharge) to a water of the State, or a drainage conveyance system that discharges to waters of the State; **or**
- Any volume of sewage that discharges (or has a potential to discharge) to surface waters.

In the CIWQS module, the Enrollee is encouraged to identify:

- Time of observation;
- Description of general spill location (for example, street name and cross street names);
- Estimated volume of spill;
- If known, general description of spill destination (for example, flowing into drainage channel, flowing directly into a creek, etc.); and
- If known, name of private system owner/operator.

The CIWQS database will make the name and contact information of the entity voluntarily reporting a private spill, accessible to State and Regional Water Board staff only. The CIWQS database will only make information regarding the actual spill, accessible to the public.

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5.16. Voluntary Notification of Spills from Privately-Owned Laterals and/or Systems to the California Office of Emergency Services

Upon observing or acquiring knowledge of any of the following from a private sewer lateral or private sanitary sewer system that is not owned/operated by the Enrollee, the Enrollee is encouraged to notify the California Office of Emergency Services (as provided by Health and Safety Code section 5410 et. seq. and Water Code section 13271), or inform the responsible party that State law requires such notification to the Office of Emergency Services by any person that causes or allows a sewage discharge to waters of the State:

- A spill equal to 1,000 gallons or more that discharges (or has a potential to discharge) to waters of the State, or a drainage conveyance system that discharges to waters of the State; or
- A spill of any volume to surface waters.

5.17. Unintended Failure to Report

If an Enrollee becomes aware that they unintentionally failed to submit relevant facts in any report required in this General Order, the Enrollee shall promptly notify Regional Water Board and State Water Board staff. Regional Water Board contact information is included in Attachment F of this Order. State Water Board staff shall be contacted by email at SanitarySewer@waterboards.ca.gov for assistance in formally amending the corresponding report(s) in the online CIWQS Sanitary Sewer System Database.

5.18. Duty to Report to Water Boards

In accordance with Water Code section 13267 and/or section 13383, upon request by the State Water Board Executive Director (or designee) or a Regional Water Board Executive Officer (or designee), the Enrollee shall provide the requested information which the State or Regional Water Board deems necessary to determine compliance with this General Order.

5.19. Operation and Maintenance

To prevent discharges to the environment, the Enrollee shall maintain in good working order, and operate as designed, any facility or treatment and control system designed to contain sewage and convey it to a treatment plant.

6. PROVISIONS**6.1. Enforcement Provisions**

The following enforcement provisions are based on existing federal and state regulations, laws and policies, including the federal Clean Water Act, the state Water Code and the State Water Board Enforcement Policy.

6.1.1. Enforceability of Clean Water Act and Water Code Violations

Noncompliance with requirements of this General Order or discharging sewage without enrolling in this General Order constitutes a violation of the Water Code and a potential

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violation of the Clean Water Act and is grounds for an enforcement action by the State Water Board or the applicable Regional Water Board. Failure to comply with the notification, monitoring, inspection, entry, reporting, and recordkeeping requirements may subject the Enrollee to administrative civil liabilities of up to \$10,000 a day per violation pursuant to Water Code section 13385; up to \$1,000 a day per violation pursuant to Water Code section 13268; or referral to the Attorney General for judicial civil enforcement. Discharging waste not in compliance with the requirements of this General Order or the Clean Water Act may subject the Enrollee to administrative civil liabilities up to \$10,000 a day per violation and additional liability up to \$10 per gallon of discharge not cleaned up after the first 1,000 gallons of discharge; up to \$5,000 a day per violation pursuant to Water Code section 13350 or up to \$20 per gallon of waste discharged; or referral to the Attorney General for judicial civil enforcement.

6.1.2. Monetary Penalties

The Water Code provides the State and Regional Water Boards the authority to pursue formal enforcement actions, including imposing administrative liability and civil monetary penalties, for non-compliance with the requirements of this General Order and violations of the Clean Water Act.

6.1.3. Falsifying or Failure to Report

The Water Code provides that any person failing or refusing to furnish technical or monitoring program reports, as required under this General Order, or falsifying any information provided in the technical or monitoring reports is subject to administrative liability and civil monetary penalties. Any person who knowingly fails or refuses to furnish technical or monitoring program reports or falsifies any information provided in reports required by this General Order is subject to criminal penalties.

6.1.4. Severability of General Order

The provisions of this General Order are severable; if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this Order shall not be affected thereby.

6.1.5. Indirect Discharges

In the event that a spill enters into a drainage conveyance system, the Enrollee shall take all feasible steps to prevent discharge of sewage into waters of the State by blocking or redirecting the flow in the drainage conveyance system, removing the sewage from the drainage conveyance system, and cleaning the system in a manner that does not inadvertently impact beneficial uses of the receiving water body.

6.1.6. Water Boards' Considerations for Discretionary Enforcement

Consistent with the State Water Board Enforcement Policy, when considering Water Code section 13327 factors, the State Water Board or a Regional Water Board may consider the Enrollee's efforts to contain, control, clean up, and mitigate spills. In assessing the factors, the State Water Board or the applicable Regional Water Board will consider:

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- The Enrollee's compliance with this General Order with a focus on compliance with reporting requirements;
- The Enrollee's provision of adequate funding to implement the requirements of this General Order;
- The Enrollee's compliance with providing a complete and updated Sewer System Management Plan;
- The Enrollee's compliance with implementing its Sewer System Management Plan;
- The overall effectiveness of the Enrollee's Sewer System Management Plan with respect to:
 - System management, operation, and maintenance,
 - Adequate treatment facilities, sanitary sewer system facilities, and/or components with an appropriate design capacity, to reasonably prevent spills (e.g. adequately enlarging treatment or collection facilities to accommodate growth, infiltration and inflow, etc.),
 - Preventive maintenance (including cleaning, root grinding, and fats, oils, and grease control) and source control measures,
 - Implementation of backup equipment,
 - Inflow and infiltration prevention and control,
 - Appropriate sanitary sewer system capacity to prevent spills, and
 - The Enrollee's responsiveness to stop and mitigate the impact of the discharge;
- The Enrollee's compliance with identifying the cause of the spill;
- The Enrollee's use of available information and observations to accurately estimate the spill volume and identify the affected or potentially affected receiving waters;
- The Enrollee's thoroughness of cleaning up sewage in drainage conveyance systems after the spill(s);
- The Enrollee's use of water quality and biological monitoring and assessment to determine the short-term and long-term impacts to beneficial uses and the environment;
- The Enrollee's follow up actions to improve system performance;
- The Enrollee's implementation of feasible alternatives to prevent spills, such as:
 - Use of temporary storage or waste retention,
 - Reduction of system inflow and infiltration,
 - Collection and hauling of waste to a treatment facility,
 - Prevention of and/ or containment of spills due to a design storm event identified in the Enrollee's Sewer System Management Plan,

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- Implementation of available equipment, technologies, strategies, and recommended industry practices for maintaining and managing sewer systems to prevent spills, and contain and eliminate discharges to waters of the State; and
- The spill duration and factors beyond the reasonable control of the Enrollee causing the event.

6.1.7. Enforcement Discretion Based on Reporting Compliance

Consistent with the State Water Board Enforcement Policy, the State Water Board or a Regional Water Board may consider the Enrollee's efforts to comply with spill reporting requirements when determining compliance with Water Code section 13267 and section 13383. When assessing Water Code section 13227 factors, the State Water Board or the applicable Regional Water Board will consider:

- The Enrollee's diligence to comply with all reporting requirements in this General Order;
- The use of best available information for the Enrollee's reporting of spill start date and start time in which the release of sewage from the sanitary sewer system initiated;
- The Enrollee's reporting of spill end date, and end time to be the date and time in which the release of sewage from the sanitary sewer system was stopped;
- The Enrollee's diligence to accurately estimate and report spill volumes;
- The Enrollee's subsequent verification and/or updates to initial Draft Spill Reports in accordance with this General Order; and
- The Enrollee's timely certification of required spill reports.

Consistent with Water Code section 13267 and section 13383, the State Water Board or a Regional Water Board may require an Enrollee to report the results of a condition assessment of a specified portion of the Enrollee's sanitary sewer system.

6.2. Other Regional Water Board Orders

It is the intent of the State Water Board that sanitary sewer systems be regulated in a manner consistent with federal and state regulations. This Order will not be interpreted or applied:

- In a manner inconsistent with the federal Clean Water Act;
- To authorize a spill or discharge that is illegal under either the Clean Water Act, the Water Code, and/or an applicable Basin Plan prohibition or water quality standard;
- To prohibit a Regional Water Board from issuing an individual National Pollutant Discharge Elimination System (NPDES) permit or individual waste discharge requirements superseding an Enrollee's regulatory coverage under this General Order for a sanitary sewer system authorized under the Clean Water Act or Water Code;

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- To supersede any more specific or more stringent waste discharge requirements or enforcement orders issued by a Regional Water Board; or
- To supersede any more specific or more stringent state or federal requirements in existing regulation, an administrative/judicial order, or Consent Decree.

6.3. Sewer System Management Plan Availability

The Enrollee's updated Sewer System Management Plan must be maintained for public inspection at the Enrollee's offices and facilities and must be available to the public through CIWQS and/or on the Enrollee's website, in accordance with section 3.8 (Sewer System Management Plan Reporting Requirements) of Attachment E1 (Notification, Monitoring, Reporting and Recordkeeping Requirements) of this General Order.

6.4. Entry and Inspection

6.4.1. Entry and Availability of Information

The Enrollee shall allow State and Regional Water Board staff, upon presentation of credentials and other documents as may be required by law, to:

- Enter upon the Enrollee's premises where a regulated facility or activity is located or conducted, or where records are kept under the requirements of this General Order;
- Have access to and reproduce any records required to be maintained by this General Order;
- Inspect any facility and/or equipment (including monitoring and control equipment), practices, or operations required in this General Order; and
- Sample or monitor substances or parameters for assuring compliance with this General Order, or as otherwise authorized by the Water Code.

6.4.2. Pre-Inspection Questionnaire

The Enrollee shall provide pre-inspection information to State and Regional Water Board staff through the completion of a Pre-Inspection Questionnaire provided by Water Board staff.

ATTACHMENT A - DEFINITIONS

Annual Report

An Annual Report (previously termed as Collection System Questionnaire in Order 2006-0003-DWQ) is a mandatory report in which the Enrollee provides a calendar-year update of its efforts to prevent spills.

Basin Plan

A Basin Plan is a water quality control plan specific to a Regional Water Quality Control Board (Regional Water Board), that serves as regulations to: (1) define and designate beneficial uses of surface and groundwaters, (2) establish water quality objectives for protection of beneficial uses, and (3) provide implementation measures.

Beneficial Uses

The term “Beneficial Uses” is a Water Code term, defined as the uses of the waters of the State that may be protected against water quality degradation. Examples of beneficial uses include but are not limited to, municipal, domestic, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

California Integrated Water Quality System (CIWQS)

CIWQS is the statewide database that provides for mandatory electronic reporting as required in State and Regional Water Board-issued waste discharge requirements.

Data Submitter

A Data Submitter is an individual designated and authorized by the Enrollee’s Legally Responsible Official to enter spill data into the online CIWQS Sanitary Sewer System Database. A Data Submitter does not have the authority of a Legally Responsible Official to certify reporting entered into the online CIWQS Sanitary Sewer System Database.

Disadvantaged Community

A disadvantaged community is a community with a median household income of less than eighty percent (80%) of the statewide annual median household income.

For the purpose of this General Order, there is no differentiation between a small and large disadvantaged community.

Drainage Conveyance System

A drainage conveyance system is a publicly- or privately-owned separate storm sewer system, including but not limited to drainage canals, channels, pipelines, pump stations, detention basins, infiltration basins/facilities, or other facilities constructed to transport stormwater and non-stormwater flows.

Enrollee

An Enrollee is a public, private, or other non-governmental entity that has obtained approval for regulatory coverage under this General Order, including:

- A state agency, municipality, special district, or other public entity that owns and/or operates one or more sanitary sewer systems:
 - greater than one (1) mile in length (each individual sanitary sewer system);
 - one mile or less in length where the State Water Resources Control Board or a Regional Water Quality Control Board requires regulatory coverage under this Order, or
- A federal agency, private company, or other non-governmental entity that owns and/or operates a sanitary sewer system of any size where the State Water Resources Control Board or a Regional Water Quality Control Board requires regulatory coverage under this Order in response to a history of spills, proximity to surface water, or other factors supporting regulatory coverage.

Environmentally Sensitive Area

An environmentally sensitive area is a designated agricultural and/or wildlife area identified to need special natural landscape protection due to its wildlife or historical value.

Exfiltration

Exfiltration is the underground exiting of sewage from a sanitary sewer system through cracks, offset or separated joints, or failed infrastructure due to corrosion or other factors.

Flood Control Channel

A flood control channel is a channel used to convey stormwater and non-stormwater flows through and from areas for flood management purposes.

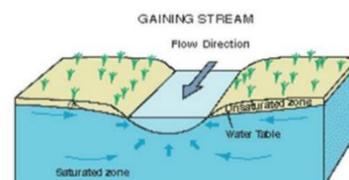
Governing Entity

A governing entity includes but is not limited to the following:

- A publicly elected governing board, council, or commission of a municipal agency;
- A Department or Division director of a federal or state agency that is not governed by a board;
- A governing board or commission of an organization or association; and
- A private system owner/manager that is not governed by a board.

Hydrologically Connected

Two waterbodies are hydrologically connected when one waterbody flows, or has the potential to flow, into the other waterbody. For the purpose of this General Order, groundwater is hydrologically connected to a surface water when the groundwater feeds into the surface water. (The surface waterbody in this example is termed a gaining stream as it gains flow from surrounding groundwater.)



Lateral (including Lower and Upper Lateral)

A lateral is an underground segment of smaller diameter pipe that transports sewage from a customer's building or property (residential, commercial, or industrial) to the Enrollee's main sewer line in a street or easement. Upper and lower lateral boundary definitions are subject to local jurisdictional codes and ordinances, or private system ownership.

A lower lateral is the portion of the lateral located between the sanitary sewer system main, and either the property line, sewer clean out, curb line, established utility easement boundary, or other jurisdictional locations.

An upper lateral is the portion of the lateral from the property line, sewer clean out, curb line, established utility easement boundary, or other jurisdictional locations, to the building or property.

Legally Responsible Official

A Legally Responsible Official is an official representative, designated by the Enrollee, with authority to sign and certify submitted information and documents required by this General Order.

Nuisance

For the purpose of this General Order, a nuisance, as defined in Water Code section 13050(m), is anything that meets all of the following requirements:

- Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property;
- Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; and
- Occurs during, or as a result of, the treatment or disposal of wastes.

Private Sewer Lateral

A private sewer lateral is the privately-owned lateral that transports sewage from private property(ies) into a sanitary sewer system.

Private Sanitary Sewer System

A private sanitary sewer system is a sanitary sewer system of any size that is owned and/or operated by a private individual, company, corporation, or organization. A private sanitary sewer system may or may not connect into a publicly owned sanitary sewer system.

Potential to Discharge, Potential Discharge

Potential to Discharge, or Potential Discharge, means any exiting of sewage from a sanitary sewer system which can reasonably be expected to discharge into a water of the State based on the size of the sewage spill, proximity to a drainage conveyance system, and the nature of the surrounding environment.

Receiving Water

A receiving water is a water of the State that receives a discharge of waste.

Resilience

Resilience is the ability to recover from or adjust to adversity or change, and grow from disruptions. Resilience can be built through planning, preparing for, mitigating, and adapting to changing conditions.

Sanitary Sewer System

A sanitary sewer system is a system that is designed to convey sewage, including but not limited to, pipes, manholes, pump stations, siphons, wet wells, diversion structures and/or other pertinent infrastructure, upstream of a wastewater treatment plant headworks, including:

- Laterals owned and/or operated by the Enrollee;
- Satellite sewer systems; and/or
- Temporary conveyance and storage facilities, including but not limited to temporary piping, vaults, construction trenches, wet wells, impoundments, tanks and diversion structures.

For purpose of this Order, sanitary sewer systems include only systems owned and/or operated by the Enrollee.

Satellite Sewer System

A satellite sewer system is a portion of a sanitary sewer system owned or operated by a different owner than the owner of the downstream wastewater treatment facility ultimately treating the sewage.

Sewer System Management Plan

A sewer system management plan is a living document an Enrollee develops and implements to effectively manage its sanitary sewer system(s) in accordance with this General Order.

Sewage

Sewage, and its associated wastewater, is untreated or partially treated domestic, municipal, commercial and/or industrial waste (including sewage sludge), and any mixture of these wastes with inflow or infiltration of stormwater or groundwater, conveyed in a sanitary sewer system.

Spill

A spill is a discharge of sewage from any portion of a sanitary sewer system due to a sanitary sewer system overflow, operational failure, and/or infrastructure failure. Exfiltration of sewage is not considered to be a spill under this General Order if the exfiltrated sewage remains in the subsurface and does not reach a surface water of the State.

Training

Training is in-house or external education and guidance needed that provides the knowledge, skills, and abilities to comply with this General Order.

Wash Down Water

Wash down water is water used to clean a spill area.

Waste

Waste, as defined in Water Code section 13050(d), includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

Waste Discharge Identification Number (WDID)

A waste discharge identification number (WDID) identifies each individual sanitary sewer system enrolled under this General Order. A WDID number is assigned to each enrolled system upon an Enrollee's approved regulatory coverage.

Waters of the State

Waters of the State are surface waters or groundwater within boundaries of the state as defined in Water Code section 13050(e), in which the State and Regional Water Boards have authority to protect beneficial uses. Waters of the State include, but are not limited to, groundwater aquifers, surface waters, saline waters, natural washes and pools, wetlands, sloughs, and estuaries, regardless of flow or whether water exists during dry conditions. Waters of the State include waters of the United States.

Waters of the United States

Waters of the United States are surface waters or waterbodies that are subject to federal jurisdiction in accordance with the Clean Water Act.

Water Quality Objective

A water quality objective is the limit or maximum amount of pollutant, waste constituent or characteristic, or parameter level established in statewide water quality control plans and Regional Water Boards' Basin Plans, for the reasonable protection of beneficial uses of surface waters and groundwater and the prevention of nuisance.

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ATTACHMENT B – APPLICATION FOR ENROLLMENT

1. Enrollment Status: (Mark only one item)

New Enrollee

New Enrollee with previous regulatory coverage under Order 2006-0003-DWQ
(that failed to certify continuation of coverage in CIWQS per Order 2022-XXXX-DWQ)

Existing WDID Number: _____

2. Applicant Information:

Legally Responsible Official Submitting Application

First and Last Name: _____

Title: _____

Phone: _____

Email: _____

System Owner/Operator Name: _____

Mailing Address: _____

City, State, Zip: _____

County: _____

Sanitary Sewer System Name: _____

Regional Water Quality Control Board(s): _____

Signature and Date: _____

3. Applicant Type (Check one):

City County State Federal Special District

Government Combination Private Other Non-governmental Entity

4. Wastewater Treatment Plant Receiving Sanitary Sewer System Waste:

Wastewater Treatment Plant Permittee: _____

WDID No.: _____

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5. Billing Information

Billing Address: _____

City, State, Zip: _____

Billing Contact Person and Title: _____

Phone and Email Address: _____

6. Application Fee:

The application fee, as required by Water Code section 13260, is based on the daily population served by the sanitary sewer system. See updated [Fee Schedule](https://www.waterboards.ca.gov/resources/fees/water_quality/).
(https://www.waterboards.ca.gov/resources/fees/water_quality/)

Check one of the following and enter fee amount:

Population Served < 50,000 – Total Fee submitted: \$ _____

Population Served ≥ 50,000 – Total Fee submitted: \$ _____

Make the fee payment payable to the State Water Resources Control Board and mail the complete application package to:

State Water Resources Control Board, Accounting Office
P. O. Box 1888
Sacramento, CA 95812-1888

Attention: Statewide Sanitary Sewer System Program

7. Application Submittal Certification

I certify under penalty of perjury under the laws of the State of California that to the best of my knowledge and belief, the information in the submitted application package is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.

Print Name: _____

Title: _____

Signature: _____ Date: _____

ATTACHMENT C - NOTICE OF TERMINATION

1. Enrollee Information

Enrollee Name: _____

WDID No: _____

Legally Responsible Official Requesting Termination of Coverage: _____

First and Last Name: _____

Title: _____

Phone: _____

Email: _____

Mailing Address: _____

City, State, Zip: _____

County: _____

Sanitary Sewer System Name(s) or Unique Identifier(s): _____

Regional Water Quality Control Board(s): _____

Signature and Date: _____

2. Basis of Termination

Explanation of termination, including subsequent regulatory coverage and subsequent owner/operator of enrolled sanitary sewer system, as applicable:

3. Regulatory Coverage Termination Certification

I certify under penalty of perjury under the laws of the State of California that to the best of my knowledge: 1) the sanitary sewer system I officially represent is not required to be regulated under the Statewide Waste Discharge Requirements for Sanitary Sewer Systems Order 2022-XXXX-DWQ, and 2) the information submitted in this Notice of Termination is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment. Additionally, I understand that the submittal of this Notice of Termination does not release sanitary sewer system agencies from liability for any violations of the Clean Water Act.

Print Name: _____

Title: _____

Signature: _____ Date: _____

For State Water Board Use Only

Approved for Termination

Denied and Returned to Enrollee

Deputy Director of Water Quality Signature: _____

Date: _____ Notice of Termination Effective Date: _____

ATTACHMENT D – SEWER SYSTEM MANAGEMENT PLAN – REQUIRED ELEMENTS

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ATTACHMENT D – SEWER SYSTEM MANAGEMENT PLAN – REQUIRED ELEMENTS

A Sewer System Management Plan (Plan) is a living planning document that documents ongoing local sewer system management program activities, procedures, and decision-making – at the scale necessary to address the size and complexity of the subject sanitary sewer system(s). This Plan may incorporate other programs and other plans by reference, to address short-term and long-term system resilience through:

- Proactive planning and decision-making;
- Local government ordinances;
- Updated operations and maintenance activities and procedures;
- Implementation of capital improvements;
- Sufficient local budget to support staff resources, contractors, equipment, and training; and
- Updated training of staff and contractors.

The Enrollee’s development, update, and implementation of a Sewer System Management Plan addressing the requirements of this Attachment is an enforceable component of this General Order. As specified in Provision 6.1 (Enforcement Provisions) of this General Order, consistent with the Water Code and the State Water Board Enforcement Policy, the State Water Board or a Regional Water Board may consider the Enrollee’s efforts in implementing an effective Sewer System Management Plan to prevent, contain, control, and mitigate spills when considering Water Code section 13327 factors to determine necessary enforcement of this General Order.

This Attachment includes the following required elements that the Enrollee shall address in its Plan and subsequent updates. The Enrollee shall identify any requirement in this Attachment that is not applicable to the Enrollee’s sewer system and shall explain in its Plan why the requirement is not applicable.

1. SEWER SYSTEM MANAGEMENT PLAN GOAL AND INTRODUCTION

The goal of the Sewer System Management Plan (Plan) is to provide a plan and schedule to: (1) properly manage, operate, and maintain all parts of the Enrollee’s sanitary sewer system(s), (2) reduce and prevent spills, and (3) contain and mitigate spills that do occur.

The Plan must include a narrative Introduction section that discusses the following items:

1.1. Regulatory Context

The Plan Introduction section must provide a general description of the local sewer system management program and discuss Plan implementation and updates.

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1.2. Sewer System Management Plan Update Schedule

The Plan Introduction section must include a schedule for the Enrollee to update the Plan, including the schedule for conducting internal audits. The schedule must include milestones for incorporation of activities addressing prevention of sewer spills.

1.3. Sewer System Asset Overview

The Plan Introduction section must provide a description of the Enrollee-owned assets and service area, including but not limited to:

- Location, including county(ies);
- Service area boundary;
- Population and community served;
- System size, including total length in miles, length of gravity mainlines, length of pressurized (force) mains, and number of pump stations and siphons;
- Structures diverting stormwater to the sewer system;
- Data management systems;
- Sewer system ownership and operation responsibilities between Enrollee and private entities for upper and lower sewer laterals;
- Estimated number or percent of residential, commercial, and industrial service connections; and
- Unique service boundary conditions and challenge(s).

Additionally, the Plan Introduction section must provide reference to the Enrollee's up-to-date map of its sanitary sewer system, as required in section 4.1 (Updated Map of Sanitary Sewer System) of this Attachment.

2. ORGANIZATION

The Plan must identify organizational staffing responsible and integral for implementing the local Sewer System Management Plan through an organization chart or similar narrative documentation that includes:

- The name of the Legally Responsible Official as required in section 5.1 (Designation of a Legally Responsible Official) of this General Order;
- The position titles, telephone numbers, and email addresses for management, administrative, and maintenance positions responsible for implementing specific Sewer System Management Plan elements;
- Organizational lines of authority; and
- Chain of communication for reporting spills from receipt of complaint or other information, including the person responsible for reporting spills to the State and Regional Water Boards and other agencies, as applicable. (For example, county

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health officer, county environmental health agency, and State Office of Emergency Services.)

3. LEGAL AUTHORITY

The Plan must include copies or an electronic link to the Enrollee’s current sewer system use ordinances, service agreements and/or other legally binding procedures to demonstrate the Enrollee possesses the necessary legal authority to:

- Prevent illicit discharges into its sanitary sewer system from inflow and infiltration (I&I); unauthorized stormwater; chemical dumping; unauthorized debris; roots; fats, oils, and grease; and trash, including rags and other debris that may cause blockages;
- Collaborate with storm sewer agencies to coordinate emergency spill responses, ensure access to storm sewer systems during spill events, and prevent unintentional cross connections of sanitary sewer infrastructure to storm sewer infrastructure;
- Require that sewer system components and connections be properly designed and constructed;
- Ensure access for maintenance, inspection, and/or repairs for portions of the service lateral owned and/or operated by the Enrollee;
- Enforce any violation of its sewer ordinances, service agreements, or other legally binding procedures; and
- Obtain easement accessibility agreements for locations requiring sewer system operations and maintenance, as applicable.

4. OPERATION AND MAINTENANCE PROGRAM

The Plan must include the items listed below that are appropriate and applicable to the Enrollee’s system.

4.1. Updated Map of Sanitary Sewer System

An up-to-date map(s) of the sanitary sewer system, and procedures for maintaining and providing State and Regional Water Board staff access to the map(s). The map(s) must show gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities within the sewer system service area boundaries.

4.2. Preventive Operation and Maintenance Activities

A scheduling system and a data collection system for preventive operation and maintenance activities conducted by staff and contractors.

The scheduling system must include:

- Inspection and maintenance activities;

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- Higher-frequency inspections and maintenance of known problem areas, including areas with tree root problems;
- Regular visual and closed-circuit television (CCTV) inspections of manholes and sewer pipes.

The data collection system must document data from system inspection and maintenance activities, including system areas/components prone to root-intrusion potentially resulting in system backup and/or failure.

4.3. Training

In-house and external training provided on a regular basis for sanitary sewer system operations and maintenance staff and contractors. The training must cover:

- The requirements of this General Order;
- The Enrollee's Spill Emergency Response Plan procedures and practice drills;
- Skilled estimation of spill volume for field operators; and
- Electronic CIWQS reporting procedures for staff submitting data.

4.4. Equipment Inventory

An inventory of sewer system equipment, including the identification of critical replacement and spare parts.

5. DESIGN AND PERFORMANCE PROVISIONS

The Plan must include the following items as appropriate and applicable to the Enrollee's system:

5.1. Updated Design Criteria and Construction Standards and Specifications

Updated design criteria, and construction standards and specifications, for the construction, installation, repair, and rehabilitation of existing and proposed system infrastructure components, including but not limited to pipelines, pump stations, and other system appurtenances. If existing design criteria and construction standards are deficient to address the necessary component-specific hydraulic capacity as specified in section 8 (System Evaluation, Capacity Assurance and Capital Improvements) of this Attachment, the procedures must include component-specific evaluation of the design criteria.

5.2. Procedures and Standards

Procedures, and standards for the inspection and testing of newly constructed, newly installed, repaired, and rehabilitated system pipelines, pumps, and other equipment and appurtenances.

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6. SPILL EMERGENCY RESPONSE PLAN

The Plan must include an up to date Spill Emergency Response Plan to ensure prompt detection and response to spills to reduce spill volumes and collect information for prevention of future spills. The Spill Emergency Response Plan must include procedures to:

- Notify primary responders, appropriate local officials, and appropriate regulatory agencies of a spill in a timely manner;
- Notify other potentially affected entities (for example, health agencies, water suppliers, etc.) of spills that potentially affect public health or reach waters of the State;
- Comply with the notification, monitoring and reporting requirements of this General Order, State law and regulations, and applicable Regional Water Board Orders;
- Ensure that appropriate staff and contractors implement the Spill Emergency Response Plan and are appropriately trained;
- Address emergency system operations, traffic control and other necessary response activities;
- Contain a spill and prevent/minimize discharge to waters of the State or any drainage conveyance system;
- Minimize and remediate public health impacts and adverse impacts on beneficial uses of waters of the State;
- Remove sewage from the drainage conveyance system;
- Clean the spill area and drainage conveyance system in a manner that does not inadvertently impact beneficial uses in the receiving waters;
- Implement technologies, practices, equipment, and interagency coordination to expedite spill containment and recovery;
- Implement pre-planned coordination and collaboration with storm drain agencies and other utility agencies/departments prior, during, and after a spill event;
- Conduct post-spill assessments of spill response activities;
- Document and report spill events as required in this General Order; and
- Annually, review and assess effectiveness of the Spill Emergency Response Plan, and update the Plan as needed.

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7. SEWER PIPE BLOCKAGE CONTROL PROGRAM

The Sewer System Management Plan must include procedures for the evaluation of the Enrollee's service area to determine whether a sewer pipe blockage control program is needed to control fats, oils, grease, rags and debris. If the Enrollee determines that a program is not needed, the Enrollee shall provide justification in its Plan for why a program is not needed.

The procedures must include, at minimum:

- An implementation plan and schedule for a public education and outreach program that promotes proper disposal of pipe-blocking substances;
- A plan and schedule for the disposal of pipe-blocking substances generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of substances generated within a sanitary sewer system service area;
- The legal authority to prohibit discharges to the system and identify measures to prevent spills and blockages;
- Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, best management practices requirements, recordkeeping and reporting requirements;
- Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the fats, oils, and grease ordinance;
- An identification of sanitary sewer system sections subject to fats, oils, and grease blockages and establishment of a cleaning schedule for each section; and
- Implementation of source control measures for all sources of fats, oils, and grease reaching the sanitary sewer system for each section identified above.

8. SYSTEM EVALUATION, CAPACITY ASSURANCE AND CAPITAL IMPROVEMENTS

The Plan must include procedures and activities for:

- Routine evaluation and assessment of system conditions;
- Capacity assessment and design criteria;
- Prioritization of corrective actions; and
- A capital improvement plan.

8.1 System Evaluation and Condition Assessment

The Plan must include procedures to:

- Evaluate the sanitary sewer system assets utilizing the best practices and technologies available;

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- Identify and justify the amount (percentage) of its system for its condition to be assessed each year;
- Prioritize the condition assessment of system areas that:
 - Hold a high level of environmental consequences if vulnerable to collapse, failure, blockage, capacity issues, or other system deficiencies;
 - Are located in or within the vicinity of surface waters, steep terrain, high groundwater elevations, and environmentally sensitive areas;
 - Are within the vicinity of a receiving water with a bacterial-related impairment on the most current Clean Water Act section 303(d) List;
- Assess the system conditions using visual observations, video surveillance and/or other comparable system inspection methods;
- Utilize observations/evidence of system conditions that may contribute to exiting of sewage from the system which can reasonably be expected to discharge into a water of the State;
- Maintain documents and recordkeeping of system evaluation and condition assessment inspections and activities; and
- Identify system assets vulnerable to direct and indirect impacts of climate change, including but not limited to: sea level rise; flooding and/or erosion due to increased storm volumes, frequency, and/or intensity; wildfires; and increased power disruptions.

8.2. Capacity Assessment and Design Criteria

The Plan must include procedures to identify system components that are experiencing or contributing to spills caused by hydraulic deficiency and/or limited capacity, including procedures to identify the appropriate hydraulic capacity of key system elements for:

- Dry-weather peak flow conditions that cause or contributes to spill events;
- The appropriate design storm(s) or wet weather events that causes or contributes to spill events;
- The capacity of key system components; and
- Identify the major sources that contribute to the peak flows associated with sewer spills.

The capacity assessment must consider:

- Data from existing system condition assessments, system inspections, system audits, spill history, and other available information;
- Capacity of flood-prone systems subject to increased infiltration and inflow, under normal local and regional storm conditions;

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- Capacity of systems subject to increased infiltration and inflow due to larger and/or higher-intensity storm events as a result of climate change;
- Increases of erosive forces in canyons and streams near underground and above-ground system components due to larger and/or higher-intensity storm events;
- Capacity of major system elements to accommodate dry weather peak flow conditions, and updated design storm and wet weather events; and
- Necessary redundancy in pumping and storage capacities.

8.3. Prioritization of Corrective Action

The findings of the condition assessments and capacity assessments must be used to prioritize corrective actions. Prioritization must consider the severity of the consequences of potential spills.

8.4. Capital Improvement Plan

The capital improvement plan must include the following items:

- Project schedules including completion dates for all portions of the capital improvement program;
- Internal and external project funding sources for each project; and
- Joint coordination between operation and maintenance staff, and engineering staff/consultants during planning, design, and construction of capital improvement projects; and Interagency coordination with other impacted utility agencies.

9. MONITORING, MEASUREMENT AND PROGRAM MODIFICATIONS

The Plan must include an Adaptive Management section that addresses Plan-implementation effectiveness and the steps for necessary Plan improvement, including:

- Maintaining relevant information, including audit findings, to establish and prioritize appropriate Plan activities;
- Monitoring the implementation and measuring the effectiveness of each Plan Element;
- Assessing the success of the preventive operation and maintenance activities;
- Updating Plan procedures and activities, as appropriate, based on results of monitoring and performance evaluations; and
- Identifying and illustrating spill trends, including spill frequency, locations and estimated volumes.

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10. INTERNAL AUDITS

The Plan shall include internal audit procedures, appropriate to the size and performance of the system, for the Enrollee to comply with section 5.4 (Sewer System Management Plan Audits) of this General Order.

11. COMMUNICATION PROGRAM

The Plan must include procedures for the Enrollee to communicate with:

- The public for:
 - Spills and discharges resulting in closures of public areas, or that enter a source of drinking water, and
 - The development, implementation, and update of its Plan, including opportunities for public input to Plan implementation and updates.
- Owners/operators of systems that connect into the Enrollee's system, including satellite systems, for:
 - System operation, maintenance, and capital improvement-related activities.

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ATTACHMENT E1 – NOTIFICATION, MONITORING, REPORTING AND RECORDKEEPING REQUIREMENTS

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ATTACHMENT E1– NOTIFICATION, MONITORING, REPORTING AND RECORDKEEPING REQUIREMENTS

The Notification Requirements (section 1), Spill-specific Monitoring Requirements (section 2), Reporting Requirements (section 3) and Recordkeeping Requirements (section 4) in this Attachment are pursuant to Water Code section 13267 and section 13383, and are an enforceable component of this General Order. For the purpose of this General Order, the term:

- Notification means the notifying of appropriate parties of a spill event or other activity.
- Spill-specific Monitoring means the gathering of information and data for a specific spill event to be reported or kept as records.
- Reporting means the reporting of information and data into the online California Integrated Water Quality System (CIWQS) Sanitary Sewer System Database.
- Recordkeeping means the maintaining of information and data in an official records storage system.

Failure to comply with the notification, monitoring, reporting and recordkeeping requirements in this General Order may subject the Enrollee to civil liabilities of up to \$10,000 a day per violation pursuant to Water Code section 13385; up to \$1,000 a day per violation pursuant to Water Code section 13268; or referral to the Attorney General for judicial civil enforcement.

Water Code section 13193 et seq. requires the Regional Water Quality Control Boards (Regional Water Boards) and the State Water Resources Control Board (State Water Board) to collect sanitary sewer spill information for each spill event and make this information available to the public. Sanitary sewer spill information for each spill event includes but is not limited to: Enrollee contact information for each spill event, spill cause, estimated spill volume and factors used for estimation, location, date, time, duration, amount discharged to waters of the State, response and corrective action(s) taken.

1. NOTIFICATION REQUIREMENTS**1.1. Notification of Spills of 1,000 Gallons or Greater to the California Office of Emergency Services**

Per Water Code section 13271, for a spill that discharges in or on any waters of the State, or discharges or is deposited where it is, or probably will be, discharged in or on any waters of the State, the Enrollee shall notify the California Office of Emergency Services and obtain a California Office of Emergency Services Control Number as soon as possible **but no later than two (2) hours** after:

- The Enrollee has knowledge of the spill; and
- Notification can be provided without substantially impeding cleanup or other emergency measures.

The notification requirements in this section apply to individual spills of 1,000 gallons or greater, from an Enrollee-owned and/or operated laterals, to a water of the State.

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1.2. Spill Notification Information

The Enrollee shall provide the following spill information to the California Office of Emergency Services before receiving a Control Number, as applicable:

- Name and phone number of the person notifying the California Office of Emergency Services;
- Estimated spill volume (gallons);
- Estimated spill rate from the system (gallons per minute);
- Estimated discharge rate (gallons per minute) directly into waters of the State or indirectly into a drainage conveyance system;
- Spill incident description:
 - Brief narrative of the spill event, and
 - Spill incident location (address, city, and zip code) and closest cross streets and/or landmarks;
- Name and phone number of contact person on-scene;
- Date and time the Enrollee was informed of the spill event;
- Name of sanitary sewer system causing the spill;
- Spill cause or suspected cause (if known);
- Amount of spill contained;
- Name of receiving water body receiving or potentially receiving discharge; and
- Description of water body impact and/ or potential impact to beneficial uses.

1.3. Notification of Spill Report Updates

Following the initial notification to the California Office of Emergency Services and until such time that the Enrollee certifies the spill report in the online CIWQS Sanitary Sewer System Database, the Enrollee shall provide updates to the California Office of Emergency Services regarding substantial changes to:

- Estimated spill volume (increase or decrease in gallons initially estimated);
- Estimated discharge volume discharged directly into waters of the State or indirectly into a drainage conveyance system (increase or decrease in gallons initially estimated); and
- Additional impact(s) to the receiving water(s) and beneficial uses.

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2. SPILL-SPECIFIC MONITORING REQUIREMENTS**2.1 Spill Location and Spread**

The Enrollee shall visually assess the spill location(s) and spread using photography, global positioning system (GPS), and other best available tools. The Enrollee shall document the critical spill locations, including:

- Photography and GPS coordinates for:
 - The system location where spill originated.
For multiple appearance points of a single spill event, the points closest to the spill origin.
- Photography for:
 - Drainage conveyance system entry locations,
 - The location(s) of discharge into surface waters, as applicable,
 - Extent of spill spread, and
 - The location(s) of clean up.

2.2 Spill Volume Estimation

To assess the approximate spill magnitude and spread, the Enrollee shall estimate the total spill volume using updated volume estimation techniques, calculations, and documentation for electronic reporting. The Enrollee shall update its notification and reporting of estimated spill volume (which includes spill volume recovered) as further information is gathered during and after a spill event.

2.3. Receiving Water Monitoring**2.3.1. Receiving Water Visual Observations**

Through visual observations and use of best available spill volume-estimating techniques and field calculation techniques, the Enrollee shall gather and document the following information for spills discharging to surface waters:

- Estimated spill travel time to the receiving water;
- For spills entering a drainage conveyance system, estimated spill travel time from the point of entry into the drainage conveyance system to the point of discharge into the receiving water;
- Estimated spill volume entering the receiving water; and
- Photography of:
 - Waterbody bank erosion,
 - Floating matter,
 - Water surface sheen (potentially from oil and grease),

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- Discoloration of receiving water, and
- Impact to the receiving water.

2.3.2. Receiving Water – Water Quality Sampling and Analysis

For sewage spills in which an estimated 50,000 gallons or greater are discharged into a surface water, the Enrollee shall conduct the following water quality sampling no later than **18 hours** after the Enrollee’s knowledge of a potential discharge to a surface water:

- Collect one water sample, each day of the duration of the spill, at:
 - The DCS-001 location as described in section 2.3.4 (Receiving Water Sampling Locations) of this Attachment, if sewage discharges to a surface water via a drainage conveyance system; and/or
 - Each of the three receiving water sampling locations in section 2.3.4 (Receiving Water Sampling Locations) of this Attachment;

If the receiving water has no flow during the duration of the spill, the Enrollee must report “No Sampling Due To No Flow” for its receiving water sampling locations.

The Enrollee shall analyze the collected receiving water samples for the following constituents per section 2.3.3 (Water Quality Analysis Specifications) of this Attachment:

- Ammonia, and
- Appropriate bacterial indicator(s) per the applicable Basin Plan water quality objectives, including one or more of the following, unless directed otherwise by the Regional Water Board:
 - Total Coliform Bacteria
 - Fecal Coliform Bacteria
 - *E-coli*
 - Enterococcus

Dependent on the receiving water(s), sampling of bacterial indicators shall be sufficient to determine post-spill (after the spill) compliance with the water quality objectives and bacterial standards of the California Ocean Plan or the California Inland Surface Water Enclosed Bays, and Estuaries Plan, including the frequency and/or number of post-spill receiving water samples as may be specified in the applicable plans.

The Enrollee shall collect and analyze additional samples as required by the applicable Regional Water Board Executive Officer or designee.

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2.3.3. Water Quality Analysis Specifications

Spill monitoring must be representative of the monitored activity (40 Code of Federal Regulations section 122.41(j)(1)).

Sufficiently Sensitive Methods

Sample analysis must be conducted according to sufficiently sensitive test methods approved under 40 Code of Federal Regulations Part 136 for the sample analysis of pollutants. For the purposes of this General Order, a method is sufficiently sensitive when the minimum level of the analytical method approved under 40 Code of Federal Regulations Part 136 is at or below the receiving water pollutant criteria.

Environmental Laboratory Accreditation Program-Accredited Laboratories

The analysis of water quality samples required per this General Order must be performed by a laboratory that has accreditation pursuant to Article 3 (commencing with section 100825) of Chapter 4 of Part 1 of Division 101 of the Health and Safety Code. (Water Code section 13176(a).) The State Water Board accredits laboratories through its Environmental Laboratory Accreditation Program (ELAP).

2.3.4. Receiving Water Sampling Locations

The Enrollee shall collect receiving water samples at the following locations.

Sampling of Flow in Drainage Conveyance System (DCS) Prior to Discharge

Sampling Location	Sampling Location Description
DCS-001	A point in a drainage conveyance system before the drainage conveyance system flow discharges into a receiving water.

Receiving Surface Water Sampling (RSW)¹

Sampling Location	Sampling Location Description
RSW-001 Point of Discharge	A point in the receiving water where sewage initially enters the receiving water.
RSW-001U: Upstream of Point of Discharge	A point in the receiving water, upstream of the point of sewage discharge, to capture ambient conditions absent of sewage discharge impacts.

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Sampling Location	Sampling Location Description
RSW-001D: Downstream of Point of Discharge	A point in the receiving water, downstream of the point of sewage discharge, where the spill material is fully mixed with the receiving water.

¹ The Enrollee must use its best professional judgment to determine the upstream and downstream distances based on receiving water flow, accessibility to upstream/downstream waterbody banks, and size of visible sewage plume.

2.4. Safety and Access Exceptions

If the Enrollee encounters access restrictions or unsafe conditions that prevents its compliance with spill response requirements or monitoring requirements in this General Order, the Enrollee shall provide documentation of access restrictions and/or safety hazards in the corresponding required report.

3. REPORTING REQUIREMENTS

All reporting required in this General Order must be submitted electronically to the online [CIWQS Sanitary Sewer System Database](https://ciwqs.waterboards.ca.gov) (<https://ciwqs.waterboards.ca.gov>), unless specified otherwise in this General Order. Electronic reporting may solely be conducted by a Legally Responsible Official or Data Submitter(s) previously designated by the Legally Responsible Official, as required in section 5.8 (Designation of Data Submitters) of this General Order.

The Enrollee shall report any information that is protected by the Homeland Security Act, by email to SanitarySewer@waterboards.ca.gov, with a brief explanation of the protection provided by the Homeland Security Act for the subject report to be protected from unauthorized disclosure and/or public access, and for official Water Board regulatory purposes only.

3.1. Reporting Requirements for Individual Category 1 Spill Reporting

3.1.1. Draft Spill Report for Category 1 Spills

Within three (3) business days of the Enrollee's knowledge of a Category 1 spill, the Enrollee shall submit a Draft Spill Report to the online CIWQS Sanitary Sewer System Database.

The Draft Spill Report must, at minimum, include the following items:

1. Contact information: Name and telephone number of Enrollee contact person to respond to spill-specific questions;
2. Spill location name;
3. Date and time the Enrollee was notified of, or self-discovered, the spill;
4. Operator arrival time;

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5. Estimated spill start date and time;
6. Date and time the Enrollee notified the California Office of Emergency Services, and the assigned control number;
7. Description, photographs, and GPS coordinates of the system location where the spill originated;
 - o If a single spill event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the spill appearance point explanation field;
8. Estimated total spill volume exiting the system;
9. Description and photographs of the extent of the spill and spill boundaries;
10. Did the spill reach a drainage conveyance system? If Yes:
 - o Description of the drainage conveyance system transporting the spill;
 - o Photographs of the drainage conveyance system entry location(s);
 - o Estimated spill volume fully recovered from the drainage conveyance system;
 - o Estimated spill volume remaining within the drainage conveyance system;
11. Description and photographs of all discharge point(s) into the surface water;
12. Estimated spill volume that discharged to surface waters; and
13. Estimated total spill volume recovered.

3.1.2. Certified Spill Report for Category 1 Spills

Within 15 calendar days of the spill end date, the Enrollee shall submit a Certified Spill Report for Category 1 spills, to the online CIWQS Sanitary Sewer System Database. Upon completion of the Certified Spill Report, the online CIWQS Sanitary Sewer System Database will issue a final spill event identification number.

The Certified Spill Report must, at minimum, include the following mandatory information in addition to all information in the Draft Spill Report per section 3.1.1 (Draft Spill Report for Category 1 Spills) above:

1. Description of the spill event destination(s), including GPS coordinates if available, that represent the full spread and reach of the spill;
2. Spill end date and time;
3. Description of how the spill volume estimations were calculated, including at a minimum:
 - o The methodology, assumptions and type of data relied upon, such as supervisory control and data acquisition (SCADA) records, flow monitoring or other telemetry information used to estimate the volume of the spill discharged, and the volume of the spill recovered (if any volume of the spill was recovered), and
 - o The methodology(ies), assumptions and type of data relied upon for estimations of the spill start time and the spill end time;

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4. Spill cause(s) (for example, root intrusion, grease deposition, etc.);
5. System failure location (for example, main, lateral, pump station, etc.);
6. Description of the pipe material, and estimated age of the pipe material, at the failure location;
7. Description of the impact of the spill;
8. Whether or not the spill was associated with a storm event;
9. Description of spill response activities including description of immediate spill containment and cleanup efforts;
10. Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the spill, and a schedule of major milestones for those steps;
11. Spill response completion date;
12. Detailed narrative of investigation and investigation findings of cause of spill;
13. Reasons for an ongoing investigation (as applicable) and the expected date of completion;
14. Name and type of receiving water body(s);
15. Description of the water body(s), including but not limited to:
 - o Observed impacts on aquatic life,
 - o Public closure, restricted public access, temporary restricted use, and/or posted health warnings due to spill,
 - o Responsible entity for closing/restricting use of water body, and
 - o Number of days closed/restricted as a result of the spill.
16. Whether or not the spill was located within 1,000 feet of a municipal surface water intake; and
17. If water quality samples were collected, identify sample locations and the parameters the water quality samples were analyzed for. If no samples were taken, Not Applicable shall be selected.

3.1.3. Spill Technical Report for Individual Category 1 Spill in which 50,000 Gallons or Greater Discharged into a Surface Water

For any spill in which 50,000 gallons or greater discharged into a surface water, **within 45 calendar days** of the spill end date, the Enrollee shall submit a Spill Technical Report to the online CIWQS Sanitary Sewer System Database. The Spill Technical Report, at minimum, must include the following information:

1. Spill causes and circumstances, including at minimum:
 - o Complete and detailed explanation of how and when the spill was discovered;

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- Photographs illustrating the spill origin, the extent and reach of the spill, drainage conveyance system entrance and exit, receiving water, and post-cleanup site conditions;
 - Diagram showing the spill failure point, appearance point(s), the spill flow path, and ultimate destinations;
 - Detailed description of the methodology employed, and available data used to calculate the discharge volume and, if applicable, the recovered spill volume;
 - Detailed description of the spill cause(s);
 - Description of the pipe material, and estimated age of the pipe material, at the failure location;
 - Description of the impact of the spill;
 - Copy of original field crew records used to document the spill; and
 - Historical maintenance records for the failure location.
2. Enrollee's response to the spill:
- Chronological narrative description of all actions taken by the Enrollee to terminate the spill;
 - Explanation of how the Sewer System Management Plan Spill Emergency Response Plan was implemented to respond to and mitigate the spill; and
 - Final corrective action(s) completed and a schedule for planned corrective actions, including:
 - Local regulatory enforcement action taken against an illicit discharge in response to this spill, as applicable,
 - Identifiable system modifications, and operation and maintenance program modifications needed to prevent repeated spill occurrences, and
 - Necessary modifications to the Emergency Spill Response Plan to incorporate lessons learned in responding to and mitigating the spill.
3. Water Quality Monitoring, including at minimum:
- Description of all water quality sampling activities conducted;
 - List of pollutant and parameters monitored, sampled and analyzed; as required in section 2.3 (Receiving Water Monitoring) of this Attachment;
 - Laboratory results, including laboratory reports;
 - Detailed location map illustrating all water quality sampling points; and
 - Other regulatory agencies receiving sample results (if applicable).
4. Evaluation of spill impact(s), including a description of short-term and long-term impact(s) to beneficial uses of the surface water.

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3.1.4. Amended Certified Spill Reports for Individual Category 1 Spills

The Enrollee shall update or add additional information to a Certified Spill Report within **90 calendar days** of the spill end date by amending the report or by adding an attachment to the Spill Report in the online CIWQS Sanitary Sewer System Database. The Enrollee shall certify the amended report.

After **90 calendar days**, the Enrollee shall contact the State Water Board at SanitarySewer@waterboards.ca.gov to request to amend a Spill Report. The Legally Responsible Official shall submit justification for why the additional information was not reported within the Amended Spill Report due date.

3.2. Reporting Requirements for Individual Category 2 Spill Reporting

3.2.1. Draft Spill Report for Category 2 Spills

Within three (3) business days of the Enrollee's knowledge of a Category 2 spill, the Enrollee shall submit a Draft Spill Report to the online CIWQS Sanitary Sewer System Database.

The Draft Spill Report must, at minimum, include the following items:

1. Contact information: Name and telephone number of Enrollee contact person to respond to spill-specific questions;
2. Spill location name;
3. Date and time the Enrollee was notified of, or self-discovered, the spill;
4. Operator arrival time;
5. Estimated spill start date and time;
6. Date and time the Enrollee notified the California Office of Emergency Services, and the assigned control number;
7. Description, photographs, and GPS coordinates of the system location where the spill originated;

If a single spill event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the spill appearance point explanation field;

8. Estimated total spill volume exiting the system;
9. Description and photographs of the extent of the spill and spill boundaries;
10. Did the spill reach a drainage conveyance system? If Yes:
 - Description of the drainage conveyance system transporting the spill;
 - Photographs of the drainage conveyance system entry location(s);
 - Estimated spill volume fully recovered from the drainage conveyance system;
 - Estimated spill volume remaining within the drainage conveyance system;

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- Estimated spill volume discharged to a groundwater infiltration basin or facility, if applicable; and

11. Estimated total spill volume recovered.

3.2.2. Certified Spill Report for Category 2 Spills

Within 15 calendar days of the spill end date, the Enrollee shall submit a Certified Spill Report for the Category 2 spill, to the online [CIWQS Sanitary Sewer System Database](https://ciwqs.waterboards.ca.gov) (<https://ciwqs.waterboards.ca.gov>). Upon completion of the Certified Spill Report, the online CIWQS Sanitary Sewer System Database will issue a final spill event identification number.

The Certified Spill Report must, at minimum, include the following mandatory information in addition to all information in the Draft Spill Report per section 3.2.1 (Draft Spill Report for Category 2 Spills) above:

1. Description of the spill event destination(s), including GPS coordinates if available, that represent the full spread and reach of the spill;
2. Spill end date and time;
3. Description of how the spill volume estimations were calculated, including at a minimum:
 - The methodology, assumptions and type of data relied upon, such as supervisory control and data acquisition (SCADA) records, flow monitoring or other telemetry information used to estimate the volume of the spill discharged, and the volume of the spill recovered (if any volume of the spill was recovered), and
 - The methodology(ies), assumptions and type of data relied upon for estimations of the spill start time and the spill end time;
4. Spill cause(s) (for example, root intrusion, grease deposition, etc.);
5. System failure location (for example, main, pump station, etc.);
6. Description of the pipe/infrastructure material, and estimated age of the pipe material, at the failure location;
7. Description of the impact of the spill;
8. Whether or not the spill was associated with a storm event;
9. Description of spill response activities including description of immediate spill containment and cleanup efforts;
10. Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the spill, and a schedule of major milestones for those steps;
11. Spill response completion date;
12. Detailed narrative of investigation and investigation findings of cause of spill;
13. Reasons for an ongoing investigation (as applicable) and the expected date of completion; and

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14. Whether or not the spill was located within 1,000 feet of a municipal surface water intake.

3.2.3. Amended Certified Spill Reports for Individual Category 2 Spills

The Enrollee shall update or add additional information to a Certified Spill Report within **90 calendar days** of the spill end date by amending the report or by adding an attachment to the Spill Report in the online CIWQS Sanitary Sewer System Database. The Enrollee shall certify the amended report.

After **90 calendar days**, the Enrollee shall contact the State Water Board at SanitarySewer@waterboards.ca.gov to request to amend a Spill Report. The Legally Responsible Official shall submit justification for why the additional information was not reported within the Amended Spill Report due date.

3.3. Monthly Certified Spill Reporting for Category 3 Spills

The Enrollee shall report and certify all Category 3 spills to the online CIWQS Sanitary Sewer System Database within 30 calendar days after the end of the month in which the spills occurred. (For example, all Category 3 spills occurring in the month of February shall be reported and certified by March 30th). After the Legally Responsible Official certifies the spills, the online CIWQS Sanitary Sewer System Database will issue a spill event identification number for each spill.

The monthly reporting of all Category 3 spills must include the following items for each spill:

1. Contact information: Name and telephone number of Enrollee contact person to respond to spill-specific questions;
2. Spill location name;
3. Date and time the Enrollee was notified of, or self-discovered, the spill;
4. Operator arrival time;
5. Estimated spill start date and time;
6. Description, photographs, and GPS coordinates where the spill originated:
 - o If a single spill event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the spill appearance point explanation field;
7. Estimated total spill volume exiting the system;
8. Description and photographs of the extent of the spill and spill boundaries;
9. Did the spill reach a drainage conveyance system? If Yes:
 - o Description of the drainage conveyance system transporting the spill;
 - o Photographs of the drainage conveyance system entry locations(s);
 - o Estimated spill volume fully recovered from the drainage conveyance system; and

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- Estimated spill volume discharged to a groundwater infiltration basis or facility, if applicable.
- 10. Estimated total spill volume recovered;
- 11. Description of the spill event destination(s), including GPS coordinates, if available, that represent the full spread and reaches of the spill;
- 12. Spill end date and time;
- 13. Description of how the spill volume estimations were calculated, including, at minimum:
 - The methodology and type of data relied upon, including supervisory control and data acquisition (SCADA) records, flow monitoring or other telemetry information used to estimate the volume of the spill discharged, and the volume of the spill recovered (if any volume of the spill was recovered), and
 - The methodology and type of data relied upon to estimate the spill start time, on-going spill rate at time of arrival (if applicable), and the spill end time;
- 14. Spill cause(s) (for example, root intrusion, grease deposition, etc.);
- 15. System failure location (for example, main, pump station, etc.);
- 16. Description of the pipe/infrastructure material, and estimated age of the pipe/infrastructure material, at the failure location;
- 17. Description of the impact of the spill;
- 18. Whether or not the spill was associated with a storm event;
- 19. Description of spill response activities including description of immediate spill containment and cleanup efforts;
- 20. Description of spill corrective actions, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the spill, and a schedule of the major milestones for those steps; including, at minimum:
 - Local regulatory enforcement action taken against an illicit discharge in response to this spill, as applicable, and
 - Identifiable system modifications, and operation and maintenance program modifications needed to prevent repeated spill occurrences at the same spill event location, including:
 - Adjusted schedule/method of preventive maintenance,
 - Planned rehabilitation or replacement of sanitary sewer asset,
 - Inspected, repaired asset(s), or replaced defective asset(s),
 - Capital improvements,
 - Documentation verifying immediately implemented system modifications and operating/maintenance modifications,
 - Description of spill response activities,

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- Spill response completion date, and
- Ongoing investigation efforts, and expected completion date of investigation to determine the full cause of spill;

21. Detailed narrative of investigation and investigation findings of cause of spill.

3.4. Monthly Certified Spill Reporting for Category 4 Spills

The Enrollee shall report and certify the estimated total spill volume exiting the sanitary sewer system, and the total number of all Category 4 spills to the online CIWQS Sanitary Sewer System Database, within 30 calendar days after the end of the month in which the spills occurred.

3.5. Amended Certified Spill Reports for Category 3 Spills

Within 90 calendar days of the certified Spill Report due date, the Enrollee may update or add additional information to a certified Spill Report by amending the report or by adding an attachment to the Spill Report in the online CIWQS Sanitary Sewer System Database. The Enrollee shall certify the amended report.

After 90 calendar days, the Legally Responsible Official shall contact the State Water Board at SanitarySewer@waterboards.ca.gov to request to amend a certified Spill Report. The Legally Responsible Official shall submit justification for why the additional information was not reported within the 90-day timeframe for amending the certified Spill Report, as provided above.

3.6. Annual Certified Spill Reporting of Category 4 and/or Lateral Spills

For all Category 4 spills and spills from its owned and/or operated laterals that are caused by a failure or blockage in the lateral and that do not discharge to a surface water, the Enrollee shall:

- Maintain records per section 4.4. of this Attachment;
The Enrollee shall provide records upon request by State Water Board or Regional Water Board staff.
- Annually upload and certify a report, in an appropriate digital format, of all recordkeeping of spills to the online CIWQS Sanitary Sewer System Database, by February 1st after the end of the calendar year in which the spills occurred.

A spill from an Enrollee-owned and/or operated lateral that discharges to a surface water is a Category 1 spill; the Enrollee shall report all Category 1 spills per section 3.1 of Attachment E1 (Notification, Monitoring, Reporting and Recordkeeping Requirements) of this General Order.

3.7. Monthly Certification of “No-Spills” or “Category 4 Spills” and/or “Non-Category 1 Lateral Spills”

If either (1) no spills occur during a calendar month or (2) only Category 4, and/or Enrollee-owned and/or operated lateral spills (that do not discharge to a surface water) occur during a calendar month, the Enrollee shall certify, within 30 calendar days after

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the end of each calendar month, either a “No-Spill” certification statement, or a “Category 4 Spills” and/or “Non-Category 1 Lateral Spills” certification statement, in the online CIWQS Sanitary Sewer System Database, certifying that there were either no spills, or Category 4 and/or Non-Category 1 Lateral Spills that will be reported annually (per section 3.6 of this Attachment) for the designated month.

If a spill starts in one calendar month and ends in a subsequent calendar month, and the Enrollee has no further spills of any category, in the subsequent calendar month, the Enrollee shall certify “no-spills” for the subsequent calendar month.

If the Enrollee has no spills from its systems during a calendar month, but the Enrollee voluntarily reported a spill from a private lateral or a private system, the Enrollee shall certify “no-spills” for that calendar month.

If the Enrollee has spills from its owned and/or operated laterals during a calendar month, the Enrollee shall not certify “no spills” for that calendar month.

3.8. Electronic Sanitary Sewer System Service Area Boundary Map

The Legally Responsible Official shall submit, to the State Water Board, an up-to-date electronic spatial map of its sewer system service area boundaries. The map must be in accordance with section 5.14 (Electronic Sanitary Sewer System Service Area Boundary Map) of this General Order and the specification provided on the statewide Sanitary Sewer Systems program website. The map must include the location of wastewater treatment facility(ies) that treats the sewer system waste, if in the same sewer service boundary.

By the Effective Date of this General Order, specifications for the electronic sanitary sewer service area boundary map format will be provided on the statewide Sanitary Sewer Systems Order program website.

3.9. Annual Report (Previously termed as Collection System Questionnaire in General Order 2006-0003-DWQ)

A new Enrollee shall complete and submit its first certified Annual Report into the online CIWQS Sanitary Sewer System Database, **within 30 days of obtaining a CIWQS account**; Subsequent Annual Reports are due by April 1 of each year.

All enrollees shall update their previous year’s Annual Report, **by April 1 of each year after the Effective Date of this General Order**, for each calendar year (January 1 through December 31).

The Annual Report must be entered directly into the online CIWQS Sanitary Sewer System Database. The Enrollee’s Legally Responsible Official shall certify the Annual Report as instructed in CIWQS;

The Annual Report must address, and update as applicable, the following items:

- Population served;

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- Updated sewer system service area boundary map, if service area boundary has changed from original map submitted per section 5.14 (Electronic Sanitary Sewer System Service Area Boundary Map) of this General Order;
- Number of system operation and maintenance staff:
 - Entry level (less than two years of experience),
 - Journey level (greater than two years of experience),
 - Supervisory level, and
 - Managerial level;
- Number of operation and maintenance staff certified as a certified collection system operator by the California Water Environmental Association (CWEA), with:
 - Corresponding number of certified collection system operator grade levels (Grade I, II, III, IV, and V);
- System information:
 - Miles of system gravity and force mains,
 - Number of upper and lower service laterals connected to system,
 - Estimated number of upper and lower laterals owned and/or operated by the Enrollee,
 - Portion of laterals that is Enrollee's responsibility,
 - Average age the major components of system infrastructure,
 - Number and age of pump stations, and
 - Estimated total miles of the system pipeline not accessible for maintenance;
- Name and location of the treatment plant(s) receiving sanitary sewer system's waste;
- Name of satellite sewer system tributaries;
- Number of system's gravity sewer above or underground crossings of water bodies throughout system;
- Number of force main (pressurized pipe) above or underground crossings of water bodies throughout system;
- Number of siphons used to convey waste throughout the sewer system;
- Miles of sewer system cleaned;
- Miles of sewer system video inspected, or comparable (i.e., video closed-circuit television or alternative inspection methods);
- System Performance Evaluation as specified in section 5.11 (System Performance Analysis) of this General Order;
- Major spill causes (for example, root intrusion, grease deposition);

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- System infrastructure failure points (for example, main, pump station, lateral, etc.);
- Ongoing spill investigations; and
- Actions taken to address system deficiencies.

3.10. Sewer System Management Plan Audit Reporting Requirements

The Enrollee shall submit its Sewer System Management Plan Audit and other pertinent audit information, in accordance with section 5.4 (Sewer System Management Plan Audits) of this General Order, to the online CIWQS Sanitary Sewer System Database **by six (6) months after the end of the 3-year audit period.**

If a Sewer System Management Plan Audit is not conducted as required: the Enrollee shall:

- Update the online CIWQS Sanitary Sewer System Database and select the justification for not conducting the Audit; and
- Notify its corresponding Regional Water Board (see Attachment F (Regional Water Quality Control Board Contact Information)) of the justification for the lapsed requirements.

The Enrollee’s reporting of a justification for not conducting a timely Audit does not justify non-compliance with this General Order. The Enrollee shall:

- Submit the late Audit as required in this General Order; and
- Comply with subsequent Audit requirements and due dates corresponding with the original audit cycle.

3.11. Sewer System Management Plan Reporting Requirements

For an Existing Enrollee previously regulated by Order 2006-0003-DWQ: **Within every six (6) years after the required due date of its last Plan Update**, the Legally Responsible Official shall upload and certify a local governing entity-approved Sewer System Management Plan Update to the online CIWQS Sanitary Sewer System Database. If the electronic document format or size capacity prevents the electronic upload of the Plan, the Legally Responsible Official shall report an electronic link to its updated Sewer System Management Plan posted on its own website.

Order 2006-0003-DWQ required each enrollee to develop its initial Sewer System Management Plan per the following schedule, with required Plan updates at a frequency of 5-years thereafter:

- Systems serving populations: Greater than 100,000: May 2, 2009
- Between 100,000 and 10,000: August 2, 2009
- Between 10,000 and 2,500: May 2, 2010
- Less than 2,500: August 2, 2010

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This Order carries forth the previously-required Plan Update schedule per Order 2006-0003-DWQ. Per the six-year Plan Update frequency required in this Order, the Enrollee shall upload and certify its first Plan Update, to the online CIWQS Sanitary Sewer System Database by the following due dates, with subsequent Plan Updates at the frequency of six years thereafter:

Systems serving populations: Greater than 100,000: May 2, 2025

Between 100,000 and 10,000: August 2, 2025

Between 10,000 and 2,500: May 2, 2026

Less than 2,500: August 2, 2026

For a New Enrollee: **Within twelve (12) months of its Application for Enrollment Approval date**, the Legally Responsible Official of a new Enrollee shall upload and certify a local governing entity-approved Sewer System Management Plan to the online CIWQS Sanitary Sewer System Database. If electronic document format or size capacity prevents the electronic upload of the Plan, the Legally Responsible Official shall report an electronic link to its Sewer System Management Plan posted on its own website. The due date for subsequent 6-year Plan updates, is six (6) years from the submittal due date of the new Enrollee's first Sewer System Management Plan.

4. **RECORDKEEPING REQUIREMENTS**

The Enrollee shall maintain records to document compliance with the provisions of this General Order, and previous General Order 2006-0003-DWQ as applicable, for each sanitary sewer system owned, including any required records generated by an Enrollee's contractor(s).

4.1. **Recordkeeping Time Period**

The Enrollee shall maintain records of documents required in this Attachment, including records collected for compliance with this General Order, and records collected in accordance with previous General Order 2006-0003-DWQ, for five (5) years.

4.2. **Availability of Documents**

The Enrollee shall make the records required in this General Order readily available, either electronic or hard copies, for review by Water Board staff during onsite inspections or through an information request.

4.3. **Spill Reports**

The Enrollee shall maintain records for each of the following spill-related events and activities:

- Spill event complaint, including but not limited to records documenting how the Enrollee responded to notifications of spills. Each complaint record must, at a minimum, include the following information:
 - Date, time, and method of notification,

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- Date and time the complainant first noticed the spill, if available,
- Narrative description of the complaint, including any information the caller provided regarding whether the spill has reached surface waters or a drainage conveyance system, if available,
- Complainant's contact information, if available, and
- Final resolution of the complaint;
- Records documenting the steps and/or remedial action(s) undertaken by the Enrollee, using all available information, to comply with this General Order, and previous General Order 2006-0003-DWQ as applicable;
- Records documenting how estimate(s) of volume(s) and, if applicable, volume(s) of spill recovered were calculated;
- All California Office of Emergency Services notification records, as applicable; and
- Records, in accordance with the Monitoring Requirements in this Attachment.

4.4. Recordkeeping of Category 4 Spills and Non-Category 1 Lateral Spills

An Enrollee must maintain the following records for each individual Category 4 spill and for each individual non-Category 1 Enrollee-owned and/or operated lateral spill, and report in accordance to section 3.6 (Annual Certified Spill Reporting of Category 4 and/or Lateral Spills) of this Attachment.

Recordkeeping of Individual Category 4 Spill Information:

1. Contact information: Name and telephone number of Enrollee contact person to respond to spill-specific questions;
2. Spill location name;
3. Description and GPS coordinates for the system location where the spill originated;
4. Did the spill reach a drainage conveyance system? If Yes:
 - Description of drainage conveyance system location,
 - Estimated spill volume fully recovered within the drainage conveyance system, and
 - Estimated spill volume remaining within the drainage conveyance system;
5. Estimated total spill volume exiting the sanitary sewer system;
6. Spill date and start time;
7. Spill cause(s) (for example, root intrusion, grease deposition, etc.);
8. System failure location (for example, main, pump station, etc.);
9. Description of spill response activities including description of immediate spill containment and cleanup efforts;
10. Description of how the volume estimation was calculated, including, at minimum:

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- The methodology and type of data relied upon, including supervisory control and data acquisition (SCADA) records, flow monitoring or other telemetry information used to estimate the volume of the spill discharged, and the volume of the spill recovered (if any volume of the spill was recovered), and
- The methodology and type of data relied upon to estimate the spill start time, on-going spill rate at time of arrival (if applicable), and the spill end time;

11. Description of implemented system modifications and operating/maintenance modifications.

Recordkeeping of Individual Lateral Spill Information:

1. Date and time the Enrollee was notified of, or self-discovered, the spill;
2. Location of individual spill;
3. Estimated individual spill volume;
4. Spill cause(s) (for example, root intrusion, grease deposition, etc.); and
5. Description of how the volume estimations were calculated.

Total Annual Spill Information:

1. Estimated total annual spill volume;
2. Description of spill corrective actions, including at minimum:
 - Local regulatory enforcement action taken against the sewer lateral owner in response to a spill, as applicable, and
 - System operation, maintenance and program modifications implemented to prevent repeated spill occurrences at the same spill location.

4.5. Sewer System Telemetry Records

The Enrollee shall maintain the following sewer system telemetry records if used to document compliance with this General Order, and previous General Order 2006-0003-DWQ as applicable, including spill volume estimates:

- Supervisory control and data acquisition (SCADA) system(s);
- Alarm system(s);
- Flow monitoring device(s) or other instrument(s) used to estimate sewage flow rates, and/or volumes;
- Computerized maintenance management system records; and
- Asset management-related records.

4.6. Sewer System Management Plan Implementation Records

The Enrollee shall maintain records documenting the Enrollee’s implementation of its Sewer System Management Plan, including documents supporting its Sewer System Management Plan audits, corrections, modifications, and updates to the Sewer System Management Plan.

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4.7. Audit Records

The Enrollee shall maintain, at minimum, the following records pertaining to its Sewer System Management Plan audits, and other internal audits:

- Completed audit documents and findings;
- Name and contact information of staff and/or consultants that conducted or involved in the audit; and
- Follow-up actions based on audit findings.

4.8. Equipment Records

The Enrollee shall maintain a log of all owned and leased sewer system cleaning, operational, maintenance, construction, and rehabilitation equipment.

4.9. Work Orders

The Enrollee shall maintain record of work orders for operations and maintenance projects.

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ATTACHMENT E2 – SUMMARY OF NOTIFICATION, MONITORING AND REPORTING REQUIREMENTS

This Attachment provides a summary of notification, monitoring and reporting requirements, by spill category, and for Enrollee-owned and/or operated laterals as required in Attachment E1 of this General Order, for quick reference purposes only.

Table E2-1

Spill Category 1: Spills to Surface Waters

Spill Requirement	Due	Method
Notification	<p>Within two (2) hours of the Enrollee’s knowledge of a Category 1 spill of 1,000 gallons or greater, discharging or threatening to discharge to surface waters:</p> <p>Notify the California Office of Emergency Services and obtain a notification control number.</p>	<p>California Office of Emergency Services at: (800) 852-7550 (Section 1 of Attachment E1)</p>
Monitoring	<ul style="list-style-type: none"> • Conduct spill-specific monitoring; • Conduct water quality sampling of the receiving water within 18 hours of initial knowledge of spill of 50,000 gallons or greater to surface waters. 	<p>(Section 2 of Attachment E1)</p>
Reporting	<ul style="list-style-type: none"> • Submit Draft Spill Report within three (3) business days of the Enrollee’s knowledge of the spill; • Submit Certified Spill Report within 15 calendar days of the spill end date; • Submit Technical Report within 45 calendar days after the spill end date for a Category 1 spill in which 50,000 gallons or greater discharged to surface waters; and • Submit Amended Spill Report within 90 calendar days after the spill end date. 	<p>(Section 3.1 of Attachment E1)</p>

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Table E2-2

Spill Category 2: Spills of 1,000 Gallons or Greater That Do Not Discharge to Surface Waters

Spill Requirements	Due	Method
Notification	<p>Within two (2) hours of the Enrollee's knowledge of a Category 2 spill of 1,000 gallons or greater, discharging or threatening to discharge to waters of the State:</p> <p>Notify California Office of Emergency Services and obtain a notification control number.</p>	<p>California Office of Emergency Services at: (800) 852-7550</p> <p>(Section 1 of Attachment E1)</p>
Monitoring	Conduct spill-specific monitoring.	(Section 2 of Attachment E1)
Reporting	<ul style="list-style-type: none"> • Submit Draft Spill Report within three (3) business days of the Enrollee's knowledge of the spill; • Submit Certified Spill Report within 15 calendar days of the spill end date; and • Submit Amended Spill Report within 90 calendar days after the spill end date. 	(Section 3.2 of Attachment E1)

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Table E2-3

Spill Category 3: Spills of Equal or Greater than 50 Gallons and Less than 1,000 Gallons That Does Not Discharge to Surface Waters

Spill Requirements	Due	Method
Notification	Not Applicable	Not Applicable
Monitoring	Conduct spill-specific monitoring.	(Section 2 of Attachment E1)
Reporting	<ul style="list-style-type: none"> Submit monthly Certified Spill Report to the online CIWQS Sanitary Sewer System Database within 30 calendars days after the end of the month in which the spills occur; and Submit Amended Spill Reports within 90 calendar days after the Certified Spill Report due date. 	(Section 3.3 and 3.5 of Attachment E1)

Table E2-4

Spill Category 4: Spills Less Than 50 Gallons That Do Not Discharge to Surface Waters

Spill Requirements	Due	Method
Notification	Not Applicable	Not Applicable
Monitoring	Conduct spill-specific monitoring.	(Section 2 of Attachment E1)
Reporting	<ul style="list-style-type: none"> If, during any calendar month, Category 4 spills occur, certify monthly, the estimated total spill volume exiting the sanitary sewer system, and the total number of all Category 4 spills into the online CIWQS Sanitary Sewer System Database, within 30 days after the end of the calendar month in which the spills occurred. Upload and certify a report, in an acceptable digital format, of all Category 4 spills to the online CIWQS Sanitary Sewer System Database, by February 1st after the end of the calendar year in which the spills occur. 	(Section 3.4, 3.6, 3.7 and 4.4 of Attachment E1)

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Table E2-5

Enrollee Owned and/or Operated Lateral Spills That Do Not Discharge to Surface Waters

Spill Requirements	Due	Method
Notification	<p>Within two (2) hours of the Enrollee’s knowledge of a spill of 1,000 gallons or greater, from an enrollee-owned and/or operated lateral, discharging or threatening to discharge to waters of the State:</p> <p>Notify California Office of Emergency Services and obtain a notification control number.</p> <p>Not applicable to a spill of less than 1,000 gallons.</p>	<p>California Office of Emergency Services at: (800) 852-7550</p> <p>(Section 1 of Attachment E1)</p>
Monitoring	Conduct visual monitoring.	(Section 2 of Attachment E1)
Reporting	<ul style="list-style-type: none"> • Upload and certify a report, in an acceptable digital format, of all lateral spills (that do not discharge to a surface water) to the online CIWQS Sanitary Sewer System Database, by February 1st after the end of the calendar year in which the spills occur. • Report a lateral spill of any volume that discharges to a surface water as a Category 1 spill. 	(Sections 3.6, 3.7 and 4.4 of Attachment E1)

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ATTACHMENT F – REGIONAL WATER QUALITY CONTROL BOARD CONTACT INFORMATION

This Attachment provides a map, list of counties, and contact information to assist the Enrollee in identifying the corresponding Regional Water Quality Control Board office, for all Regional Water Board notification requirements in this General Order.



Region 1 -- North Coast Regional Water Quality Control Board:

Del Norte, Glenn, Humboldt, Lake, Marin, Mendocino, Modoc, Siskiyou, Sonoma, and Trinity counties.

RB1SpillReporting@waterboards.ca.gov or (707) 576-2220

Region 2 -- San Francisco Bay Regional Water Quality Control Board:

Alameda, Contra Costa, San Francisco, Santa Clara (Northern most part of Morgan Hill), San Mateo, Marin, Sonoma, Napa, Solano counties.

RB2SpillReports@waterboards.ca.gov or (510) 622-2369

Region 3 -- Central Coast Regional Water Quality Control Board:

Santa Clara (most of Morgan Hill), San Mateo (Southern portion), Santa Cruz, San Benito, Monterey, Kern (small portions), San Luis Obispo, Santa Barbara, Ventura (Northern portion) counties.

CentralCoast@waterboards.ca.gov or (805) 549-3147

Region 4 -- Los Angeles Regional Water Quality Control Board:

Los Angeles, Ventura counties (small portions of Kern and Santa Barbara counties).

rb4-ssswdr@waterboards.ca.gov or (213) 576-6600

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Region 5 -- Central Valley Regional Water Quality Control Board:

Rancho Cordova (Sacramento) Office: Colusa, Lake, Sutter, Yuba, Sierra, Nevada, Placer, Yolo, Napa, (North East), Solano (West), Sacramento, El Dorado, Amador, Calaveras, San Joaquin, Contra Costa (East), Stanislaus, Tuolumne counties.

RB5sSpillReporting@waterboards.ca.gov or (916) 464-3291

Fresno Office: Fresno, Kern, Kings, Madera, Mariposa, Merced, and Tulare counties, and small portions of San Benito and San Luis Obispo counties.

RB5fSpillReporting@waterboards.ca.gov or (559) 445-5116

Redding Office: Butte, Glen, Lassen, Modoc, Plumas, Shasta, Siskiyou, and Tehama counties.

RB5rSpillReporting@waterboards.ca.gov or (530) 224-4845

Region 6 -- Lahontan Regional Water Quality Control Board:

Lake Tahoe Office: Alpine, Modoc (East), Lassen (East side and Eagle Lake), Sierra, Nevada, Placer, El Dorado counties.

RB6sSpillReporting@waterboards.ca.gov or (530) 542-5400

Victorville Office: Mono, Inyo, Kern (East), San Bernardino, Los Angeles (North East corner) counties.

RB6vSpillReporting@waterboards.ca.gov or (760) 241-6583

Region 7 -- Colorado River Basin Regional Water Quality Control Board:

Imperial county and portions of San Bernardino, Riverside, San Diego counties.

RB7SpillReporting@waterboards.ca.gov or (760) 346-7491

Region 8 -- Santa Ana Regional Water Quality Control Board:

Orange, Riverside, San Bernardino counties.

RB8SpillReporting@waterboards.ca.gov or (951) 782-4130

Region 9 -- San Diego Regional Water Quality Control Board:

San Diego county and portions of Orange and Riverside counties.

RB9Spill_Report@waterboards.ca.gov or (619) 516-1990

End of Order 2022-0103-DWQ

Appendix B

SWRCB Order No. 2006-003 – Statewide General Waste Discharge Requirements for Sanitary Sewer Systems

**STATE WATER RESOURCES CONTROL BOARD
ORDER NO. 2006-0003-DWQ**

**STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR SANITARY
SEWER SYSTEMS**

The State Water Resources Control Board, hereinafter referred to as "State Water Board", finds that:

1. All federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility in the State of California are required to comply with the terms of this Order. Such entities are hereinafter referred to as "Enrollees".
2. Sanitary sewer overflows (SSOs) are overflows from sanitary sewer systems of domestic wastewater, as well as industrial and commercial wastewater, depending on the pattern of land uses in the area served by the sanitary sewer system. SSOs often contain high levels of suspended solids, pathogenic organisms, toxic pollutants, nutrients, oxygen-demanding organic compounds, oil and grease and other pollutants. SSOs may cause a public nuisance, particularly when raw untreated wastewater is discharged to areas with high public exposure, such as streets or surface waters used for drinking, fishing, or body contact recreation. SSOs may pollute surface or ground waters, threaten public health, adversely affect aquatic life, and impair the recreational use and aesthetic enjoyment of surface waters.
3. Sanitary sewer systems experience periodic failures resulting in discharges that may affect waters of the state. There are many factors (including factors related to geology, design, construction methods and materials, age of the system, population growth, and system operation and maintenance), which affect the likelihood of an SSO. A proactive approach that requires Enrollees to ensure a system-wide operation, maintenance, and management plan is in place will reduce the number and frequency of SSOs within the state. This approach will in turn decrease the risk to human health and the environment caused by SSOs.
4. Major causes of SSOs include: grease blockages, root blockages, sewer line flood damage, manhole structure failures, vandalism, pump station mechanical failures, power outages, excessive storm or ground water inflow/infiltration, debris blockages, sanitary sewer system age and construction material failures, lack of proper operation and maintenance, insufficient capacity and contractor-caused damages. Many SSOs are preventable with adequate and appropriate facilities, source control measures and operation and maintenance of the sanitary sewer system.

SEWER SYSTEM MANAGEMENT PLANS

5. To facilitate proper funding and management of sanitary sewer systems, each Enrollee must develop and implement a system-specific Sewer System Management Plan (SSMP). To be effective, SSMPs must include provisions to provide proper and efficient management, operation, and maintenance of sanitary sewer systems, while taking into consideration risk management and cost benefit analysis. Additionally, an SSMP must contain a spill response plan that establishes standard procedures for immediate response to an SSO in a manner designed to minimize water quality impacts and potential nuisance conditions.
6. Many local public agencies in California have already developed SSMPs and implemented measures to reduce SSOs. These entities can build upon their existing efforts to establish a comprehensive SSMP consistent with this Order. Others, however, still require technical assistance and, in some cases, funding to improve sanitary sewer system operation and maintenance in order to reduce SSOs.
7. SSMP certification by technically qualified and experienced persons can provide a useful and cost-effective means for ensuring that SSMPs are developed and implemented appropriately.
8. It is the State Water Board's intent to gather additional information on the causes and sources of SSOs to augment existing information and to determine the full extent of SSOs and consequent public health and/or environmental impacts occurring in the State.
9. Both uniform SSO reporting and a centralized statewide electronic database are needed to collect information to allow the State Water Board and Regional Water Quality Control Boards (Regional Water Boards) to effectively analyze the extent of SSOs statewide and their potential impacts on beneficial uses and public health. The monitoring and reporting program required by this Order and the attached Monitoring and Reporting Program No. 2006-0003-DWQ, are necessary to assure compliance with these waste discharge requirements (WDRs).
10. Information regarding SSOs must be provided to Regional Water Boards and other regulatory agencies in a timely manner and be made available to the public in a complete, concise, and timely fashion.
11. Some Regional Water Boards have issued WDRs or WDRs that serve as National Pollution Discharge Elimination System (NPDES) permits to sanitary sewer system owners/operators within their jurisdictions. This Order establishes minimum requirements to prevent SSOs. Although it is the State Water Board's intent that this Order be the primary regulatory mechanism for sanitary sewer systems statewide, Regional Water Boards may issue more stringent or more prescriptive WDRs for sanitary sewer systems.

Upon issuance or reissuance of a Regional Water Board's WDRs for a system subject to this Order, the Regional Water Board shall coordinate its requirements with stated requirements within this Order, to identify requirements that are more stringent, to remove requirements that are less stringent than this Order, and to provide consistency in reporting.

REGULATORY CONSIDERATIONS

12. California Water Code section 13263 provides that the State Water Board may prescribe general WDRs for a category of discharges if the State Water Board finds or determines that:

- The discharges are produced by the same or similar operations;
- The discharges involve the same or similar types of waste;
- The discharges require the same or similar treatment standards; and
- The discharges are more appropriately regulated under general discharge requirements than individual discharge requirements.

This Order establishes requirements for a class of operations, facilities, and discharges that are similar throughout the state.

13. The issuance of general WDRs to the Enrollees will:

- a) Reduce the administrative burden of issuing individual WDRs to each Enrollee;
- b) Provide for a unified statewide approach for the reporting and database tracking of SSOs;
- c) Establish consistent and uniform requirements for SSMP development and implementation;
- d) Provide statewide consistency in reporting; and
- e) Facilitate consistent enforcement for violations.

14. The beneficial uses of surface waters that can be impaired by SSOs include, but are not limited to, aquatic life, drinking water supply, body contact and non-contact recreation, and aesthetics. The beneficial uses of ground water that can be impaired include, but are not limited to, drinking water and agricultural supply. Surface and ground waters throughout the state support these uses to varying degrees.

15. The implementation of requirements set forth in this Order will ensure the reasonable protection of past, present, and probable future beneficial uses of water and the prevention of nuisance. The requirements implement the water quality control plans (Basin Plans) for each region and take into account the environmental characteristics of hydrographic units within the state. Additionally, the State Water Board has considered water quality conditions that could reasonably be achieved through the coordinated control of all factors that affect

water quality in the area, costs associated with compliance with these requirements, the need for developing housing within California, and the need to develop and use recycled water.

16. The Federal Clean Water Act largely prohibits any discharge of pollutants from a point source to waters of the United States except as authorized under an NPDES permit. In general, any point source discharge of sewage effluent to waters of the United States must comply with technology-based, secondary treatment standards, at a minimum, and any more stringent requirements necessary to meet applicable water quality standards and other requirements. Hence, the unpermitted discharge of wastewater from a sanitary sewer system to waters of the United States is illegal under the Clean Water Act. In addition, many Basin Plans adopted by the Regional Water Boards contain discharge prohibitions that apply to the discharge of untreated or partially treated wastewater. Finally, the California Water Code generally prohibits the discharge of waste to land prior to the filing of any required report of waste discharge and the subsequent issuance of either WDRs or a waiver of WDRs.
17. California Water Code section 13263 requires a water board to, after any necessary hearing, prescribe requirements as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge. The requirements shall, among other things, take into consideration the need to prevent nuisance.
18. California Water Code section 13050, subdivision (m), defines nuisance as anything which meets all of the following requirements:
 - a. Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
 - b. Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
 - c. Occurs during, or as a result of, the treatment or disposal of wastes.
19. This Order is consistent with State Water Board Resolution No. 68-16 (Statement of Policy with Respect to Maintaining High Quality of Waters in California) in that the Order imposes conditions to prevent impacts to water quality, does not allow the degradation of water quality, will not unreasonably affect beneficial uses of water, and will not result in water quality less than prescribed in State Water Board or Regional Water Board plans and policies.
20. The action to adopt this General Order is exempt from the California Environmental Quality Act (Public Resources Code §21000 et seq.) because it is an action taken by a regulatory agency to assure the protection of the environment and the regulatory process involves procedures for protection of the environment.

(Cal. Code Regs., tit. 14, §15308). In addition, the action to adopt this Order is exempt from CEQA pursuant to Cal.Code Regs., title 14, §15301 to the extent that it applies to existing sanitary sewer collection systems that constitute “existing facilities” as that term is used in Section 15301, and §15302, to the extent that it results in the repair or replacement of existing systems involving negligible or no expansion of capacity.

21. The Fact Sheet, which is incorporated by reference in the Order, contains supplemental information that was also considered in establishing these requirements.
22. The State Water Board has notified all affected public agencies and all known interested persons of the intent to prescribe general WDRs that require Enrollees to develop SSMPs and to report all SSOs.
23. The State Water Board conducted a public hearing on February 8, 2006, to receive oral and written comments on the draft order. The State Water Board received and considered, at its May 2, 2006, meeting, additional public comments on substantial changes made to the proposed general WDRs following the February 8, 2006, public hearing. The State Water Board has considered all comments pertaining to the proposed general WDRs.

IT IS HEREBY ORDERED, that pursuant to California Water Code section 13263, the Enrollees, their agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted hereunder, shall comply with the following:

A. DEFINITIONS

1. **Sanitary sewer overflow (SSO)** - Any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system. SSOs include:
 - (i) Overflows or releases of untreated or partially treated wastewater that reach waters of the United States;
 - (ii) Overflows or releases of untreated or partially treated wastewater that do not reach waters of the United States; and
 - (iii) Wastewater backups into buildings and on private property that are caused by blockages or flow conditions within the publicly owned portion of a sanitary sewer system.
2. **Sanitary sewer system** – Any system of pipes, pump stations, sewer lines, or other conveyances, upstream of a wastewater treatment plant headworks used to collect and convey wastewater to the publicly owned treatment facility. Temporary storage and conveyance facilities (such as vaults, temporary piping, construction trenches, wet wells, impoundments, tanks, etc.) are considered to be part of the sanitary sewer system, and discharges into these temporary storage facilities are not considered to be SSOs.

For purposes of this Order, sanitary sewer systems include only those systems owned by public agencies that are comprised of more than one mile of pipes or sewer lines.

3. **Enrollee** - A federal or state agency, municipality, county, district, and other public entity that owns or operates a sanitary sewer system, as defined in the general WDRs, and that has submitted a complete and approved application for coverage under this Order.
4. **SSO Reporting System** – Online spill reporting system that is hosted, controlled, and maintained by the State Water Board. The web address for this site is <http://ciwqs.waterboards.ca.gov>. This online database is maintained on a secure site and is controlled by unique usernames and passwords.
5. **Untreated or partially treated wastewater** – Any volume of waste discharged from the sanitary sewer system upstream of a wastewater treatment plant headworks.
6. **Satellite collection system** – The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility to which the sanitary sewer system is tributary.
7. **Nuisance** - California Water Code section 13050, subdivision (m), defines nuisance as anything which meets all of the following requirements:
 - a. Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
 - b. Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
 - c. Occurs during, or as a result of, the treatment or disposal of wastes.

B. APPLICATION REQUIREMENTS

1. **Deadlines for Application** – All public agencies that currently own or operate sanitary sewer systems within the State of California must apply for coverage under the general WDRs within six (6) months of the date of adoption of the general WDRs. Additionally, public agencies that acquire or assume responsibility for operating sanitary sewer systems after the date of adoption of this Order must apply for coverage under the general WDRs at least three (3) months prior to operation of those facilities.
2. **Applications under the general WDRs** – In order to apply for coverage pursuant to the general WDRs, a legally authorized representative for each agency must submit a complete application package. Within sixty (60) days of adoption of the

general WDRs, State Water Board staff will send specific instructions on how to apply for coverage under the general WDRs to all known public agencies that own sanitary sewer systems. Agencies that do not receive notice may obtain applications and instructions online on the Water Board's website.

3. Coverage under the general WDRs – Permit coverage will be in effect once a complete application package has been submitted and approved by the State Water Board's Division of Water Quality.

C. PROHIBITIONS

1. Any SSO that results in a discharge of untreated or partially treated wastewater to waters of the United States is prohibited.
2. Any SSO that results in a discharge of untreated or partially treated wastewater that creates a nuisance as defined in California Water Code Section 13050(m) is prohibited.

D. PROVISIONS

1. The Enrollee must comply with all conditions of this Order. Any noncompliance with this Order constitutes a violation of the California Water Code and is grounds for enforcement action.
2. It is the intent of the State Water Board that sanitary sewer systems be regulated in a manner consistent with the general WDRs. Nothing in the general WDRs shall be:
 - (i) Interpreted or applied in a manner inconsistent with the Federal Clean Water Act, or supersede a more specific or more stringent state or federal requirement in an existing permit, regulation, or administrative/judicial order or Consent Decree;
 - (ii) Interpreted or applied to authorize an SSO that is illegal under either the Clean Water Act, an applicable Basin Plan prohibition or water quality standard, or the California Water Code;
 - (iii) Interpreted or applied to prohibit a Regional Water Board from issuing an individual NPDES permit or WDR, superseding this general WDR, for a sanitary sewer system, authorized under the Clean Water Act or California Water Code; or
 - (iv) Interpreted or applied to supersede any more specific or more stringent WDRs or enforcement order issued by a Regional Water Board.
3. The Enrollee shall take all feasible steps to eliminate SSOs. In the event that an SSO does occur, the Enrollee shall take all feasible steps to contain and mitigate the impacts of an SSO.

4. In the event of an SSO, the Enrollee shall take all feasible steps to prevent untreated or partially treated wastewater from discharging from storm drains into flood control channels or waters of the United States by blocking the storm drainage system and by removing the wastewater from the storm drains.
5. All SSOs must be reported in accordance with Section G of the general WDRs.
6. In any enforcement action, the State and/or Regional Water Boards will consider the appropriate factors under the duly adopted State Water Board Enforcement Policy. And, consistent with the Enforcement Policy, the State and/or Regional Water Boards must consider the Enrollee's efforts to contain, control, and mitigate SSOs when considering the California Water Code Section 13327 factors. In assessing these factors, the State and/or Regional Water Boards will also consider whether:
 - (i) The Enrollee has complied with the requirements of this Order, including requirements for reporting and developing and implementing a SSMP;
 - (ii) The Enrollee can identify the cause or likely cause of the discharge event;
 - (iii) There were no feasible alternatives to the discharge, such as temporary storage or retention of untreated wastewater, reduction of inflow and infiltration, use of adequate backup equipment, collecting and hauling of untreated wastewater to a treatment facility, or an increase in the capacity of the system as necessary to contain the design storm event identified in the SSMP. It is inappropriate to consider the lack of feasible alternatives, if the Enrollee does not implement a periodic or continuing process to identify and correct problems.
 - (iv) The discharge was exceptional, unintentional, temporary, and caused by factors beyond the reasonable control of the Enrollee;
 - (v) The discharge could have been prevented by the exercise of reasonable control described in a certified SSMP for:
 - Proper management, operation and maintenance;
 - Adequate treatment facilities, sanitary sewer system facilities, and/or components with an appropriate design capacity, to reasonably prevent SSOs (e.g., adequately enlarging treatment or collection facilities to accommodate growth, infiltration and inflow (I/I), etc.);
 - Preventive maintenance (including cleaning and fats, oils, and grease (FOG) control);
 - Installation of adequate backup equipment; and
 - Inflow and infiltration prevention and control to the extent practicable.
 - (vi) The sanitary sewer system design capacity is appropriate to reasonably prevent SSOs.

(vii) The Enrollee took all reasonable steps to stop and mitigate the impact of the discharge as soon as possible.

7. When a sanitary sewer overflow occurs, the Enrollee shall take all feasible steps and necessary remedial actions to 1) control or limit the volume of untreated or partially treated wastewater discharged, 2) terminate the discharge, and 3) recover as much of the wastewater discharged as possible for proper disposal, including any wash down water.

The Enrollee shall implement all remedial actions to the extent they may be applicable to the discharge and not inconsistent with an emergency response plan, including the following:

- (i) Interception and rerouting of untreated or partially treated wastewater flows around the wastewater line failure;
 - (ii) Vacuum truck recovery of sanitary sewer overflows and wash down water;
 - (iii) Cleanup of debris at the overflow site;
 - (iv) System modifications to prevent another SSO at the same location;
 - (v) Adequate sampling to determine the nature and impact of the release; and
 - (vi) Adequate public notification to protect the public from exposure to the SSO.
8. The Enrollee shall properly, manage, operate, and maintain all parts of the sanitary sewer system owned or operated by the Enrollee, and shall ensure that the system operators (including employees, contractors, or other agents) are adequately trained and possess adequate knowledge, skills, and abilities.
9. The Enrollee shall allocate adequate resources for the operation, maintenance, and repair of its sanitary sewer system, by establishing a proper rate structure, accounting mechanisms, and auditing procedures to ensure an adequate measure of revenues and expenditures. These procedures must be in compliance with applicable laws and regulations and comply with generally acceptable accounting practices.
10. The Enrollee shall provide adequate capacity to convey base flows and peak flows, including flows related to wet weather events. Capacity shall meet or exceed the design criteria as defined in the Enrollee's System Evaluation and Capacity Assurance Plan for all parts of the sanitary sewer system owned or operated by the Enrollee.
11. The Enrollee shall develop and implement a written Sewer System Management Plan (SSMP) and make it available to the State and/or Regional Water Board upon request. A copy of this document must be publicly available at the Enrollee's office and/or available on the Internet. This SSMP must be approved by the Enrollee's governing board at a public meeting.

12. In accordance with the California Business and Professions Code sections 6735, 7835, and 7835.1, all engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. Specific elements of the SSMP that require professional evaluation and judgments shall be prepared by or under the direction of appropriately qualified professionals, and shall bear the professional(s)' signature and stamp.
13. The mandatory elements of the SSMP are specified below. However, if the Enrollee believes that any element of this section is not appropriate or applicable to the Enrollee's sanitary sewer system, the SSMP program does not need to address that element. The Enrollee must justify why that element is not applicable. The SSMP must be approved by the deadlines listed in the SSMP Time Schedule below.

Sewer System Management Plan (SSMP)

- (i)**Goal:** The goal of the SSMP is to provide a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system. This will help reduce and prevent SSOs, as well as mitigate any SSOs that do occur.
- (ii)**Organization:** The SSMP must identify:
 - (a) The name of the responsible or authorized representative as described in Section J of this Order.
 - (b) The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program. The SSMP must identify lines of authority through an organization chart or similar document with a narrative explanation; and
 - (c) The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Water Board and other agencies if applicable (such as County Health Officer, County Environmental Health Agency, Regional Water Board, and/or State Office of Emergency Services (OES)).
- (iii)**Legal Authority:** Each Enrollee must demonstrate, through sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:
 - (a) Prevent illicit discharges into its sanitary sewer system (examples may include I/I, stormwater, chemical dumping, unauthorized debris and cut roots, etc.);
 - (b) Require that sewers and connections be properly designed and

constructed;

- (c) Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency;
- (d) Limit the discharge of fats, oils, and grease and other debris that may cause blockages, and
- (e) Enforce any violation of its sewer ordinances.

(iv) **Operation and Maintenance Program.** The SSMP must include those elements listed below that are appropriate and applicable to the Enrollee's system:

- (a) Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities;
- (b) Describe routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventative Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders;
- (c) Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan;
- (d) Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained; and
- (e) Provide equipment and replacement part inventories, including identification of critical replacement parts.

(v) Design and Performance Provisions:

- (a) Design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems; and
- (b) Procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

(vi) Overflow Emergency Response Plan - Each Enrollee shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:

- (a) Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;
- (b) A program to ensure an appropriate response to all overflows;
- (c) Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, Regional Water Boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the MRP. All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board WDRs or NPDES permit requirements. The SSMP should identify the officials who will receive immediate notification;
- (d) Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;
- (e) Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and
- (f) A program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to waters of the United States and to minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.

- (vii) **FOG Control Program:** Each Enrollee shall evaluate its service area to determine whether a FOG control program is needed. If an Enrollee determines that a FOG program is not needed, the Enrollee must provide justification for why it is not needed. If FOG is found to be a problem, the Enrollee must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. This plan shall include the following as appropriate:
- (a) An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;
 - (b) A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area;
 - (c) The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;
 - (d) Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements;
 - (e) Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the FOG ordinance;
 - (f) An identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section; and
 - (g) Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified in (f) above.
- (viii) **System Evaluation and Capacity Assurance Plan:** The Enrollee shall prepare and implement a capital improvement plan (CIP) that will provide hydraulic capacity of key sanitary sewer system elements for dry weather peak flow conditions, as well as the appropriate design storm or wet weather event. At a minimum, the plan must include:
- (a) **Evaluation:** Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events;

- (b) **Design Criteria:** Where design criteria do not exist or are deficient, undertake the evaluation identified in (a) above to establish appropriate design criteria; and
 - (c) **Capacity Enhancement Measures:** The steps needed to establish a short- and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.
 - (d) **Schedule:** The Enrollee shall develop a schedule of completion dates for all portions of the capital improvement program developed in (a)-(c) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described in Section D. 14.
- (ix) **Monitoring, Measurement, and Program Modifications:** The Enrollee shall:
- (a) Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities;
 - (b) Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP;
 - (c) Assess the success of the preventative maintenance program;
 - (d) Update program elements, as appropriate, based on monitoring or performance evaluations; and
 - (e) Identify and illustrate SSO trends, including: frequency, location, and volume.
- (x) **SSMP Program Audits** - As part of the SSMP, the Enrollee shall conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the Enrollee's compliance with the SSMP requirements identified in this subsection (D.13), including identification of any deficiencies in the SSMP and steps to correct them.

(xi) **Communication Program** – The Enrollee shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the Enrollee as the program is developed and implemented.

The Enrollee shall also create a plan of communication with systems that are tributary and/or satellite to the Enrollee's sanitary sewer system.

14. Both the SSMP and the Enrollee's program to implement the SSMP must be certified by the Enrollee to be in compliance with the requirements set forth above and must be presented to the Enrollee's governing board for approval at a public meeting. The Enrollee shall certify that the SSMP, and subparts thereof, are in compliance with the general WDRs within the time frames identified in the time schedule provided in subsection D.15, below.

In order to complete this certification, the Enrollee's authorized representative must complete the certification portion in the Online SSO Database Questionnaire by checking the appropriate milestone box, printing and signing the automated form, and sending the form to:

State Water Resources Control Board
Division of Water Quality
Attn: SSO Program Manager
P.O. Box 100 Sacramento, CA 95812

The SSMP must be updated every five (5) years, and must include any significant program changes. Re-certification by the governing board of the Enrollee is required in accordance with D.14 when significant updates to the SSMP are made. To complete the re-certification process, the Enrollee shall enter the data in the Online SSO Database and mail the form to the State Water Board, as described above.

15. The Enrollee shall comply with these requirements according to the following schedule. This time schedule does not supersede existing requirements or time schedules associated with other permits or regulatory requirements.

Sewer System Management Plan Time Schedule

Task and Associated Section	Completion Date			
	Population > 100,000	Population between 100,000 and 10,000	Population between 10,000 and 2,500	Population < 2,500
Application for Permit Coverage Section C	6 months after WDRs Adoption			
Reporting Program Section G	6 months after WDRs Adoption ¹			
SSMP Development Plan and Schedule No specific Section	9 months after WDRs Adoption ²	12 months after WDRs Adoption ²	15 months after WDRs Adoption ²	q18 months after WDRs Adoption ²
Goals and Organization Structure Section D 13 (i) & (ii)	12 months after WDRs Adoption ²	12 months after WDRs Adoption ²	18 months after WDRs Adoption ²	18 months after WDRs Adoption ²
Overflow Emergency Response Program Section D 13 (vi)	24 months after WDRs Adoption ²	30 months after WDRs Adoption ²	36 months after WDRs Adoption ²	39 months after WDRs Adoption ²
Legal Authority Section D 13 (iii)	24 months after WDRs Adoption ²	30 months after WDRs Adoption ²	36 months after WDRs Adoption ²	39 months after WDRs Adoption ²
Operation and Maintenance Program Section D 13 (iv)	24 months after WDRs Adoption ²	30 months after WDRs Adoption ²	36 months after WDRs Adoption ²	39 months after WDRs Adoption ²
Grease Control Program Section D 13 (vii)	24 months after WDRs Adoption ²	30 months after WDRs Adoption ²	36 months after WDRs Adoption ²	39 months after WDRs Adoption ²
Design and Performance Section D 13 (v)	36 months after WDRs Adoption	39 months after WDRs Adoption	48 months after WDRs Adoption	51 months after WDRs Adoption
System Evaluation and Capacity Assurance Plan Section D 13 (viii)	36 months after WDRs Adoption	39 months after WDRs Adoption	48 months after WDRs Adoption	51 months after WDRs Adoption
Final SSMP, incorporating all of the SSMP requirements Section D 13	36 months after WDRs Adoption	39 months after WDRs Adoption	48 months after WDRs Adoption	51 months after WDRs Adoption

1. In the event that by July 1, 2006 the Executive Director is able to execute a memorandum of agreement (MOA) with the California Water Environment Association (CWEA) or discharger representatives outlining a strategy and time schedule for CWEA or another entity to provide statewide training on the adopted monitoring program, SSO database electronic reporting, and SSMP development, consistent with this Order, then the schedule of Reporting Program Section G shall be replaced with the following schedule:

Reporting Program Section G	
Regional Boards 4, 8, and 9	8 months after WDRs Adoption
Regional Boards 1, 2, and 3	12 months after WDRs Adoption
Regional Boards 5, 6, and 7	16 months after WDRs Adoption

If this MOU is not executed by July 1, 2006, the reporting program time schedule will remain six (6) months for all regions and agency size categories.

2. In the event that the Executive Director executes the MOA identified in note 1 by July 1, 2006, then the deadline for this task shall be extended by six (6) months. The time schedule identified in the MOA must be consistent with the extended time schedule provided by this note. If the MOA is not executed by July 1, 2006, the six (6) month time extension will not be granted.

E. WDRs and SSMP AVAILABILITY

1. A copy of the general WDRs and the certified SSMP shall be maintained at appropriate locations (such as the Enrollee’s offices, facilities, and/or Internet homepage) and shall be available to sanitary sewer system operating and maintenance personnel at all times.

F. ENTRY AND INSPECTION

1. The Enrollee shall allow the State or Regional Water Boards or their authorized representative, upon presentation of credentials and other documents as may be required by law, to:
 - a. Enter upon the Enrollee’s premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order;
 - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;

- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
- d. Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order or as otherwise authorized by the California Water Code, any substances or parameters at any location.

G. GENERAL MONITORING AND REPORTING REQUIREMENTS

1. The Enrollee shall furnish to the State or Regional Water Board, within a reasonable time, any information that the State or Regional Water Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The Enrollee shall also furnish to the Executive Director of the State Water Board or Executive Officer of the applicable Regional Water Board, upon request, copies of records required to be kept by this Order.
2. The Enrollee shall comply with the attached Monitoring and Reporting Program No. 2006-0003 and future revisions thereto, as specified by the Executive Director. Monitoring results shall be reported at the intervals specified in Monitoring and Reporting Program No. 2006-0003. Unless superseded by a specific enforcement Order for a specific Enrollee, these reporting requirements are intended to replace other mandatory routine written reports associated with SSOs.
3. All Enrollees must obtain SSO Database accounts and receive a "Username" and "Password" by registering through the California Integrated Water Quality System (CIWQS). These accounts will allow controlled and secure entry into the SSO Database. Additionally, within 30 days of receiving an account and prior to recording spills into the SSO Database, all Enrollees must complete the "Collection System Questionnaire", which collects pertinent information regarding a Enrollee's collection system. The "Collection System Questionnaire" must be updated at least every 12 months.
4. Pursuant to Health and Safety Code section 5411.5, any person who, without regard to intent or negligence, causes or permits any untreated wastewater or other waste to be discharged in or on any waters of the State, or discharged in or deposited where it is, or probably will be, discharged in or on any surface waters of the State, as soon as that person has knowledge of the discharge, shall immediately notify the local health officer of the discharge. Discharges of untreated or partially treated wastewater to storm drains and drainage channels, whether man-made or natural or concrete-lined, shall be reported as required above.

Any SSO greater than 1,000 gallons discharged in or on any waters of the State, or discharged in or deposited where it is, or probably will be, discharged in or on any surface waters of the State shall also be reported to the Office of Emergency Services pursuant to California Water Code section 13271.

H. CHANGE IN OWNERSHIP

- 1 This Order is not transferable to any person or party, except after notice to the Executive Director. The Enrollee shall submit this notice in writing at least 30 days in advance of any proposed transfer. The notice must include a written agreement between the existing and new Enrollee containing a specific date for the transfer of this Order's responsibility and coverage between the existing Enrollee and the new Enrollee. This agreement shall include an acknowledgement that the existing Enrollee is liable for violations up to the transfer date and that the new Enrollee is liable from the transfer date forward.

I. INCOMPLETE REPORTS

1. If an Enrollee becomes aware that it failed to submit any relevant facts in any report required under this Order, the Enrollee shall promptly submit such facts or information by formally amending the report in the Online SSO Database.

J. REPORT DECLARATION

1. All applications, reports, or information shall be signed and certified as follows:
 - (i) All reports required by this Order and other information required by the State or Regional Water Board shall be signed and certified by a person designated, for a municipality, state, federal or other public agency, as either a principal executive officer or ranking elected official, or by a duly authorized representative of that person, as described in paragraph (ii) of this provision. (For purposes of electronic reporting, an electronic signature and accompanying certification, which is in compliance with the Online SSO database procedures, meet this certification requirement.)
 - (ii) An individual is a duly authorized representative only if:
 - (a) The authorization is made in writing by a person described in paragraph (i) of this provision; and
 - (b) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity.

K. CIVIL MONETARY REMEDIES FOR DISCHARGE VIOLATIONS

1. The California Water Code provides various enforcement options, including civil monetary remedies, for violations of this Order.
2. The California Water Code also provides that any person failing or refusing to furnish technical or monitoring program reports, as required under this Order, or

falsifying any information provided in the technical or monitoring reports is subject to civil monetary penalties.

L. SEVERABILITY

1. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.
2. This order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, nor protect the Enrollee from liability under federal, state or local laws, nor create a vested right for the Enrollee to continue the waste discharge.

CERTIFICATION

The undersigned Clerk to the State Water Board does hereby certify that the foregoing is a full, true, and correct copy of general WDRs duly and regularly adopted at a meeting of the State Water Resources Control Board held on May 2, 2006.

AYE: Tam M. Doduc Gerald D. Secundy

NO: Arthur G. Baggett

ABSENT: None

ABSTAIN: None



Song Her
Clerk to the Board

Chapter 1 Appendices

None

Chapter 2 Appendices

Appendix 2-A Key Staff Contact Information

Position	Name	Phone Number	Email
Public Works Director	Terrance Davis	(510) 981-6303	TDavis@berkeleyca.gov
Deputy Public Works Director	Wahid Amiri	(510) 981-6396	WAmiri@berkeleyca.gov
Manager of Engineering	Ronald Nevels	(510) 981-6439	RNevels@berkeleyca.gov
Supervising Civil Engineer	Daniel Akagi	(510) 981-6394	DAkagi@berkeleyca.gov
Associate Civil Engineer	Adadu Yemane	(510) 981-6413	AYemane@berkeleyca.gov
Associate Civil Engineer	Felix Meneau	(510) 981-6399	FMeneau@berkeleyca.gov
Public Works Operations Manager	Joy Brown	(510) 981-6629	EJBrown@berkeleyca.gov
Public Works Maintenance Superintendent	John Hurtado	(510) 981-6484	jhurtado@berkeleyca.gov
Public Works Senior Supervisor	Jesus Sandoval	(510) 981-6676	jsandoval@berkeleyca.gov
Public Works Supervisor	Jaime Valencia	(510) 981-6669	JValencia@berkeleyca.gov

Chapter 3 Appendices

None

Chapter 4 Appendices

Appendix 4-A Public Works Streets and Utilities Division Field Manual – Section IV, Sanitary Sewer Maintenance

Public Works
STREETS and Utilities
DIVISION
FIELD MANUAL

SECTION IV
SANITARY SEWER MAINTENANCE

REVISED 2/18/14

The Sewer Division of Public Works looks to the Sewer System Management Plan and the Sewer Cleaning and Inspection Work Plan as guiding documents. The following pages are guidelines for work in conjunction with those documents.

Working safely is a key component of the Sewer Division's goals. Staff are provided any necessary personal protective equipment. Training is required for all sewer staff including but not limited to:

- Trenching, Excavation
- Confined Space
- Hazardous Communication
- Blood Borne Pathogen
- Gas Monitoring
- Traffic Control

Additionally, Staff are encouraged to become certified through the California Water Environmental Association and are encouraged to become PACP certified as well.

Standard Operating Procedure for Sewer Cleaning

Purpose

The purpose of this Standard Operating Procedure is to ensure that sewer cleaning is performed in a manner that will produce a high quality work product. Quality is important because it ensures that the sanitary sewers will not experience problems prior to their next scheduled cleaning.

Goal

The goal of cleaning a gravity sewer is to restore the flow area to 95% of the original flow area of the pipe.

Required Equipment and Tools

1. Personal protective equipment (hardhat, steel toe boots, gloves, eye/face protection, hearing protection)
2. Calibrated gas detector
3. Proper safety cones, barricades, flagging, signs, or other traffic control devices
4. Confined space equipment (tripod, harness, and ventilation blower)
5. Block Books (sanitary sewer system maps)
6. Combo sewer cleaner
7. Warthog sewer cleaning nozzle
8. Six-wire skid (“proofer”) in sizes that will be encountered during the day
9. Root saw
10. Debris traps in the sizes that will be encountered during the day
11. Manhole hook or pick-axe
12. Measuring wheel
13. Disinfectant

Required Forms

1. Cleaning Work Order
2. Pre-Trip Inspection Form
3. Injury/Damage Report Form

Procedures for Sewer Cleaning Crew

Prior to Leaving the Yard

1. Plan the work so that it starts in the upstream portion of the area and moves downstream. Wherever possible, plan to clean sewers from the downstream manhole.
2. Inspect the sewer cleaning nozzles for wear. Replace nozzles that are excessively worn.
3. If this is the first day that this cleaning unit is being used this week, inspect the first 200 feet of hose and couplings for damage or wear.

At the Jobsite

1. Wear proper personnel protective equipment (PPE).
2. Fill the water tank at or near the first jobsite.
3. Determine and confirm location of upstream and downstream manholes (use street addresses, if possible).
4. Look for any overhead utilities that may come into contact with the vacuum boom during the cleaning operation.
5. Set up proper traffic control by placing traffic signs, flags, cones and other traffic control devices.
6. Move the cleaning unit into the traffic control so that the hose reel is positioned over the manhole.
7. Open the manhole and use the gas detector to determine if it is safe to proceed with the cleaning operation.
8. Install the Warthog nozzle on the hose.

Cleaning Operation

1. Insert the debris trap.
2. Start the auxiliary engine.
3. Lower the hose, with a guide or roller to protect the hose, into the manhole and direct it into the sewer to be cleaned.
4. Start the high pressure pump and set the engine speed to provide adequate pressure for the sewer cleaning operation.
5. Open the water valve and allow the hose to proceed up the sewer. The hose speed should not exceed 3 feet per minute.
6. Allow the hose to proceed 25% of the length of the sewer and pull the hose back.
7. Observe the nature and the quantity of debris pulled back to the manhole.
8. If there is little or no debris, allow the hose to proceed to the upstream manhole.
9. If there is moderate to heavy debris, clean the remaining portion of the sewer in steps not to exceed 25% of the length of the sewer.
10. Open the upstream manhole and verify that the nozzle is at or past the manhole.
11. The sewer has been adequately cleaned when:
Successive passes with a cleaning nozzle do not produce any additional debris; and
The sewer is able to pass a full size, six-wire skid (“proofer”) for its entire length.
12. Determine the nature and quantity of the debris removed during the cleaning operation. Use the codes in Table 4-A-1 to report the nature and quantity of debris. Table 4-A-2 is adapted from the CWEA “Hydroflush Best Practices Manual” publication and sets guidelines for coding debris found during field work.
13. Remove the debris from the manhole using the vacuum unit.
14. Rewind the hose on the reel.

15. Remove the debris trap.
16. Clean the mating surface and close the manhole. Ensure that the manhole is properly seated.
17. Enter the results on the Work Order.
18. Move the cleaning unit and break down and stow the traffic controls.
19. Proceed to the next cleaning jobsite.

At the End of the Day

1. Inspect the equipment and tools for problems.
2. Report any problems with equipment, tools, or sewers that were cleaned during the day to the Supervisor.
3. Turn in all completed Cleaning Work Orders to the Supervisor at end of shift.

Table 1: Criterion for Coding Debris Found During Cleaning

Type of Debris	Clear (no debris)	Light	Moderate	Heavy
Sand, grit, rock	C	L	M	H
Grease	C	L	M	H
Roots	C	L	M	H
Other (specify)	C	L	M	H

Table 2: Categorization of Sewer Cleaning Results

	Clear	Light	Moderate	Heavy
Debris	Code: C <ul style="list-style-type: none"> No observable debris 	Code: L <ul style="list-style-type: none"> Minor amount of debris 15 minutes or less to clean 1 pass 	Code: M <ul style="list-style-type: none"> Less than 5 gallons of debris per line segment 15-30 minutes to clean 2-3 passes 	Code: H <ul style="list-style-type: none"> More than 5 gallons of debris per line segment More than 30 minutes to clean More than 4 passes Operator concern for future stoppage
Grease	Code: C <ul style="list-style-type: none"> No observable grease 	Code: L <ul style="list-style-type: none"> Minor amounts of grease 15 minutes or less to clean 1 pass 	Code: M <ul style="list-style-type: none"> Small “chunks” No “logs” 15-30 minutes to clean 2-3 passes 	Code: H <ul style="list-style-type: none"> Big “chunks” or “logs” More than 30 minutes to clean More than 4 passes Operator concern for future stoppage
Roots	Code: C <ul style="list-style-type: none"> No observable roots 	Code: L <ul style="list-style-type: none"> Minor amounts of roots 15 minutes or less to clean 1 pass 	Code: M <ul style="list-style-type: none"> Thin stringy roots No “clumps” 15-30 minutes to clean 2-3 passes 	Code: H <ul style="list-style-type: none"> Thick roots Large “clumps” More than 30 minutes to clean More than 4 passes Operator concern for future stoppage
Other: Pipe wall fragments Soil/dirt/ rock	Code: C <ul style="list-style-type: none"> No observable materials 	Code: L <ul style="list-style-type: none"> Specify material (if possible) Minor amounts of material 	Code: M <ul style="list-style-type: none"> Specify material Less than 5 gallons of material per line segment 	Code: H <ul style="list-style-type: none"> Specify material More than 5 gallons of material per line segment Operator concern for future stoppage

This table was adapted from *Best Practices Manual: Hydroflush Cleaning of Small Diameter Sewers*, California Collection System Collaborative Benchmarking Group, February 2001.

Table 3: Cleaning Schedule Changes Based on Cleaning Results

Clear	Light	Moderate	Heavy
Decrease frequency to next lower frequency after 2 consecutive C results (e.g. 6 mos. to 12 mos.) and CCTV inspection data showing no remaining defects that would cause a blockage or an SSO.	Continue current maintenance frequency.	Increase current maintenance frequency to next higher frequency (e.g. 6 mos. to 3 mos.)	Increase current maintenance frequency to next higher frequency (e.g. 6 mos. to 3 mos.)

Activity: Service Calls

Description:

Investigation of complaints and identification of major problems and correction of minor problems such as plugged sewers and flooded basements and loose manhole covers.

Service Level:

- Service calls are performed on an as required basis and at the direction of the P.W supervisor or senior supervisor

Personnel:

- 1 sewer maintenance assistant supervisor (SMAS)
- 1 Skilled Laborer or Laborer

Equipment / Materials/ Safety items:

- Various equipment depending on requirement
- Shovels
- Sewer tools
- Hand rods
- Gas Monitors
- Brooms
- Camera Lateral (If necessary)
- Ladder
- Personal protective equipment
- Cones
- Disinfectant/Deodorizer

Work Method:

- Receive assignment at beginning of day from senior supervisor, supervisor or via radio if in field.
- Identify problem and determine need for right equipment
- Method of work will vary depending on problem.
- If blockage, perform hand rodding or use jet flushing trailer
- If problem cannot be solved, call supervisor or senior supervisor for assistance.
- If there is an SSO, follow SSO procedures from the Sewer System Management Plan.
- If restoration of building or home is needed contact supervisor or senior supervisor to contact Restoration Contractor.
- Activate SSO trailer (if necessary)

Average Daily Production:

5 Service Calls

Effective Date: February 18, 2014

Activity: Machine Rodding

Description:

Cleaning of sanitary mains and where possible, sideline, sidewalk, street and backline with power (machine) rodding equipment to remove debris, mud and cut any roots that have infiltrated line.

Service Level:

- Sanitary sewer main lines will be cleaned per the Sewer Cleaning and Inspection Plan and as scheduled. Mainlines that have deteriorated or are known to be problem areas will be rodded more frequently.

Personnel:

- 1 Sewer Maintenance Assistant Supervisor (SMAS)
- 1 Laborer or Skilled Laborer
- 1 Laborer or Skilled Laborer (as required for traffic)

Equipment/ Materials/ Safety Items

- 1 Mechanical Rodding truck
- Flashing light
- Gas monitor
- Ladder
- Personal protective equipment

Work Method:

- Check truck and equipment before leaving yard.
- Park truck near manhole and set up safety cones, signs, safety perimeter.
- Perform necessary safety tests before entering sub surface structure.
- Remove manhole cover, lower rod guide hose to proper depth and place boot.
- Push or rotate auger as needed
- Remove auger and rods after desired footage has been reached
- Clean up work site and place equipment back on truck
- Pick up cones and signs and move to the next location

NOTES: *Machine Rodding is normally done for pipe size from 6 inches to 12 inches in street or sidewalk areas where trucks can access.*

Average Daily Production:

2000 - 3000 Linear Feet

Effective Date: February 18, 2014

ACTIVITY: Jet Rodding (Hydro)

Description:

High pressure cleaning of sewer lines to remove silt, grease, roots and debris accumulated in sewer mains and backlines.

Service Level:

- Jet rodding is performed in accordance with Sewer Cleaning and Inspection Plan and for specific sewer mains prior to CCTV, root foaming or identified as problematic.

Personnel:

- 1 Sewer Maintenance Assistant Supervisor (SMAS)
- 1 Skilled Laborer or Laborer

Equipment/ Materials/ Safety Items

- 1 Combination Truck
- 11500 gallons of water and proper nozzles
- Gas detector
- Rope
- Ladder
- Personal protective equipment

Work Method:

- Check truck equipment before leaving yard.
- Move to site. Place signs and safety devices as required. Perform necessary safety tests before entering subsurface structures.
- Position truck next to manhole
- Install nozzle and root cutter (if necessary) and place tiger tail.
- Follow manufacturer's recommendation with regard to water pressure. Adjust working pressure to meet needs of specific work site.
- Feed hose into line and begin rodding operations.
- Remove debris from manhole.
- Float line or tie off after flushing if preparing for TV crew.
- Secure manhole cover, clean up area and move to next site.
- Refill water tank before moving to new location when water is below minimum level mark.

Average Daily Production:

2,500 - 4,000 Linear Feet

Effective Date: February 18, 2014

ACTIVITY: Investigation of water/sewer leaks

Description:

Use of dyes to locate leaks in sewer lines and determine origin of leaks so that repairs can be accomplished at correct locations

Service Level:

- Performance inspections and tests on sewer lines as required by engineering division, senior supervisor or PW supervisor. Respond to complaints as directed.

Personnel:

- 1 Sewer Maintenance Assistant Supervisor (SMAS)
- 1 Skilled Laborer or Laborer

Equipment/ Safety Items:

- 1 utility truck
- Materials used should be appropriate for type inspection
- Personal Protective Equipment

Work Method:

- Work includes, but not limited to:
- Visually inspecting sewer and dye tests
- Check maps and review site to determine best method to use for testing specific area.
- Place signs and safety devices, as required.
- Fill out and submit required forms.
- Report work activity for the day on daily work

NOTES: For Dye Testing, Place dye in line on upstream side and check at outflow point.

Average Daily production:

1 - 4 Inspections

Effective Date: February 18, 2014

ACTIVITY: Hand Rodding

Description:

Cleaning of sanitary sewer mains, laterals and backlines with hand Roding equipment to remove debris, mud and to cut out roots that have Infiltrated the line.

Service Level:

- Perform in accordance with preventive maintenance program. Backline and laterals which have record of poor flow will be rodded on a rotating schedule once per month to once per year.

Personnel:

- 1 Sewer Maintenance Assistant Supervisor (SMAS)
- 1 Skilled Laborer
- 1 Laborer

Equipment/ Material/ Safety Items

- 1 utility truck
- Hand Roding equipment
- Hand tools
- Personal protective equipment
- Gas Monitor

Work Method:

- Check truck, equipment and sewer maps before leaving yard
- Plan work site from higher elevations to lower elevations
- Notify property owner of crew presence if on private property
- Locate structure, position rod guide and begin Roding
- Remove rod after desired footage has been reached
- If rod will not go through pipe, notify supervisor of problem and put on digs list
- Clean up work site and restore to safe condition

NOTES:

**AVERAGE DAILY PRODUCTION:
1,500 Linear Feet**

EFFECTIVE DATE: February 18, 2014

Activity: Digs and repairs

Description:

Perform repair of sewer mains, laterals, back lines, manhole or other structure.

Service Level:

- Digs and repairs to all sewer lines will be performed on an as needed basis to restore proper operating condition. Does not include reconstruction of lines under improvement programs.

Personnel:

- Sewer Maintenance Assistant Supervisor (SMAS)
- 2 Skilled Laborer (if needed)
- 1 Laborer
- 1 Equipment Operator

Equipment/ Materials/ Safety Items

- 2 Dump trucks (one truck empty and the other fill with A.B. Rock).
- 1 Back hole with 1ft/2ft bucket and breaking gun
- 1 Air compressor
- Pumps
- Hand tools
- Pipe
- Couplings
- Personal protective equipment
- Ladder
- Shoring
- Pump
- Flags
- Cones

Work Method:

- Identify type of problem. Acquire proper tools, equipment and material before leaving yard.
- Block off area to be dug. Place cones, warning signs and barricades
- Call U.S.A before digging. Phone 800-227-2600 or 811 and receive authorization number.
- If utility clearance is ok begin dig to sewer grade
- Dewater trench or hole. After opening hole, repair and replace pipe as necessary.
- Backfill dig with import fill for street excavation or native soil in landscaped area.
- Compact backfill to within four inches of grade.
- Add cut back to grade.
- Clean up

Notes: If location left overnight, be sure that it is properly signed, barricaded and covered with steel plate. Final repair of trench is to be completed by paving crew.

Average Daily Production:
1.5 to 2 Digs/Repairs

Effective Date: February 18, 2014

Activity: Marina Pump/Lift Station Maintenance Procedures

Description:

Inspection and preventative maintenance to lift pumps and chambers at marina in order to maintain efficient operation and reduce possibility of blockage or failure.

Service Level:

- Lift pump stations, grease traps and force pumps will be inspected and cleaned once per week to extent necessary to ensure a fully operational system.

Personnel:

- 1 Sewer Maintenance Assistant Supervisor (SMAS)
- 2 Laborers or Skilled Laborer

Equipment:

- 1 Utility Truck
- 1 Vactor Truck

Materials:

- Degreaser
- Disinfectant
- Bio blocks

Safety Items:

- Personal protective equipment
- Tripod (If needed)
- Harness (If needed)
- Gas detector
- Cones

Work Method:

The following maintenance procedures must be followed when performing operational maintenance at each of the Marina Pump Stations to include the two (2) stations at Aquatic Park. The employee performing operational maintenance on the system must contact Berkeley Police/Fire Alarm Communication Center via Corp Yard Customer Service or two-way radio to alert the Center of the hours of maintenance and to ignore any alarms during such hours. The Communication Center must also be contacted when operational maintenance is completed.

- Check equipment for effective operation before leaving yard
- Move to site and set up safety cones and signs
- Check condition of manhole before entering.
- Set up and use tripod if entry to manhole is necessary.
- Clean walls of chamber with pressure washer
- Check operation of pump and probe.
- Clean pump and probes.
- Vacuum to remove debris and grease from chamber

- Note any operational problems with pump or electrical system
- Clean up work site, secure manhole or chamber covering
- Jet rod sewer mains and move to next lift station.
- Report work accomplished

Additional Items:

- I. ELECTRICAL SYSTEM
 - a. Check main electrical switch.
 - i. Switch should operate electrically turning the power on and off
 - b. Check alarm system
 - i. Pump the water level down in the wet well to the low water alarm
 - ii. Raise the water level to the high alarm by turning the power off and then on at high level
 - iii. In each case the alarm system should sound
 - iv. Make sure the power is on and reset each pump to automatic alarm
- II. OPERATION OF THE FLOAT SYSTEM
 - a. Check high water float
 - i. With power on, manually raise high water float until pump turns on
 - b. Check mid-level floats
 - i. Floats should activate pumps at normal cycle
 - ii. Pumps should alternate at each pumping cycle

Note: The high and low water floats should sound the alarm system.
- III. MAINTENANCE OF WET WELLS
 - a. Remove grease from floats
 - i. All floats should be free of grease
 - b. Remove grease from wet wells
 - i. Remove grease from wet wells only if there are large accumulations in wells
- IV. SAFETY EQUIPMENT
 - a. Confined space gas monitors - Monitors must be pre-checked and used throughout the maintenance operation
 - b. Harness and safety winch - harness and winch must be checked to ensure safety
 - c. Air blowers - Blowers must be checked to ensure good working order, operate in both suction and blowing mode
 - d. Manhole rails - Manhole safety rails must be placed around open manholes at all times
 - e. Safety person - A safety person (employee) must be present at any open manhole for the following:
 - i. To observe employee/employees in the wet well
 - ii. For the general safety of the public
- V. POWER OUTAGE/SYSTEM FAILURE
 - a. Use the following procedure
 - i. Get Hatz Diesel Pump and the small Honda pump
 - ii. Set up the large Hatz Diesel Pump at Lift Station #5 and set up the small
 - iii. Honda pump at Lift Station #2.
 - iv. Go to Lift stations #1, #3, #4 and set pumps to the off position, so that when the power is restored you will have control of the stations.
 - v. Pump the stations #2 & #5 with the portable pumps until power is restored at the Marina.
 - vi. When the power is restored, go to Station #3 **first**.
 - vii. Turn one pump on because the main will not be able to handle the flow of (2)
 - viii. Two pumps in the auto position.

- ix. Check the manhole in the parking lot frequently while pumping to ensure that sewage has not overflowed into the Bay.
- x. When the station water level has been pumped down, reset to auto position and go to station #4. Turn (1) one pump on until station is down. When down, reset **both** pumps to the auto position.
- xi. Go to Station # 1 and turn to Auto mode.
- xii. When complete, reset the alarms and notify the Communications Center at
- xiii. 981-5900 that the lift stations are back in service.
- xiv. Remove pumps, from Stations #2 & #5. Job is complete.

NOTES:

Average Weekly Production:

7 Stations

Effective Date: February 18, 2014

Activity: Closed Caption TV Inspection

Description:

CCTV inspection sewer, storm mains and laterals

Service Level:

- Sewer main and sewer lateral or storm systems will be inspected as needed or on a routine schedule to the extent necessary required by Engineering Division and Sr. Supervisor or P.W. Supervisor.

Personnel:

- 1 Sewer maintenance assistant supervisor (SMAS)
- 1 Laborer or skilled laborer

Equipment:

- CCTV Truck
- Portable Jet Rodder or Utility Truck

Materials:

Safety Items:

- Personal Protective equipment
- Wheel block
- Gas monitors (If necessary)
- Ladder
- Cones
- Safety Flags

Work Method:

- Check equipment operation before leaving yard Move to site and set up safety cones and signs check condition of manhole before entering Begin recording defects and report on daily work reports
- Use POSM and follow sync procedures update data

NOTES:

Average Daily Production:

To Be Determined

Effective Date: February 18, 2014

Activity: Responding to SSO on Private Property

Description: When there is a report of a SSO and upon investigation by a sewer crew it is ascertained that private property has been affected as a result of a problem with the City portion of the sewer line, the following procedure will be used.

Service Level:

- SSO Response is performed on an as required basis and at the direction of the P.W supervisor or senior supervisor

Personnel:

- 1 sewer maintenance assistant supervisor (SMAS)
- 1 Skilled Laborer or Laborer

Equipment / Materials/ Safety items:

- Various equipment depending on requirement
- Shovels
- Sewer tools
- Hand rods
- Gas Monitors
- Brooms
- Camera Lateral (If necessary)
- Ladder
- Personal protective equipment
- Cones
- Disinfectant/Deodorizer

Work Method:

- SMAS or crew leader will contact their supervisor and report that private property has been affected.
- After the overflowing sewage has been stopped. SMAS or Supervisor should initiate contact with the affected resident(s) and will request to see overflow location and inspect damage.
- Overflow and any area contacted by sewage should be photographed and incident should be recorded on a SSO form.
- If resident wants to know the cause of the SSO, resident should be informed that we are currently investigating the cause of the SSO.
- If the resident requests a cleanup of the area. Crews may perform a full sewage cleanup in the public right of way. They may also perform minor clean-ups on private property (outside of the house). In the event sewage enters a building or structure and resident request area to be cleaned, resident should be informed that our staff is not able to provide professional cleaning. The Senior Supervisor or Superintendent may allow the City's contracted restoration contractor to perform work on an as needed basis. Resident should be referred to the City Attorney's Office (981-6950) for claims assistance.

Appendix 4-B Hot Spot Sewer Cleaning List

Active Hotspots

Item No.	Segment ID	Approx. Length	Material - Size	Construct Date	Street Name or Location	Activity	Monthly Frequency	Date Added	Reason for Adding
2	17-503-26-17-503-93	122	6" VCP	FY 2013	Orchard Lane	Jet Flush	1	2010	Service Call
9	15-004-95-15-004-94A	0	8" HDPE	2009	Bonita Avenue	Jet Flush	3	2010	
10	17-005-28-17-005-42	414	8" HDPE	2000	Carleton Street (btwn Fulton & Shattuck)	Jet Flush	3	2010	Routine Maintenance
11	17-005-42A-17-005-28	169	8" HDPE	2000	Carleton Street (btwn Fulton & Shattuck)	Jet Flush	6	2010	Service Call
16	13-000-03-13-000-02	254	21" HDPE	1989	Cedar Street (4th to 2nd)	Jet Flush	3	2010	
17	13-000-06-13-000-05	225	21" HDPE	1990	Cedar Street (4th to 2nd)	Jet Flush	3	2010	
42	13-006-19-13-006-18	681	8" HDPE	2001	Monterey Avenue	Jet Flush	3	2010	
43	17-503-17-17-503-16	142	10" VCP	FY 2013	Panoramic/Mosswood/Prospect	Jet Flush	3	2010	
44	17-503-18-17-503-17	129	10" PVC	2000	Panoramic/Mosswood/Prospect	Jet Flush	3	2010	
45	17-503-19-17-503-18	108	6" HDPE	1999	Panoramic/Mosswood/Prospect	Jet Flush	3	2010	
46	17-503-20-17-503-19	201	6" HDPE	1999	Panoramic/Mosswood/Prospect	Jet Flush	3	2010	
47	17-503-21-17-503-20	100	6" HDPE	1999	Panoramic/Mosswood/Prospect	Jet Flush	3	2010	
48	17-503-22-17-503-21	94	6" HDPE	1999	Panoramic/Mosswood/Prospect	Jet Flush	3	2010	
52	17-503-26A-17-503-26	52	8" PVC	2002	Panoramic/Mosswood/Prospect	Jet Flush	3	2010	
53	17-503-95-17-503-22	130	6" HDPE	1999	Panoramic - Back line	Hand Rod	3	2010	
61	17-503-A5-17-503-A4	21	8" VCP	FY 2014	Panoramic - Back line	Hand Rod	3	2010	
94	17-013-41A-17-013-41	72	6" PVC	1997	Arch Street	Jet Flush	6	2010	
96	10-222-47B-10-222-47A	246	6" PVC	1992	Arlington Avenue	Jet Flush	6	2010	
99	10-215-21-10-215-20	103	6" HDPE	1998	Boynnton Avenue	Jet Flush	6	2010	Condition Assessment 2013
103	17-019-11-17-019-10A	201	8" HDPE	1996	Cragmont Avenue	Jet Flush	6	2010	SSO
104	17-006-32-17-006-31	291	14" PVC	2003	Durant Avenue	Jet Flush	6	2010	
105	17-006-31-17-006-29	0	14" HDPE	2003	Durant Avenue	Jet Flush	6	2010	
106	15-103-01A-15-103-01	190	10" HDPE	2005	Dwight Way	Jet Flush	6	2010	
108	17-501-22-17-501-10	293	8" HDPE	1993	Hillegass Avenue	Jet Flush	6	2010	
109	13-006-51-13-006-07	198	8" PVC	1993	Sutter Street	Jet Flush	6	2010	
112	17-016-74-17-016-71	89	6" HDPE	2002	Keith Avenue	Hand Rod	6	2010	
114	13-003-18-13-000-33	160	8" PVC	1995	Neilson Street (btw Albany Line & Hopkins)	Jet Flush	6	2010	
115	13-003-19-13-003-18	355	8" PVC	1995	Neilson Street (btw Albany Line & Hopkins)	Jet Flush	6	2010	
116	13-003-20-13-003-19	359	8" PVC	1995	Neilson Street (btw Albany Line & Hopkins)	Jet Flush	6	2010	
118	13-003-23-13-003-20	310	8" PVC	1995	Neilson Street (btw Albany Line & Hopkins)	Jet Flush	6	2010	
119	13-003-24-13-003-23	136	8" VCP	1967	Neilson Street (btw Albany Line & Hopkins)	Jet Flush	6	2010	
120	13-003-25-13-003-24	249	8" PVC	1995	Neilson Street (btw Albany Line & Hopkins)	Jet Flush	6	2010	
121	13-003-26-13-003-25	24	8" PVC	1995	Neilson Street (btw Albany Line & Hopkins)	Jet Flush	6	2010	
124	17-103-64-17-103-05	300	8" VCP	1989	Parker Street	Jet Flush	6	2010	
127	17-702-B1-17-702-24A	272	6" HDPE	1998	Queens Road	Jet Flush	6	2010	
131	14-001-02-14-001-01	10	8" VCP	not listed	Virginia/4th to 2nd	Jet Flush	6	2010	
132	14-001-03-14-001-03A	89	8" VCP	not listed	Virginia/4th to 2nd	Jet Flush	6	2010	
133	14-001-03A-14-001-02	288	8" HDPE	2003	Virginia/4th to 2nd	Jet Flush	6	2010	
134	14-001-04-14-001-03	275	10" HDPE	2003	Virginia/4th to 2nd	Jet Flush	6	2010	
142	15-002-13-15-002-12	190	6" VCP	not listed	Dwight Way (4th to Railroad Tracks)	Jet Flush	12	2010	

Active Hotspots

Item No.	Segment ID	Approx. Length	Material - Size	Construct Date	Street Name or Location	Activity	Monthly Frequency	Date Added	Reason for Adding
147	17-101-27-17-101-26	300	10" HDPE	1999	Bayer - Carleton / 7th to Rail Road Tracks	Jet Flush	12	2010	
148	17-101-28-17-101-27	42	10" HDPE	1999	Bayer - Carleton / 7th to Rail Road Tracks	Jet Flush	12	2010	
149	17-101-29-17-101-28	172	10" HDPE	1999	Bayer - Carleton / 7th to Rail Road Tracks	Jet Flush	12	2010	
150	17-101-30-17-101-29	75	10" HDPE	1999	Bayer - Carleton / 7th to Rail Road Tracks	Jet Flush	12	2010	
151	17-101-31-17-101-30	343	10" HDPE	1999	Bayer - Carleton / 7th to Rail Road Tracks	Jet Flush	12	2010	
152	17-101-32-17-101-31	310	10" HDPE	1999	Bayer - Carleton / 7th to Rail Road Tracks	Jet Flush	12	2010	
153	17-101-44-17-101-25	309	12" VCP	FY 2017	Rail Road Tracks (Parker / Carleton)	Jet Flush	12	2010	
154	17-101-45-17-101-44	17	12" VCP	FY 2017	Rail Road Tracks (Parker / Carleton)	Jet Flush	12	2010	
155	17-101-46-17-101-45	317	12" VCP	FY 2017	Rail Road Tracks (Parker / Carleton)	Jet Flush	12	2010	
156	17-101-47-17-101-46	13	8" VCP	FY 2017	Rail Road Tracks (Parker / Carleton)	Jet Flush	12	2010	
166	17-001-27-17-001-21	132	6" VCP		San Pablo/Burnett/Ward (ES)	Jet Flush	12	2010	
167	17-100-31-17-040-15	15	12" PVC	1989	San Pablo/Burnett/Ward (ES)	Jet Flush	12	2010	
168	17-102-15-17-040-15	6	10" VCP	1990	San Pablo/Burnett/Ward (ES)	Jet Flush	12	2010	
171	17-103-01-17-100-31	216	12" CIPP	1989	San Pablo/Burnett/Ward (ES)	Jet Flush	12	2010	
176	15-004-18-15-004-17	310	8" CIPP	2005	Shattuck Avenue	Jet Flush	12	2010	
177	15-004-19-15-004-18	344	8" CIPP	2005	Shattuck Place	Jet Flush	12	2010	
197	15-004-73-1807	8	4" HDPE	2003	Martin Luther King Jr. Way	Hand rod	1	1/5/10	
203	11-106-03A-961	3	4" HDPE	1995	Tulare Avenue	Hand Rod	3	1/10/11	SSO
204	15-102-11-2230	8	4" VCP	1964	Byron Street	Hand Rod	3	1/10/11	SSO
205	17-014-38-1523	9	6" VCP	2013	Walnut Street	Hand Rod	3	1/10/11	SSO
210	15-201-34A-1745	9	8" VCP	1994	Delaware Street	Hand Rod	3	1/10/11	SSO
212	17-604-61-17-604-06	25	6" HDPE	1990	Campus Drive	Jet Flush	6	1/10/11	SSO 6/2/14 Service Call
213	17-014-26-17-014-01	68	6" HDPE	2005	Shattuck Avenue	Jet Flush	3	1/10/11	SSO
214	10-224-09-10-224-08	49	6" HDPE	1996	Southampton Avenue	JET FLUSH	6	1/10/11	SSO
215	17-410-41-17-410-05	214	8" HDPE	2005	Ashby Avenue	Jet flush	6	2/17/11	SSO
228	17-304-14-17-304-41	331	10" HDPE	2003	Milvia Street	Jet Flush	3	2/21/12	FOG
229	17-304-41-17-304-40	335	10" HDPE	2003	Milvia Street	Jet Flush	3	2/21/12	FOG
241	10-213-28-10-213-27	129	6" PVC	1999	Vincente Avenue	Jet Flush	3	2013	
243	10-215-20-NS-10-215-04B	74	6" HDPE	1998	Boynton Avenue	Jet Flush	6	6/2/2014	Condition Assessment 2013
244	10-215-21A-10-215-21	34	8" HDPE	1998	Boynton Avenue	Hand Rod	6	6/2/2014	Condition Assessment 2013
245	10-215-23-10-215-22	22	6" VCP	FY 2017	Florida Avenue	Hand Rod	6	6/2/2014	Condition Assessment 2013
246	17-018-78-17-018-77	50	6" VCP	1999	Alamo Avenue	Hand Rod	6	6/2/14	Service Call
247	17-018-77-17-018-76	25	6" VCP	1999	Alamo Avenue	Hand Rod	6	6/2/14	Service Call
249	17-014-26-17-014-01	223	6" HDPE	2005	Shattuck Avenue	Jet Flush	6	6/3/14	SSO
250	17-712-02-17-712-01	394	8" VCP	not listed	Euclid Avenue	Jet Flush	3	6/4/14	Service Call
251	17-712-01-17-710-11	131	8" VCP	not listed	Euclid Avenue	Jet Flush	3	6/4/14	Service Call
254	13-102-89-13-102-88A	145	8" HDPE	2005	Bonita Avenue	Jet Flush	6	1/10/11	Claim

Active Hotspots

Item No.	Segment ID	Approx. Length	Material - Size	Construct Date	Street Name or Location	Activity	Monthly Frequency	Date Added	Reason for Adding
256	17-001-21-17-000-23	178'	6"VCP		SAN PABLO	Jet Flush	1	7/15/14	SSO
258	17-013-46A-17-600-09	203	8"		SPRUCE	Jet Flush	1	7/15/14	SSO
79	CURRENT TOTAL HOTSPOTS								
	BLACK		Action Item. Need to CCTV to confirm if this can be removed from hotspot list or frequency of MTCE should be revised, or other action.						
	BLUE		CCTV completed. Action in the office needed to revise MTCE frequency or remove from hotspot list.						
	FY 20XX		Sewer Main scheduled for Rehab. Leave on MTCE and come back to check if this can be removed after rehab is done.						
Last Updated: May 2025									

Appendix 4-C Routine Cleaning Sector List

Sewer Routine Maintenance Sector List

Sector No.	No. of Assets	Smallest Pipe (In.)	Largest Pipe (in.)	Average Pipe Size (in.)	Total Pipe Length (ft.)	Activity	Streets in Sector
1	36	6	16	9	6,662	Jet Flush	Neilson, Thousand Oaks, Visalia
2	47	6	10	8	5,124	Jet Flush	Vincente, Menlo, Thousand Oaks
3	55	6	10	8	7,127	Jet Flush	Santa Clara, San Fernando, Thousand Oaks
4	57	6	10	8	7,969	Jet Flush	Arlington, San Antonio, San Luis
5	65	6	12	7	7,378	Jet Flush	Santa Barbara, Florida, Colorado, Maryland, Arlington
6	56	4	8	7	5,196	Jet Flush	Michigan, Kentucky, Vassar
7	48	6	8	7	5,828	Jet Flush	Arlington, San Luis, Northampton
8	60	6	8	7	7,831	Jet Flush	Indian Rock, San Luis, Santa Barbara
9	90	6	10	7	10,986	Jet Flush	Arlington, Yosemite, San Diego, Southampton, San Mateo
10	66	6	10	8	9,893	Jet Flush	The Alameda, Contra Costa
11	75	6	10	8	12,304	Jet Flush	Catalina, San Pedro, Tacoma, Capistrano, San Lorenzo, Yosemite
12	43	6	8	8	6,602	Jet Flush	Peralta, Colusa, Vincente, Portland, Ensenada
13	44	6	12	9	8,681	Jet Flush	San Lorenzo, Capistrano, Tacoma
14	26	6	10	9	5,636	Jet Flush	Solano, Marin
15	32	6	10	7	6,900	Jet Flush	Sonoma, Monterey, Madera, Merced, Sierra, Tulare, Colusa
16	71	6	18	9	15,897	Jet Flush	Hopkins, Monterey, Sonoma, Beverly, Carlotta
17	53	6	12	8	9,469	Jet Flush	Marin, The Alameda, Hopkins
18	53	6	14	8	7,867	Jet Flush	Berryman, Josephine, MLK, Bonita, Henry, Eunice
19	77	6	21	10	12,565	Jet Flush	Spruce, Eunice, Rose
20	59	6	8	8	9,210	Jet Flush	Shattuck, Eunice, Oxford, Walnut
21	75	6	8	8	11,620	Jet Flush	Marin, Los Angeles, Sutter
22	69	6	18	9	8,729	Jet Flush	Keith, Cragmont, Regal
23	76	6	15	9	10,468	Jet Flush	Spruce, Cragmont,
24	56	6	15	9	7,771	Jet Flush	Spruce, Cragmont, Grizzly, Woodmont
25	43	6	12	9	5,790	Jet Flush	Wildcat Canyon, Vistamont, Woodmont
26	53	6	12	9	6,264	Jet Flush	Wildcat Canyon, Sunset
27	43	6	8	7	5,864	Jet Flush	Overlook, Middlefield, Park Hills, Crescent
28	38	6	8	7	4,571	Jet Flush	Overlook, Woodside, Hillview
29	49	6	8	7	8,549	Jet Flush	Euclid, Hilldale, Keeler
30	37	6	8	7	6,181	Jet Flush	Grizzly Peak, Creston
31	28	6	8	7	5,377	Jet Flush	Grizzly, Marin, Creston, Forest
32	47	6	8	8	6,266	Jet Flush	Hilldale, Miller, Forest
33	42	6	12	8	6,798	Jet Flush	Euclid, Regal, Poppy
34	49	4	12	9	5,620	Jet Flush	Euclid, Keith
35	49	6	8	7	7,247	Jet Flush	Shasta, Tamalpais, Keith
36	43	6	12	8	7,692	Jet Flush	Cragmont, Keeler, Bret Harte
37	84	6	8	7	11,738	Jet Flush	Grizzly Peak, Miller, Sterling, Campus, Keeler, Northgate

Sewer Routine Maintenance Sector List

Sector No.	No. of Assets	Smallest Pipe (In.)	Largest Pipe (in.)	Average Pipe Size (in.)	Total Pipe Length (ft.)	Activity	Streets in Sector
38	76	6	10	8	9,444	Jet Flush	Grizzly Peak, Fairlawn, Queens, Campus, Hill
39	146	4	8	7	15,540	Jet Flush	Grizzly Peak, Avenida, Olympus, Fairlawn, Campus,
40	67	6	12	8	7,954	Jet Flush	La Loma, Buena Vista
41	38	6	8	8	6,461	Jet Flush	Euclid, Buena Vista, LeRoy
42	81	6	12	8	9,859	Jet Flush	Virginia, Hilgard, Cedar, La Loma, La Vereda
43	45	6	15	8	6,737	Jet Flush	Hearst, Ridge, LeConte
44	25	6	15	8	4,444	Jet Flush	Hearst, LeConte, Arch, Ridge
45	31	6	15	10	6,098	Jet Flush	Arch, Cedar, Hilgard, Virginia
46	36	6	8	7	7,095	Jet Flush	Arch, Vine, Scenic, Hawthorne
47	25	6	21	13	5,688	Jet Flush	Oxford, Rose, Spruce
48	27	6	21	10	5,865	Jet Flush	Cedar, Shattuck, Vine, Walnut, Oxford, Spruce
49	29	6	21	13	5,100	Jet Flush	Virginia, Shattuck, Walnut, Oxford, Spruce
50	30	6	27	13	5,532	Jet Flush	Walnut, Oxford, Hearst
51	21	6	27	13	4,318	Jet Flush	Shattuck, University, Milvia
52	16	6	8	7	4,550	Jet Flush	Vine, Milvia, Rose, Henry
53	20	6	8	8	5,202	Jet Flush	Milvia, Shattuck, Cedar, Lincoln, Virginia
54	19	8	8	8	5,382	Jet Flush	Shattuck, Delaware, Francisco, Virginia
55	30	8	8	8	4,612	Jet Flush	University, MLK, Bonita, Hearst, Berkeley
56	22	6	10	8	5,107	Jet Flush	MLK, Bonita, Vine, Rose, Cedar
57	19	6	8	7	4,119	Jet Flush	Josephine, Grant, Rose, Vine
58	14	8	12	10	3,111	Jet Flush	Cedar, Grant, Josephine
59	39	6	10	8	6,706	Jet Flush	Rose, California, McGee, Edith
60	42	6	18	8	10,327	Jet Flush	Sacramento, Hopkins, McGee, Carlotta, Ada, Holly
61	13	6	8	8	3,661	Jet Flush	MLK, Virginia, McGee, Edith, Josephine
62	20	6	15	9	4,366	Jet Flush	Cedar, Sacramento, Lincoln, Grant, California, Edith, Mcgee
63	22	6	10	8	5,548	Jet Flush	Francisco, Virginia, Sacramento, California
64	19	8	10	8	4,800	Jet Flush	Delaware, Grant, Sacramento, California
65	18	8	12	9	4,562	Jet Flush	Hearst, Sacramento, Berkeley
66	22	6	8	8	5,812	Jet Flush	University, Berkeley, California, McGee
67	30	6	15	10	7,326	Jet Flush	Addison
68	18	6	33	12	4,445	Jet Flush	Oxford, University, Shattuck, Addison, Center
69	47	6	33	9	7,041	Jet Flush	Allston, Fulton, Bancroft
70	31	6	36	16	6,012	Jet Flush	Shattuck, Milvia, Bancroft
71	32	6	10	8	6,625	Jet Flush	Center, Allston, MLK, Shattuck
72	21	6	8	8	5,396	Jet Flush	Bancroft, McGee, Roosevelt, Grant
73	31	6	12	8	6,435	Jet Flush	Bancroft, Allston, Spaulding, California
74	23	6	15	9	6,346	Jet Flush	MLK, Channing, McKinley, Roosevelt

Sewer Routine Maintenance Sector List

Sector No.	No. of Assets	Smallest Pipe (In.)	Largest Pipe (in.)	Average Pipe Size (in.)	Total Pipe Length (ft.)	Activity	Streets in Sector
75	23	6	15	10	5,489	Jet Flush	Channing, Sacramento, Spaulding, California, Jefferson, McGee
76	29	6	15	10	7,966	Jet Flush	Dwight, Spaulding, California, Jefferson, McGee
77	18	8	10	9	5,168	Jet Flush	California, Carleton, Parker, Blake
78	24	6	10	8	6,236	Jet Flush	McGee, Carleton, Parker, Blake, Grant
79	16	8	12	9	4,199	Jet Flush	Dwight, Shattuck
80	20	6	10	8	5,102	Jet Flush	Channing, Haste, MLK, Milvia, Durant, McKinley
81	16	4	8	7	3,985	Jet Flush	Blake, Parker, Carleton, Milvia
82	18	6	36	18	4,290	Jet Flush	Fulton, Derby, Carleton, Parker
83	19	6	33	14	5,206	Jet Flush	Fulton, Derby, Durant, Shattuck
84	19	8	33	14	4,404	Jet Flush	Durant, Channing, Fulton
85	22	6	33	10	5,942	Jet Flush	Dwight, Haste, Ellsworth, Dana, Fulton
86	21	6	8	8	5,195	Jet Flush	Carleton, Blake, Fulton, Dana
87	40	6	18	11	7,515	Jet Flush	Parker, Fulton, Ellsworth
88	58	6	18	9	10,623	Jet Flush	Dwight, Telegraph, Bowditch, Bancroft, Haste
89	30	8	12	9	5,832	Jet Flush	Parker, Dwight, Regent, Hillgrass, Benvenue, College
90	30	6	8	7	8,088	Jet Flush	Parker, College, Etna, Piedmont, Warring, Regent, Hillegrass, Benvenue
91	44	6	14	8	7,734	Jet Flush	Bancroft, Piedmont, Prospect, Dwight, Hillside, Channing, Warring
92	64	6	10	6	7,505	Jet Flush	Canyon, Panoramic, Arden, Dwight
93	46	6	8	7	8,594	Jet Flush	Forest, Derby, Claremont
94	23	6	8	7	5,844	Jet Flush	College, Garber, Stuart, Piedmont,
95	29	6	8	7	5,784	Jet Flush	Russell, Ashby, Pine,
96	28	6	14	10	5,153	Jet Flush	Claremont, Hazel, Ashby
97	43	6	12	8	6,553	Jet Flush	Tunnel, Roble, Bridge
98	26	6	8	8	4,922	Jet Flush	Vicente, Alvarado
99	44	6	8	8	6,648	Jet Flush	Domingo, El Camino Real, The Uplands, The Plaza
100	41	6	10	8	6,636	Jet Flush	Oakvale, The Plaza, Parkside, The Uplands, Encina
101	43	6	10	8	5,237	Jet Flush	Hillcrest, Claremont, Chabolyn, The Footway, The Uplands
102	42	6	10	8	6,528	Jet Flush	College, Alcrataz, Lewiston, Eton, Claremont
103	19	8	15	10	5,432	Jet Flush	Prince, Woolsey, Claremont
104	36	8	10	8	7,167	Jet Flush	Webster, College, Elmwood, Piedmont, Pine
105	32	6	12	9	8,419	Jet Flush	Russell, Benvenue, Hillegrass, Regent, Telegraph
106	23	6	18	10	5,183	Jet Flush	Ashby, Telegraph, College
107	46	6	21	10	8,419	Jet Flush	Regent, Hillegrass, College
108	29	6	21	11	5,620	Jet Flush	Telegraph, Woolsey, Prince
109	16	6	8	8	3,333	Jet Flush	Webster, Ashby, Howe, Ellsworth, Telegraph
110	21	8	21	13	4,914	Jet Flush	Woolsey, Prince, Deakin, Fulton
111	23	6	21	12	5,442	Jet Flush	Woolsey, Prince, Tremont, Wheeler

Sewer Routine Maintenance Sector List

Sector No.	No. of Assets	Smallest Pipe (In.)	Largest Pipe (in.)	Average Pipe Size (in.)	Total Pipe Length (ft.)	Activity	Streets in Sector
112	22	6	45	11	4,552	Jet Flush	Emerson,Essex,Wheeler,Adeline
113	20	6	39	12	5,791	Jet Flush	Ashby,Adeline,Deakin
114	26	8	36	10	7,369	Jet Flush	Russell,Oregon,Adeline,Ellsworth
115	24	8	36	16	6,574	Jet Flush	Stuart,Ward,Adeline,Fulton
116	24	6	8	8	6,144	Jet Flush	Ward,Derby,Ellsworth,Telegraph
117	22	6	8	8	5,120	Jet Flush	Derby,Ward,Stuart,MLK,Grant
118	17	6	8	7	3,380	Jet Flush	Oregon,Grant Stuart,MLK
119	18	6	15	11	4,557	Jet Flush	Grant, Russell, Adeline
120	19	6	45	15	5,059	Jet Flush	Harper, MLK, Ashby
121	21	6	15	9	4,700	Jet Flush	Adeline, Harmon, Alcatraz
122	11	8	48	37	3,094	Jet Flush	Adeline/MLK
123	15	6	8	8	3,381	Jet Flush	California, King, 62nd, 63rd
124	18	6	15	10	4,873	Jet Flush	Alcatraz, Ellis, Adeline
125	18	6	18	9	4,595	Jet Flush	Idaho, Harmon, King
126	15	6	8	8	4,131	Jet Flush	Fairview
127	15	8	48	23	3,721	Jet Flush	Woosley,Sacramento
128	19	6	39	11	4,760	Jet Flush	Prince,Sacramento,Tyler,Ellis
129	22	6	39	13	5,529	Jet Flush	Julia,Ashby,California,King,Ellis
130	19	6	10	8	4,591	Jet Flush	Russell,Oregon,California,McGee
131	16	8	10	9	4,796	Jet Flush	Stuart,Ward, California,McGee
132	22	8	30	15	4,872	Jet Flush	Sacramento,Derby
133	21	6	18	12	5,021	Jet Flush	Haskell,66th,67th,Mabel,Acton
134	19	8	14	9	5,563	Jet Flush	San Pablo,Carrison,Mabel,Acton,Dohr,Stanton
135	24	6	36	22	5,706	Jet Flush	Ashby, Sacramento
136	17	6	10	8	4,273	Jet Flush	Burnett,Russell,San Pablo,Dohr,Stanton,Acton
137	22	6	8	8	5,041	Jet Flush	Russell,Oregon,Park,Acton,Dohr,Mabel,Mathews
138	16	6	12	8	4,538	Jet Flush	Oregon, San Pablo, Wallace
139	25	6	12	8	5,805	Jet Flush	Ward,Derby,San Pablo,Sacramento
140	25	6	12	9	4,890	Jet Flush	Carleton, San Pablo
141	23	6	8	8	5,271	Jet Flush	Parker,Blake
142	27	6	10	9	6,493	Jet Flush	Dwight, San pablo,Acton
143	20	8	10	8	5,126	Jet Flush	Channing,Sacramento,Valley,Edwards
144	33	6	8	8	7,919	Jet Flush	Sacramento, Acton,Bancroft,West,Edwards,North Valley
145	23	6	10	8	5,069	Jet Flush	Bancroft,Curtis,Browning,Bonar
146	19	6	12	8	5,380	Jet Flush	Allston, San Pablo, West
147	39	6	24	12	5,915	Jet Flush	Folger, Murray, San Pablo
148	30	8	45	24	7,609	Jet Flush	San Pablo, Ashby, Potter

Sewer Routine Maintenance Sector List

Sector No.	No. of Assets	Smallest Pipe (In.)	Largest Pipe (in.)	Average Pipe Size (in.)	Total Pipe Length (ft.)	Activity	Streets in Sector
149	26	6	21	12	6,031	Jet Flush	Heinz, 10th, 7th
150	27	6	21	10	6,623	Jet Flush	Pardee, Grayson, San Pablo, 7th-10th
151	21	8	10	9	4,766	Jet Flush	Carleton, 8th, 9th, 10th
152	29	6	8	7	8,372	Jet Flush	Parker, 5th, 10th
153	16	6	10	8	5,052	Jet Flush	Dwight, 6th, San Pablo
154	20	6	15	9	4,065	Jet Flush	Channing, Dwight, 4th, 5th
155	20	6	12	9	4,700	Jet Flush	Bancroft, 7th-10th, San Pablo
156	17	4	18	11	4,553	Jet Flush	Union Pacific, Bancroft, 4th, 5th, 6th
157	17	6	8	7	3,639	Jet Flush	Allston, 9th, 10th, San Pablo
158	19	8	18	11	5,258	Jet Flush	Union Pacific, Allston, 4th, 5th, 6th, 7th
159	18	6	18	12	4,130	Jet Flush	Addison, Curtis, Sacramento
160	23	6	18	10	4,950	Jet Flush	San Pablo, Byron, University
161	27	6	22	11	6,628	Jet Flush	University, Addison, 6th-10th
162	32	2.5	42	13	3,445	Jet Flush	Eastshore Pedestrian, University, Addison
163	31	6	66	19	7,515	Jet Flush	2nd, 4th, 5th, Hearst
164	30	6	12	9	5,170	Jet Flush	University
165	23	6	12	7	6,637	Jet Flush	Delaware, Hearst, 6th
166	22	6	8	8	5,369	Jet Flush	San Pablo, Hearst, Sacramento
167	24	8	12	9	4,791	Jet Flush	Berkeley, University, Curtis, Chestnut, West
168	19	6	8	7	4,517	Jet Flush	Delaware, Chestnut, Acton
169	19	6	8	7	4,037	Jet Flush	Francisco, San Pablo
170	26	6	12	10	4,389	Jet Flush	Virginia
171	35	6	30	12	9,199	Jet Flush	Virginia, 6th-10th, San Pablo
172	50	6	48	18	9,679	Jet Flush	Virginia, Cedar, 2nd
173	33	6	27	12	8,337	Jet Flush	Cedar, 8th, 9th, 10th, San Pablo
174	21	8	15	10	4,519	Jet Flush	Cedar, Stannage, Cornell
175	26	6	24	11	4,559	Jet Flush	Curtis, Cedar, Belvedere
176	44	6	15	8	8,069	Jet Flush	Cedar, Acton
177	20	8	18	10	4,848	Jet Flush	Rose, Hopkins, Cornell
178	34	6	18	10	7,739	Jet Flush	Hopkins, Ordway Acton, Albina, Ada
179	33	6	24	12	6,960	Jet Flush	Hopkins, Ada, Peralta, Nothside
180	35	6	18	9	6,602	Jet Flush	Curtis, Neilson, Hopkins
181	20	8	10	8	5,421	Jet Flush	San Pablo, Santa Fe, Page, Jones
182	21	6	12	8	5,841	Jet Flush	Jones, Union Pacific, San Pablo
183	22	8	12	9	6,123	Jet Flush	Union Pacific, Page, 4th-10th
184	31	6	12	8	6,283	Jet Flush	Union Pacific, Camelia, 4th, 6th, 7th, 9th, 10th, San Pablo
185	34	6	48	17	8,215	Jet Flush	2nd, Page, Gilman

Sewer Routine Maintenance Sector List

Sector No.	No. of Assets	Smallest Pipe (In.)	Largest Pipe (in.)	Average Pipe Size (in.)	Total Pipe Length (ft.)	Activity	Streets in Sector
186	22	6	10	8	6,288	Jet Flush	Harrison,4th,5th,6th,7th,10th,San Pablo
187	27	6	15	9	5,797	Jet Flush	Gilman,5th-10th
188	23	6	10	8	6,136	Jet Flush	San Pablo,Kains,Stannage,Cornell Gilman
189	18	6	10	8	4,821	Jet Flush	Cornell,Gilman,Talbot,Evelyn,Masonic
190	38	6	16	12	10,247	Jet Flush	Seawall, Marina,University
191	69	10	42	21	14,893	Jet Flush	Washington,Portland
301	14	6	8	6	1,769	Handrod	Btw Curtis & Vicente
302	16	6	8	7	1,614	Handrod	Btw Claremont & The Footway
303	11	6	6	6	1,099	Handrod	Btw Vincente & Menlo
304	10	6	6	6	1,409	Handrod	Btw Ensenada & Vincente
305	11	6	6	6	1,403	Handrod	Btw The Alameda & Vincente
306	6	6	6	6	954	Handrod	Btw Tacoma & San Lorenzo
307	10	6	8	6	1,558	Handrod	Btw Catalina & San Lorenzo
308	13	6	6	6	1,127	Handrod	Btw The Alameda & Yosemite
309	8	6	6	6	990	Handrod	Btw Vallejo & Thousand Oaks
310	11	6	6	6	1,400	Handrod	Btw San Antonio & Yosemite
311	15	6	8	8	1,312	Handrod	Kensington Border
312	12	6	8	6	1,414	Handrod	Btw Yosemite &
313	17	6	8	7	1,225	Handrod	Btw Arlington & San Luis
314	14	6	8	6	1,515	Handrod	Btw The Alameda & Yosemite
315	12	6	8	6	1,151	Handrod	Btw San Diego & Santa Barbara
316	18	6	6	6	1,424	Handrod	Btw Santa Barbara & Spruce
317	18	6	6	6	1,360	Handrod	Btw San Luis & Santa Barbara
318	17	6	10	7	1,370	Handrod	Btw Santa Barbara & Boynton
319	15	6	8	7	1,059	Handrod	Btw Boynton & Vermont
320	20	6	6	6	1,881	Handrod	Btw Vermont & Kentucky
321	16	6	6	6	1,717	Handrod	Btw Santa Barbara & Michigan
322	13	6	6	6	1,309	Handrod	Btw Kentucky & Spruce
323	11	6	8	7	1,089	Handrod	Btw Spruce & Grizzly Peak
324	16	4	6	6	1,527	Handrod	Btw Spruce & Cragmont
325	12	6	8	7	1,286	Handrod	Btw Cragmont & Euclid
326	6	6	6	6	1,118	Handrod	BTW Euclid & Grizzly
327	6	6	6	6	1,062	Handrod	Btw Grizzly & Fairlawn
328	10	6	6	6	500	Handrod	Btw Vistamont & Wildcat Canyon
329	10	6	6	6	1,047	Handrod	Btw Keeler & Grizzly Peak
330	14	6	6	6	1,389	Handrod	Btw Euclid & Keeler
331	10	6	8	6	1,420	Handrod	Btw Spruce & Euclid

Sewer Routine Maintenance Sector List

Sector No.	No. of Assets	Smallest Pipe (In.)	Largest Pipe (in.)	Average Pipe Size (in.)	Total Pipe Length (ft.)	Activity	Streets in Sector
332	12	6	8	6	1,367	Handrod	Btw Rock & Hilldale
333	10	6	8	7	1,047	Handrod	Btw Santa Barbara & Cragmont
334	12	6	6	6	1,167	Handrod	Btw Indian Rock & Marin
335	14	6	8	6	1,255	Handrod	Btw Arlington & Indian Rock/San Diego
336	10	6	6	6	1,371	Handrod	Btw Mendocino & Indian Rock
337	11	6	8	6	1,426	Handrod	Btw Contra Costa & Arlington
338	8	6	8	6	1,443	Handrod	Btw Fresno & Alameda and Alameda & Contra Costa
339	15	6	8	7	1,449	Handrod	Btw Carlotta & Josephine
340	11	6	6	6	1,424	Handrod	Btw Shattuck & The Alameda
341	19	6	8	7	1,136	Handrod	Btw The Alameda & Walnut
342	19	6	8	6	1,595	Handrod	Btw Scenic & Euclid
343	7	6	8	6	1,141	Handrod	Btw Mariposa & Shattuck
344	13	6	6	6	1,326	Handrod	Btw Spruce & Del Norte
345	7	6	6	6	803	Handrod	Btw Oxford & Shattuck
346	7	6	8	6	990	Handrod	Btw Oxford & Spruce
347	9	6	6	6	1,147	Handrod	Btw San Benito & Cragmont
348	12	6	6	6	1,171	Handrod	Btw Spruce & Euclid
349	5	6	6	6	1,077	Handrod	Btw Sprucec & Bret Harte
350	16	6	8	7	1,256	Handrod	Btw Keith & Euclid
351	8	6	6	6	1,231	Handrod	Btw Cragmont & Keith
352	13	6	6	6	1,326	Handrod	Btw Cragmont & Euclid
353	9	6	8	6	1,280	Handrod	Btw Bonnie/Euclid & Hilldale
354	13	6	8	6	1,595	Handrod	Btw Hilldale & Grizzly Peak
355	13	6	8	7	1,254	Handrod	Btw Euclid & Miller
356	8	6	6	6	1,341	Handrod	Btw Grizzly & Creston
357	17	6	8	7	1,510	Handrod	Btw Overlook & Wildcat Canyon
358	14	6	6	6	1,219	Handrod	Btw Park Hills & Hillview
359	7	6	6	6	1,119	Handrod	Btw Miller & Grizzly
360	17	4	6	6	1,490	Handrod	Btw Cragmont & Miller
361	15	6	8	7	1,354	Handrod	Btw Euclid & Keeler
362	8	6	6	6	1,109	Handrod	Btw Keith & Keeler
363	12	6	6	6	1,126	Handrod	Btw Keller & Sterling/Campus
364	14	6	6	6	1,398	Handrod	Btw Sterling & Grizzly Peak
365	9	6	8	6	1,152	Handrod	Btw Campus & Grizzly Peak
366	16	6	8	7	1,178	Handrod	Btw Keith & Northgate/Keeler
367	7	6	6	6	984	Handrod	Btw Euclid & Keith
368	9	6	8	8	1,165	Handrod	Btw Glen & Euclid

Sewer Routine Maintenance Sector List

Sector No.	No. of Assets	Smallest Pipe (In.)	Largest Pipe (in.)	Average Pipe Size (in.)	Total Pipe Length (ft.)	Activity	Streets in Sector
369	8	6	8	7	1,378	Handrod	Btw Euclid & Tamalpais
370	14	6	8	6	1,168	Handrod	Btw Campus & Queens
371	22	6	8	7	1,479	Handrod	Btw Queens & Fairlawn
372	14	6	8	6	1,287	Handrod	Btw Summit & Fairlawn
373	12	6	8	6	968	Handrod	Btw Avenida & Summit
374	11	6	6	6	964	Handrod	Btw Olympus & Summit
375	17	6	8	6	1,092	Handrod	Btw Queens & Fairlawn
376	11	6	8	7	1,136	Handrod	Btw Queens & Glendale
377	14	6	6	6	1,098	Handrod	Btw Campus & Fairlawn
378	11	4	6	6	905	Handrod	Btw Parnassus & Olympus
379	19	6	8	7	1,570	Handrod	Btw Buena Vista & Parnassus
380	27	6	8	6	1,642	Handrod	Btw La Vereda & Campus
381	5	6	8	7	421	Handrod	Btw La Loma & Buena Vista
382	13	6	8	6	1,367	Handrod	Btw Oxford & Arch
383	15	6	8	7	1,387	Handrod	Btw Panoramic & Arden
384	10	6	6	6	1,532	Handrod	Btw Derby & Garber
385	12	6	6	6	1,356	Handrod	Btw Garber & Ashby
386	12	6	8	6	1,701	Handrod	Btw The Plaza & El Camino Real
387	8	6	6	6	1,355	Handrod	Btw Tunnel & Vicente
388	7	6	6	6	877	Handrod	Btw Tunnel & El Camino Real
389	15	4	8	7	2,191	Handrod	Btw Roanoke & Roble
390	7	6	6	6	767	Handrod	Claremont & Brookside
391	6	8	18	13	1,200	Handrod	Union Pacific
392	4	8	8	8	948	Handrod	Btw Carleton & Grayson
393	5	10	27	19	1,624	Handrod	Union Pacific
394	17	6	16	8	2,105	Handrod	Various Locations

Appendix 4-D Lift Station Maintenance Work Order Form

City of Berkeley Sewer System Management Plan

Hierarchy

Status

- Berkeley
- ▶ New
- ▶ Open
- ▶ Hold
- ▶ Complete
- ▶ Cancel
- ▶ Close
- Unassigned

17-711-40-17-711-39	17-711-40-17-711-39	Gravity Main	Sewer	352	<input type="checkbox"/>	0.00
17-019-38-17-019-37	17-019-38-17-019-37	Gravity Main	Sewer	352	<input type="checkbox"/>	0.00

\$ 0.00

1 - 5 of 20 items

Checklists + Add | Sort Checklists

Name	Description	Complete	N/A
1. Check equipment for effective operation before leaving yard.		<input type="checkbox"/>	<input type="checkbox"/>
2. Move to site and set up safety cones and sign and check condition of manhole before entering. Set up and use tripod if entry to manhole is necessary.		<input type="checkbox"/>	<input type="checkbox"/>
3. Clean walls of chamber with pressure washer and check operation of pump and probe. Clean pump and probes.		<input type="checkbox"/>	<input type="checkbox"/>
4. Vacuum to remove debris and grease from chamber.		<input type="checkbox"/>	<input type="checkbox"/>
5. Note any operational problems with pump or electrical system.		<input type="checkbox"/>	<input type="checkbox"/>

1 - 5 of 8 items

Hierarchy

Status

- Berkeley
- ▶ New
- ▶ Open
- ▶ Hold
- ▶ Complete
- ▶ Cancel
- ▶ Close
- Unassigned

17-019-39-17-019-34	17-019-39-17-019-34	Gravity Main	Sewer	352	<input type="checkbox"/>	0.00
17-019-40-17-019-34	17-019-40-17-019-34	Gravity Main	Sewer	352	<input type="checkbox"/>	0.00
17-711-40-17-711-39	17-711-40-17-711-39	Gravity Main	Sewer	352	<input type="checkbox"/>	0.00
17-019-38-17-019-37	17-019-38-17-019-37	Gravity Main	Sewer	352	<input type="checkbox"/>	0.00

\$ 0.00

1 - 5 of 20 items

Checklists + Add | Sort Checklists

Name	Description	Complete	N/A
6. Clean up work site, secure manhole or chamber covering.		<input type="checkbox"/>	<input type="checkbox"/>
7. Jet rod sewer mains and move to next lift station.		<input type="checkbox"/>	<input type="checkbox"/>
8. Report work accomplishment.		<input type="checkbox"/>	<input type="checkbox"/>

6 - 8 of 8 items

Resource + Add

Items + Add

Linked Work Orders + Add

Tasks + Add

May 2025

Appendix 4-E Manhole Inspection Form

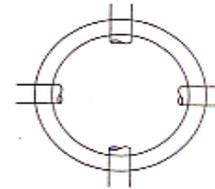
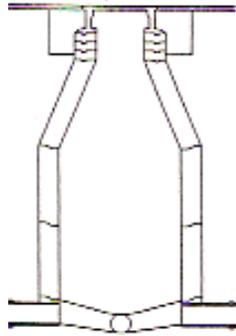
City of Berkeley

MANHOLE NUMBER:

Overall Rating (New to failing) 0 to 5 _____

MANHOLE INSPECTION FORM

Inspection Date:
Inspector:
Man Hole Depth:
Street Name:
Nearest Address:
GPS:
GPS:



Cannot inspect CNL CNA CNO

Overflow/Diversion Lines Present ?

- Yes
- No

Other Utility Lines Present?

- Yes
- No

Drop Connection Present?

- No
- Inside
- Outside

I. MANHOLE INITIAL INSPECTION

A - Location

- 1 Roadway
- 2 Gutter
- 3 Paved Alley
- 4 Unpaved Alley
- 5 Easement
- 6 Other _____

B - Manhole Cover

- 1 Serviceable
- 2 Damaged
- 3 Missing
- 4 Loose
- 5 Sealed
- 6 Holes _____

C - Ring and Frame

- 1 Serviceable
- 2 Loose
- 3 Displaced
- 4 Missing Grout
- 5 Raise
- 6 Lower

D - Manhole Material

- 1 Brick
- 2 Concrete

E - Manhole Cover Size

- 1 24"
- 2 30"

F - Manhole Barrel Size

- 1 48"
- 2 60"
- 3 Other _____

G- Grade

- 1 At
- 2 Below
- 3 Above

II. STRUCTURAL INSPECTION

A - Rungs Pic.# _____

- 1 Serviceable
- 2 Unsafe
- 3 Missing (No.)
- 4 Corroded
- 5 No rungs

B - Cone Pic.# _____

- 1 Serviceable
- 2 Cracked/Broken
- 3 Corroded
- 4 Misaligned
- 5 Infiltration
- 6 Roots at joints

C - Riser Pic.# _____

- 1 Serviceable
- 2 Cracked/Broken
- 3 Corroded
- 4 Misaligned
- 5 Infiltration
- 6 Roots at joints

D - Shelf Pic.# _____

- 1 Serviceable
- 2 Cracked/Broken
- 3 Dirty
- 4 Corroded
- 5 Bad Base Joint

E - Channel Pic. # _____

- 1 Serviceable
- 2 Obstructed
- 3 Corroded
- 4 Bad Pipe Joint(s)
- 5 Silt/Debris
- 6 Poor Struc. Cond.

F- Barrel Pic.# _____

- 1 Serviceable
- 2 Cracked/Broken
- 3 Corroded
- 4 Misaligned
- 5 Infiltration
- 6 Roots at Joints

III. HYDRAULIC INSPECTION

A - Surge Indications

- 1 Grease/Debris on Sides/Rungs
- 2 Grease/Debris on Shelf

B - Clarity of Flow

- 1 Turbid Sewage Appearance
- 2 Clear Water Appearance

C - Flow Conditions

- 1 Steady
- 2 Pulsing
- 3 Turbulent
- 4 Surcharging
- 5 Sluggish

Recommendations (Note I, II, or III and letter and number):

General Observations

Appendix 4-F Major Sewer Equipment List

Number of Units	Equipment Type
2	Combination Sewer Cleaning Units
2	CCTV Van

Appendix 4-G Critical Sewer Replacement Parts Inventory

Inventory/Condition Checked by: Jaime Valencia Inventory

Date: 04/21/2025

Part Description	Quantity in Inventory	Location
Flygt Sub Pump, 5hp, 60hz/240v/3ph	5	Streets Warehouse
Flygt Sub Pump, 20hp, 60hz/240v/3ph	2	Streets Warehouse
Multitrode 10" Water level Probes	2	Electrical Warehouse

Chapter 5 Appendices

Appendix 5-A Standards for Sanitary Sewers

Public Sanitary Sewer System – General

The City is fully developed (i.e., there are very few vacant lots) and therefore, the majority of the current and future sewer system design and construction projects consist of rehabilitation of the existing sewers. The design, construction, and inspection of new or rehabilitated public sewers (mains and lower laterals) shall conform to the *City of Berkeley Specifications for Sanitary Sewer Rehabilitation*, including Appendices, Standard Details and Detail Specifications, Regional Standards for Sanitary Sewer Installation, Rehabilitation and Repair, and the “Greenbook” Standard Specifications for Public Works Construction.

Materials

Gravity sewer mains shall be High-Density Polyethylene (HDPE) pipe with a minimum standard diameter ratio (SDR) of 17, or Cured-In-Place-Pipe (CIPP). Lower laterals shall be HDPE pipe (minimum SDR-17). Other materials may be used based on site conditions, and as approved by the City.

Sewer force mains shall be Ductile Iron Pipe (DIP) with an appropriate coating for sanitary sewer application, or HDPE (minimum SDR-17).

Alignment

Location of rehabilitated sewer mains shall follow the existing alignment as much as practicable to conform to the State of California, Department of Health Services, Guidance for the “Criteria for the Separation of Water Mains and Non-Potable Pipelines.

Location of new sewer mains shall conform to the State of California, Department of Health Services, Guidance for the “Criteria for the Separation of Water Mains and Non-Potable Pipelines.

Horizontal

1. Horizontal separation from storm drains or other sewer mains shall be a minimum of five feet clear between pipes except at crossings.
2. Horizontal separation from other utilities, such as gas, underground electric, underground television cable, etc., shall be a minimum of four feet clear between the pipes except at crossings.
3. Horizontal curves in new gravity sewer mains are not allowed.
4. All sewer main trenches that are parallel to and deeper than the footing of any adjacent structure must be at least 45 degrees from the footing as required in the California Plumbing code.

Vertical

1. Provide a minimum of twelve inches of vertical separation from potable water and six inches of vertical separation from storm drains or other utilities, such as gas, underground electric, underground television cable, etc. When the minimum cannot be maintained, plans shall indicate installation of felt expansion material or equivalent between facilities. To protect the sewer main from distorting under extreme loads, other measures, such as concrete encasement or ductile iron pipe, may be utilized.

2. Vertical curves in gravity sewer mains are not allowed.

Pipe Sizing Criteria

Design Flow

The design flows shall be based on the criteria developed for the City's *Sewer System Hydraulic Modeling and Capacity Assessment* (October 2012) and shall be determined based on the current version of the hydraulic model.

- A. For any new connections to the system, the average daily wastewater flow, in gallons per day (GPD) shall be:

Single Family Residential	280 GPD per unit
Multi-Family Residential	200 GPD per unit
Non-residential	0.15 GPD/square foot of building floor space
Hotel	150 GPD/room
School	20 GPD per student

However, the City may require site-specific flow estimates on a case-by-case basis.

- B. Peak dry weather flow will be based on the diurnal wastewater flow profiles used in the hydraulic model or 3 times the average daily wastewater flow if the model is not used.
- C. Sewers that connect to existing sewers shall be designed to carry infiltrated water in addition to the volumes above, based on the I/I parameters in the hydraulic model applied to the City's design rainfall event.

Design Velocity

New gravity sewer mains shall be designed to achieve a minimum velocity of 2 fps during peak flow..

For the analysis of existing or proposed sewer systems, use the Manning Equation. Manning's Equation is:

$$V = \frac{1.486}{n} (r)^{\frac{2}{3}} \cdot (s)^{\frac{1}{2}} \quad Q = AV$$

where:

- V is the velocity of flow measured in feet per second.
- r represents the hydraulic radius of the wetted cross-section of the pipe measured in feet. It is obtained by dividing the flow area by the length of the wetted perimeter.
- s represents the slope of the energy gradient. It is numerically equal to the slope of the invert and the hydraulic surface in uniform flow.
- A represents the cross-sectional area of the flowing water in square feet.
- Q is the quantity of flow measured in cubic feet per second.
- n is the coefficient of roughness which is used in Manning's Equation to calculate flow in a pipe. The coefficient of roughness shall be based on pipe material and shall be determined by the manufacturer. However, for design purposes, the coefficient shall not be less than the following:

For new pipe: $n = 0.011$ For existing pipe: $n = 0.013$

Pipe Size

Gravity sewer mains shall be designed to flow 75% full at the future Peak Wet Weather Flow.

Minimum Pipe Size

Gravity sewer mains shall have a pipe size of no less than eight (8) inches in diameter.

The minimum pipe size for a lower lateral serving a single-family house is four (4) inches in diameter. The pipe size for a lower lateral serving an apartment building or a large complex shall be determined based on the calculated peak flows. Peak flows are determined by counting units and plumbing fixtures as the basis for the flow estimate, in accordance with the California Plumbing Code.

Minimum Pipe Slope

The pipe slope for gravity sewer mains shall facilitate the minimum design velocity, but shall also maintain a minimum slope as follows:

Pipe Size, inches	Minimum Slope, ft/ft
8	0.0035
10	0.0025
12	0.0020
15	0.0015

Sewer Main and Lateral Pipe Trench Cover and Bedding

- A. Cover is the distance from the top of the pipe to final finished grade measured directly over the pipe.
- B. Minimum cover for all sewer mains and laterals shall be 36 inches.
- C. Where cover is less than 36 inches, special construction techniques must be approved such as concrete encasement, use of ductile iron pipe, concrete cap over the trench or the use of controlled density fill (CDF).
- D. Backfill for the new sewer trench must have a relative compaction of 90% in unpaved area and a minimum of 95% relative compaction in the vehicular traffic area.
- E. Sewer pipe bedding shall be an imported mixture of combined mineral aggregates conforming to the requirements in the *City of Berkeley Specifications for Sanitary Sewer Rehabilitation*.
- F. Trench cover or backfill material shall be either native material or imported material conforming to the requirements in the *City of Berkeley Specifications for Sanitary Sewer Rehabilitation*.

Connection to an Existing Sewer Main

- A. Connect new mains to existing manholes or by constructing a new manhole over the point of connection. Elevations of new mains connecting to existing sewer mains shall be as follows:

Side sewer mains connecting to an existing main at an angle of 30 degrees or greater shall be at least 0.1 foot higher than existing.

Connect sewer mains so that the crown of the smaller main is no lower than the crown of the larger main.

- B. Where laterals are the same size as the main, connection must be made with a manhole. Use a wye for all other lateral connections.

Manholes and Rodding Inlets

- A. A manhole is required at every horizontal or vertical change in alignment.
- B. Maximum distance between manholes is 400 feet.
- C. A manhole is required at the end of every main in excess of 200 feet in length.
- D. Rodding inlets may be installed in lieu of manholes at the end of a sewer main where the distance is less than 200 feet to the nearest manhole and the main size is 10-inch or less.
- E. The manhole shall be designed such that the angle in the horizontal plane between the downstream and any incoming sewer is a minimum of 90 degrees.
- F. Stubs provided out of manholes for future extensions shall have rodding inlets provided when more than one length of pipe is installed or where service laterals are connected to the stub.
- G. Private sewer mains must connect to the public main at a manhole.
- H. Standard drop manhole installations are required when the difference in elevation between the incoming and outgoing sewer is greater than 18 inches.
- I. Manholes shall have a minimum barrel of 48 inches for sewer pipe 30 inches and less.

Sewer Laterals

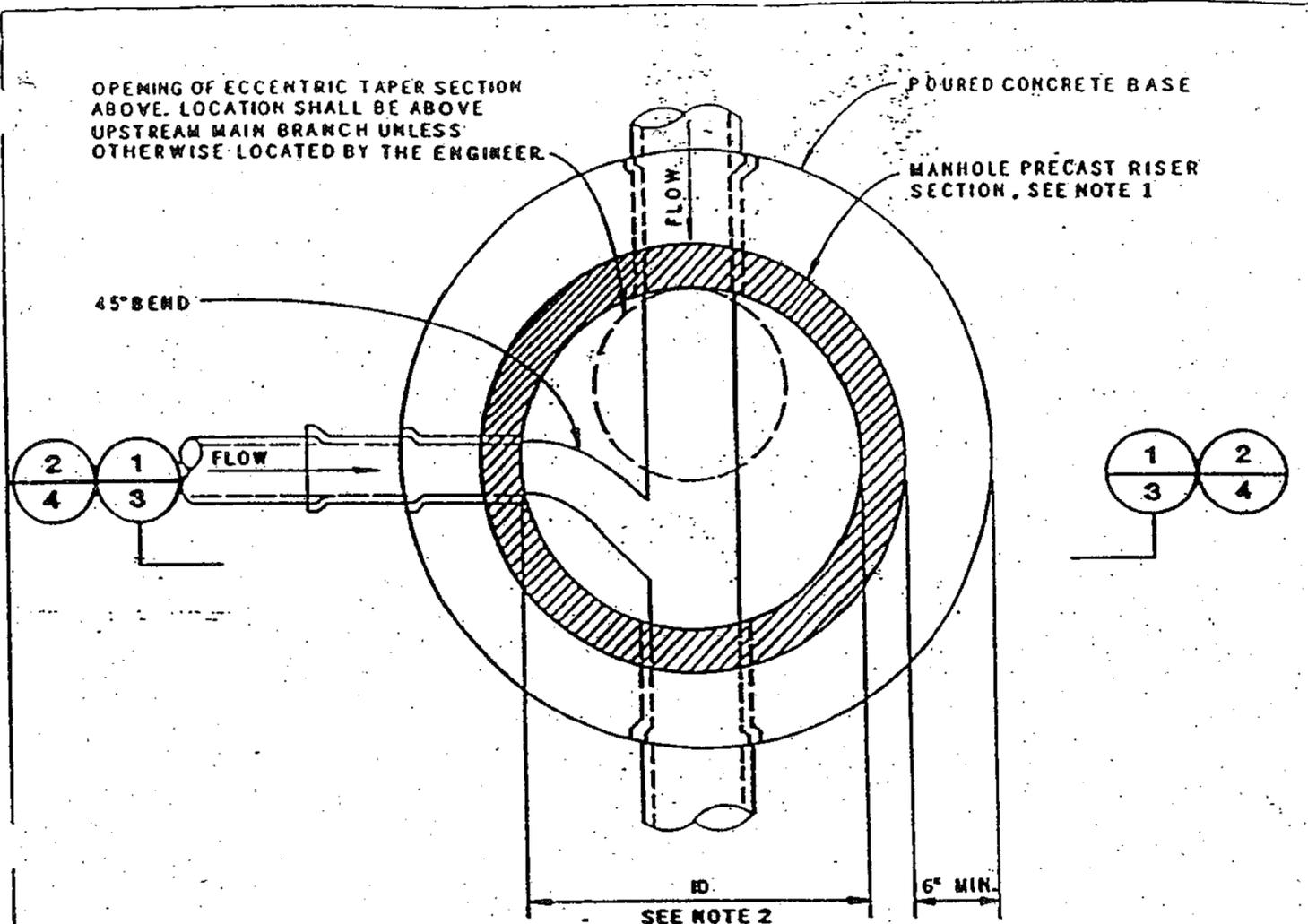
- A. The minimum sewer lateral size is 4-inch.
- B. The minimum slope of sewer laterals is 2 percent or ¼-inch per foot for 4-inch laterals.
- C. All sewer laterals, from property line or edge of easement to the point of connection with the main line or a manhole, shall generally be perpendicular to the curb alignment or easement and will have an angle of intersection with the downstream section of sewer of no less than 90 degrees.
- D. No lateral alignments adverse to the flow of the main will be permitted.
- E. Lateral connections must be accessible and easy to locate.

Abandonment

- A. Existing sewer mains and lower laterals that will not be used shall be abandoned in accordance with the *City of Berkeley Specifications for Sanitary Sewer Rehabilitation*. Additionally, abandonment of lower laterals shall conform to the prescriptions given in the City of Berkeley memorandum, dated December 9, 1985, with the subject of “NEW POLICY, BUILDING SEWER LATERAL ABANDONMENT AND RE-USE”.
- B. Manhole abandonment shall, at a minimum, require removal of the upper portion (down to 3 feet from finish grade) and perforation of the bottom, either by using a jack hammer or any other tools or equipment, and shall be filled with backfill material and compacted to 90 percent relative compaction.

Appendix 5-B City of Berkeley Standard Details and Detail Specifications

**STANDARD DETAILS
AND
DETAIL SPECIFICATIONS**



PLAN
NTS

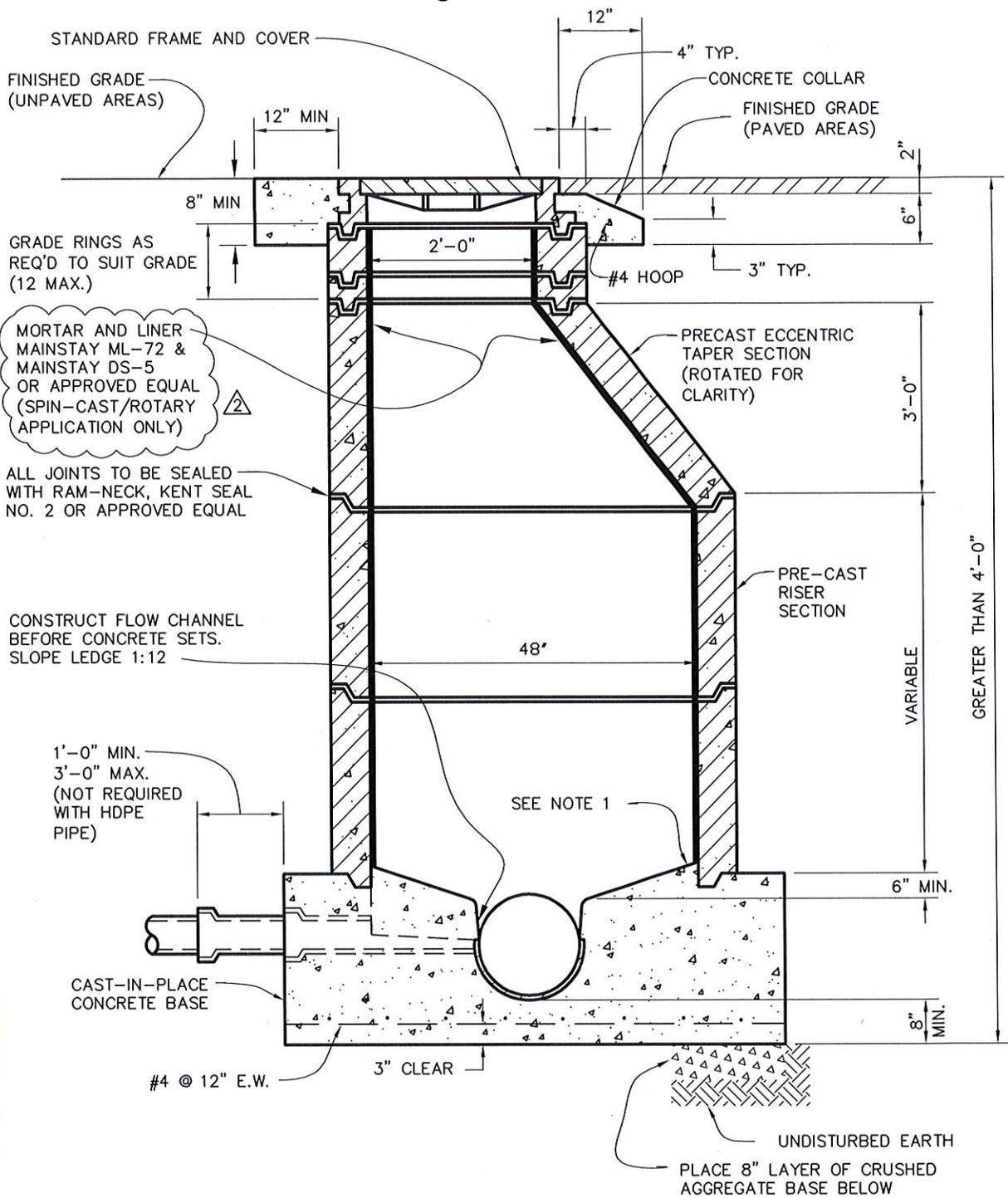
NOTES

1. PRECAST CONCRETE GRADE RINGS, RISER SECTIONS AND CONE SECTIONS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C478, SEE DWGS. 3 & 4.
2. FOR SEWER PIPES 30 INCHES AND LESS: ID=48 INCHES; FOR SEWER PIPES 33 INCHES AND GREATER USE CONCRETE MANHOLE DETAILS AS SHOWN IN DWGS. 11 TO 12.
3. ALL MANHOLES SHALL BE PROVIDED WITH STEPS UNLESS OTHERWISE NOTED.
- 4) ALL MANHOLES FOR SEWER PIPE 33 INCHES AND GREATER SHALL BE 60 ID.

	EAST BAY INFILTRATION/INFLOW CORRECTION PROGRAM	STANDARD DETAIL
---	--	----------------------------

MANHOLE BASE

DATE:	RECOMMENDED:	APPROVED:	RCE	DWG NO. 2
-------	--------------	-----------	-----	-----------



MORTAR AND LINER
 MAINSTAY ML-72 &
 MAINSTAY DS-5
 OR APPROVED EQUAL
 (SPIN-CAST/ROTARY
 APPLICATION ONLY)

ALL JOINTS TO BE SEALED
 WITH RAM-NECK, KENT SEAL
 NO. 2 OR APPROVED EQUAL

CONSTRUCT FLOW CHANNEL
 BEFORE CONCRETE SETS.
 SLOPE LEDGE 1:12

1'-0" MIN.
 3'-0" MAX.
 (NOT REQUIRED
 WITH HDPE
 PIPE)

CAST-IN-PLACE
 CONCRETE BASE
 #4 @ 12" E.W.

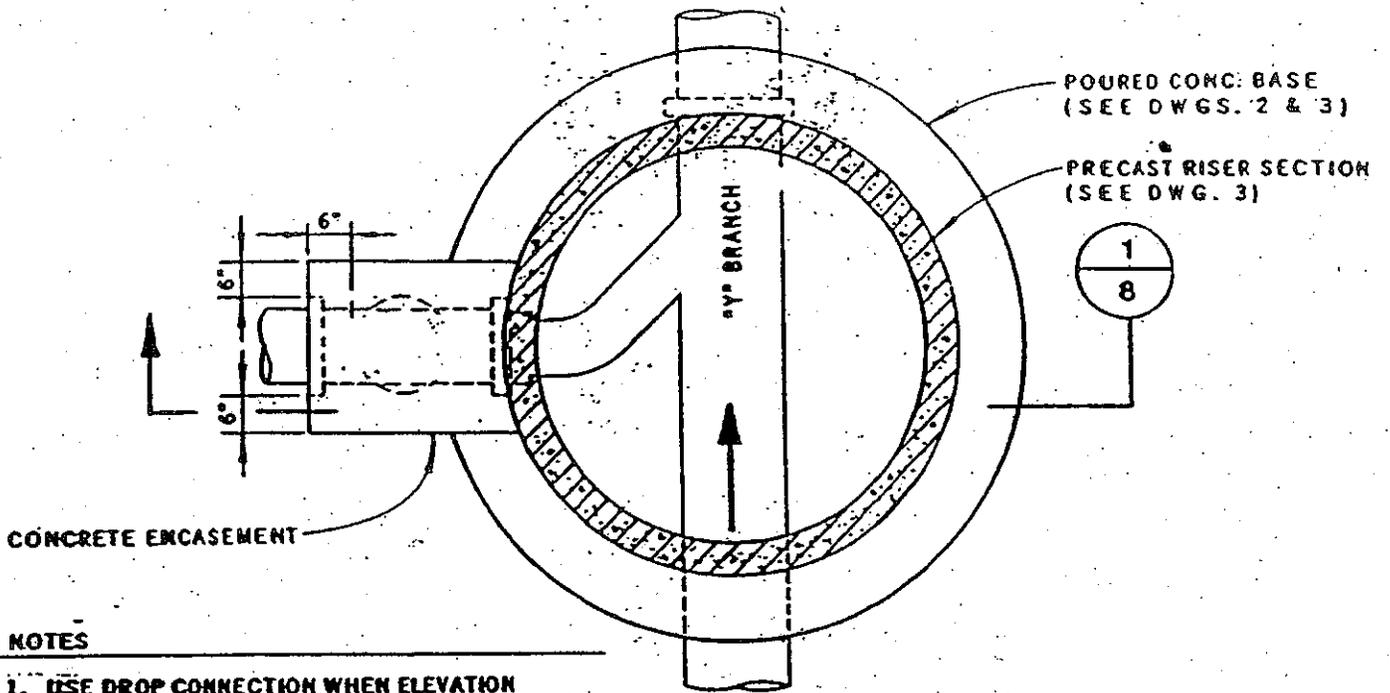
NOTES

1. SET RISER SECTION IN 1:3 MORTAR MIX AND IN GROOVE FORMED IN BASE, OR POUR MONOLITHICALLY WITH BASE.
2. CAST-IN-PLACE CONCRETE FOR MANHOLE BASES AND CONCRETE COLLARS SHALL CONFORM TO SPEC. SECTION 201-1.1.2 AND BE CLASS 560-B-3250.

4/21/15
 10/8/08
 PMHEC
 ADDED MORTAR & LINER
 UPDATE AND REVISED TITLE BLOCK

CITY OF BERKELEY DEPARTMENT OF PUBLIC WORKS	
SUBMITTED: <i>[Signature]</i>	DATE: 5/12/15
SUPERVISING CIVIL ENGINEER	R.C.E. 54937
	EXP. 6/30/16
APPROVED: <i>[Signature]</i>	DATE: 5/12/15
MANAGER OF ENGINEERING	R.C.E. 64314
	EXP. 6/30/15

STANDARD DETAIL			
PRECAST MANHOLE			
ECCENTRIC CONE			
DESIGN: JR	DATE: 1/02	PLAN: 7895	
DRAWN: MS	SCALE: N.T.S.	FILE: 20-B-147	
CHECK: _____	BOOK: _____		

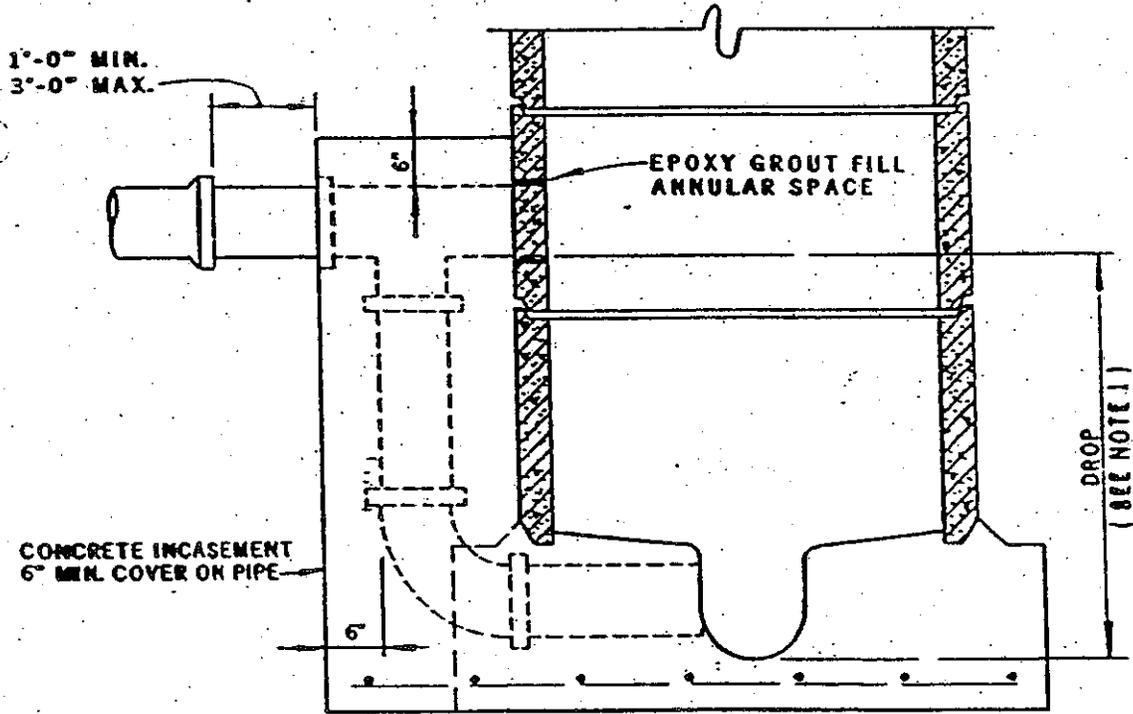


NOTES

1. USE DROP CONNECTION WHEN ELEVATION DIFFERENCE (DROP) BETWEEN INLET AND OUTLET SEWERS AT MANHOLES IS AT LEAST THE DISTANCE FOR THE REQUIRED FITTINGS AND THE DROP IS 1'-6" OR GREATER.

PLAN
N.T.S.

1'-0" MIN.
3'-0" MAX.



SECTION
N.T.S.

1
8



**EAST BAY
INFILTRATION/INFLOW
CORRECTION PROGRAM**

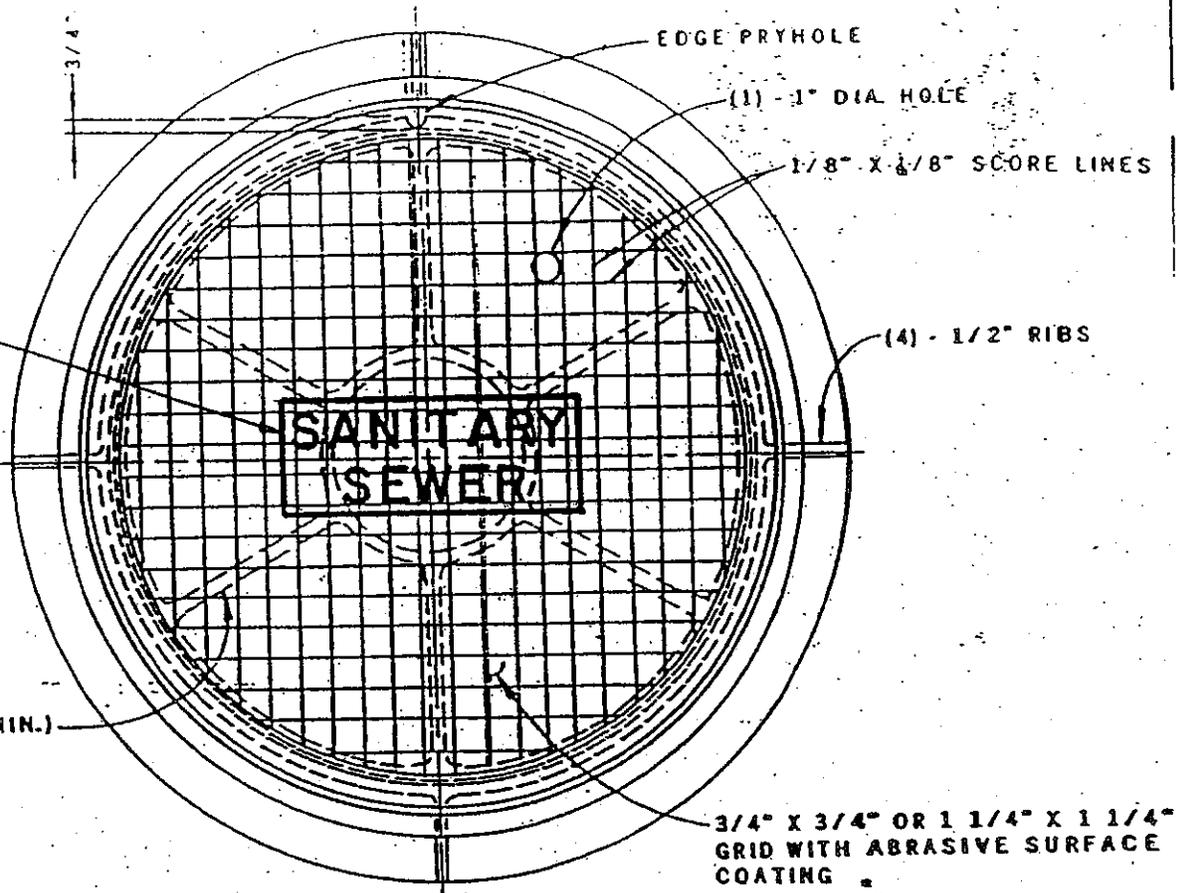
**STANDARD
DETAIL**

OUTSIDE DROP CONNECTION - CONCRETE ENCASED

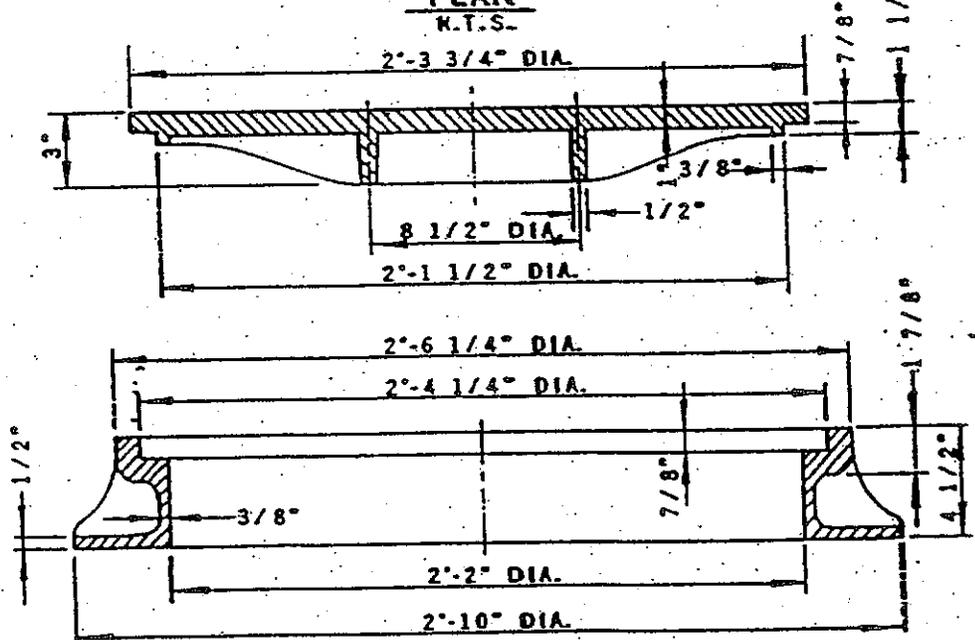
DATE:	RECOMMENDED:	APPROVED:	RCE	DWG NO. 8
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SEE NOTE 3
**STORM
 SEWER**

**SANITARY
 SEWER**



PLAN
 N.T.S.



SECTIONS
 N.T.S.

NOTES

1. CONTACT AND BEARING SURFACES OF FRAME AND COVER SHALL BE MACHINED TO FIT ACCURATELY.
2. SHAFT OPENING OF MANHOLES SHALL BE 2'-0\".
3. COVER TO BE MARKED IN RAISED LETTERS: "SANITARY SEWER" OR "STORM SEWER".
4. ALL MANHOLE COVERS SHALL HAVE CLOSED PICK-HOLES.

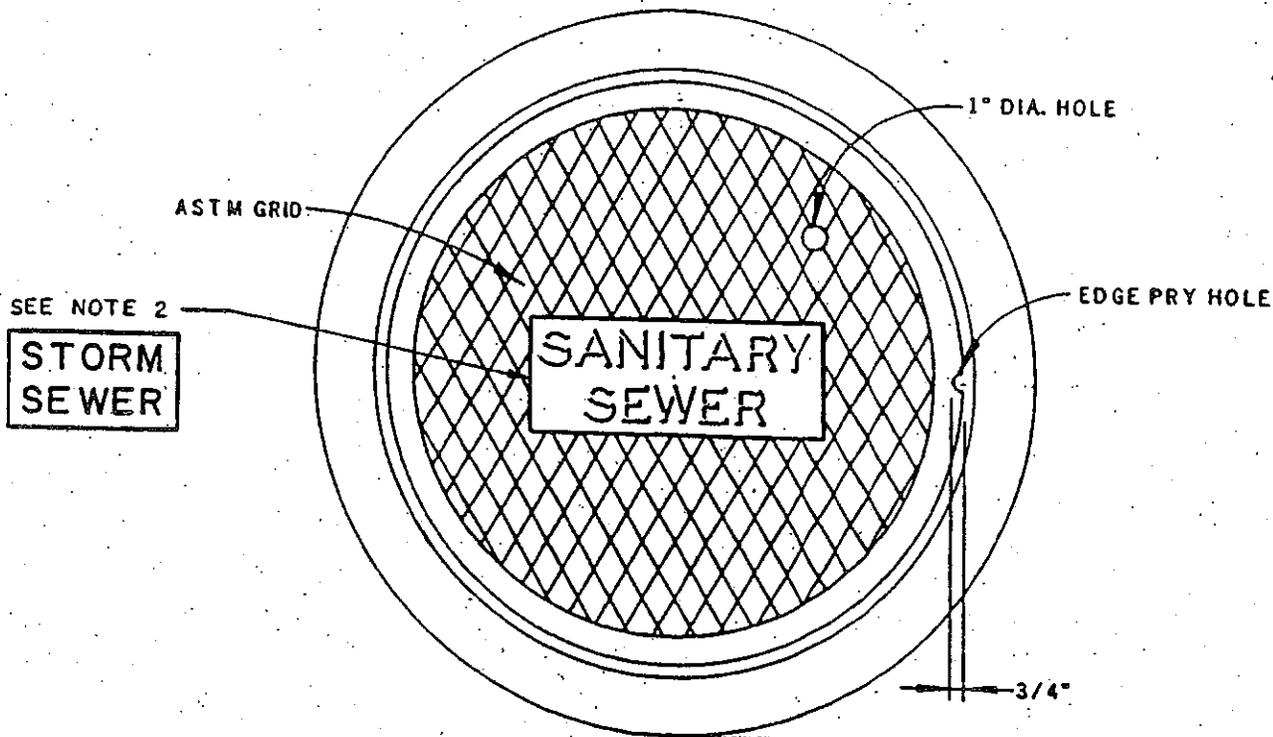


**EAST BAY
 INFILTRATION/INFLOW
 CORRECTION PROGRAM**

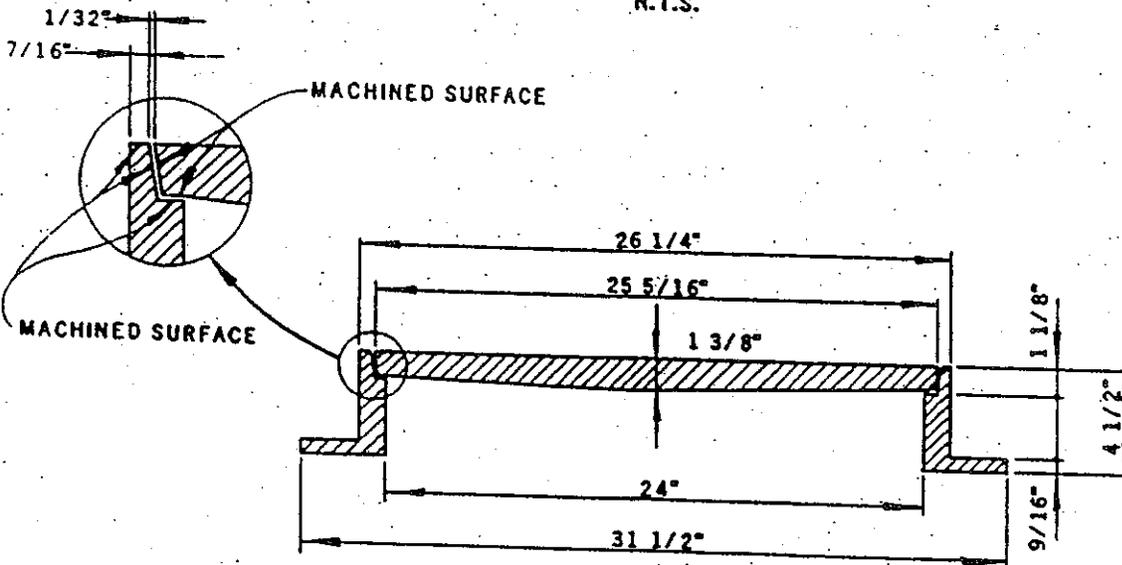
**STANDARD
 DETAIL**

MANHOLE COVER AND FRAME - TYPE A

DATE:	RECOMMENDED:	APPROVED:	RCE	DWG NO. 14
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PLAN
N.T.S.



SECTION
N.T.S.

NOTES:

1. FRAME AND COVER DESIGN CONFORMS TO: AB & 1 NO. AB15005 OR AB 15007, PHOENIX NO P-1090, PINKERTON NO. A-644 OLYMPIC NO. 58222M, SOUTH BAY NO. 1900, OR OTHER APPROVED EQUAL.
2. COVER TO BE MARKED IN RAISED LETTERS: "SANITARY SEWER" OR "STORM SEWER".
3. ALL MANHOLE COVERS SHALL HAVE CLOSED PICK-HOLES.

NOTE:
USE LIMITED TO PARKS, EASEMENTS AND OTHER AREAS

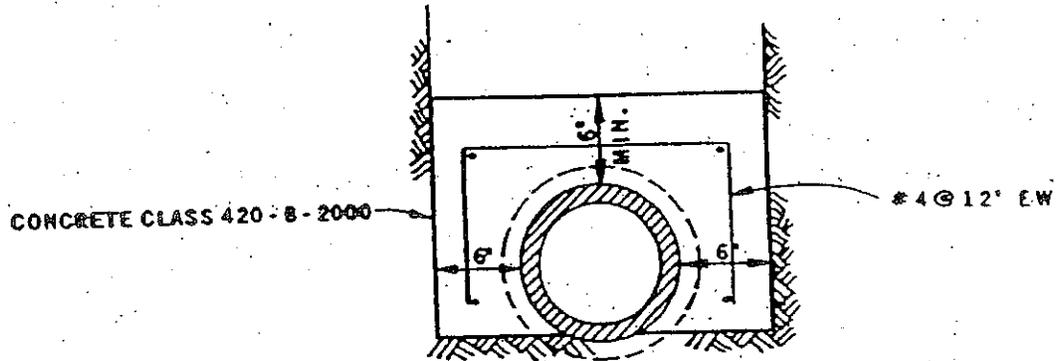


**EAST BAY
INFILTRATION/INFLOW
CORRECTION PROGRAM**

**STANDARD
DETAIL**

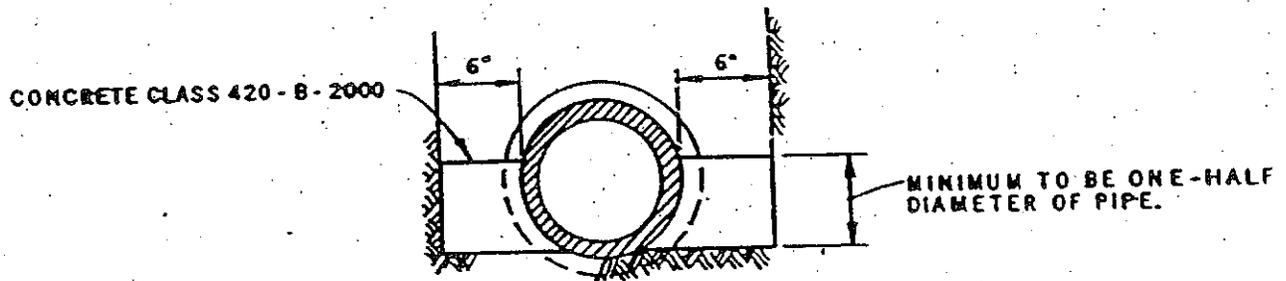
MANHOLE COVER AND FRAME - TYPE B

DATE:	RECOMMENDED:	APPROVED:	RCE	DWG NO. 15
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CONCRETE ENCASEMENT

TO BE USED WHERE PIPE COVER IS 3 FT. OR LESS
OR WHERE SPECIFIED ON PLAN.



CONCRETE BEDDING

TO BE USED WHERE COVER IS 13' - 6" OR GREATER
OR WHERE SPECIFIED ON PLAN.



EAST BAY
INFILTRATION/INFLOW
CORRECTION PROGRAM

STANDARD
DETAIL

CONCRETE ENCASEMENT AND BEDDING

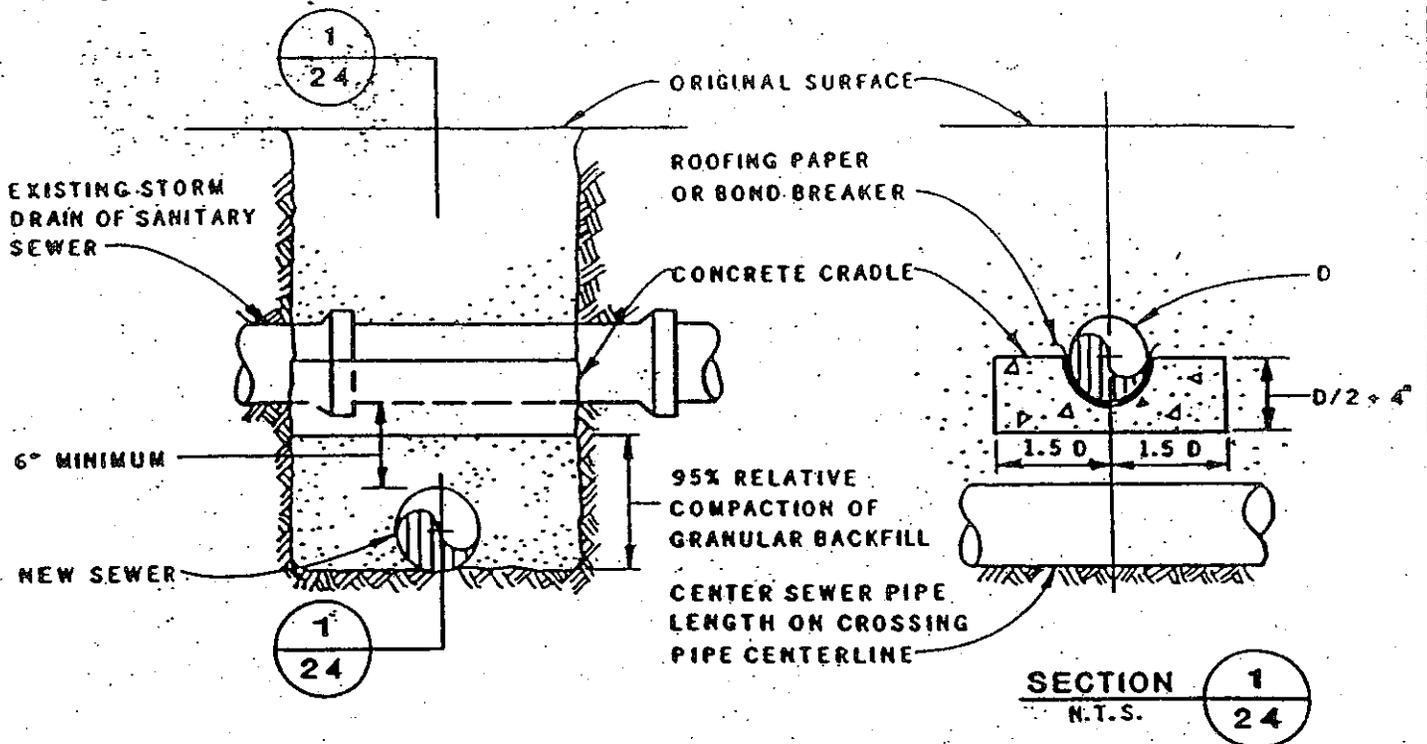
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RECOMMENDED:

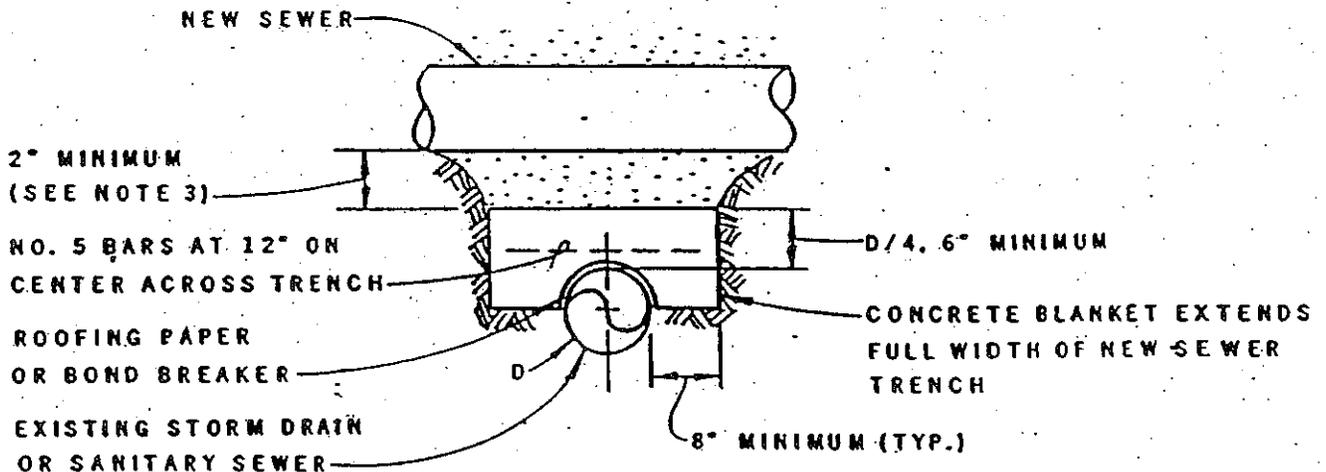
APPROVED:

RCE

DWG NO. 23



SANITARY SEWER CROSSING UNDER EXISTING STORM DRAIN OR SANITARY SEWER



SANITARY SEWER CROSSING OVER EXISTING STORM DRAIN OR SANITARY SEWER

NOTES

1. SANITARY SEWERS CROSSING WATER MAINS: SEPARATION, CONSTRUCTION, AND PIPE MATERIAL CRITERIA SHALL BE AS REQUIRED BY THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES.
2. MINIMUM CLEARANCE BETWEEN CROSSING PIPELINES SHALL BE 6".
3. IF LESS THAN 2" BEDDING MATERIAL, RAISE CONCRETE BLANKET TO CONTACT LOWER HALF OF SEWER PIPE. PROVIDE ROOFING PAPER OR BOND BREAKER BETWEEN SEWER PIPE AND CONCRETE.



**EAST BAY
INFILTRATION/INFLOW
CORRECTION PROGRAM**

**STANDARD
DETAIL**

CLOSE CROSSING DETAIL

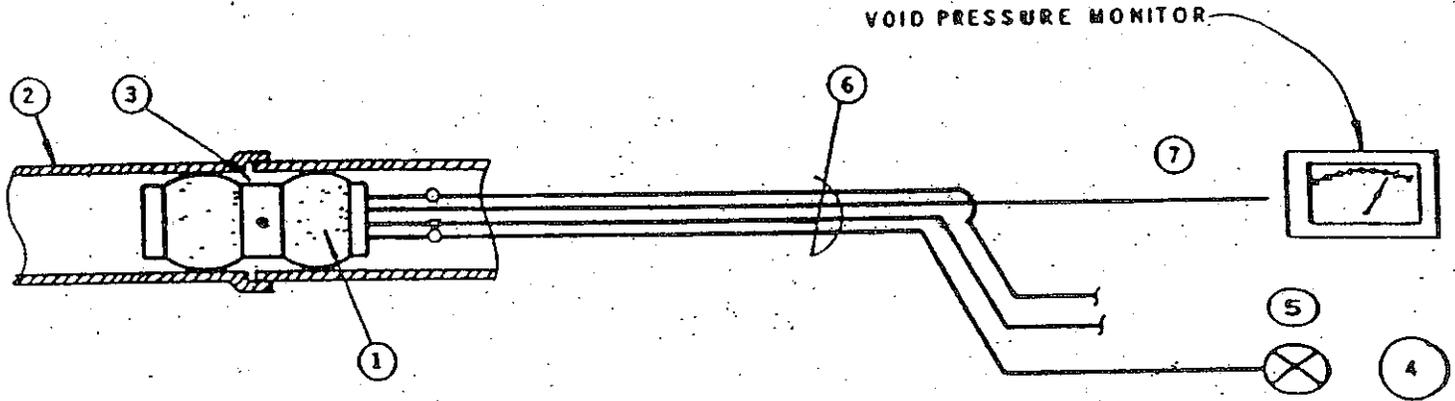
DATE:

RECOMMENDED:

APPROVED:

RCE

DWG NO. 24



PIPE JOINT AIR TEST SCHEMATIC

AIR TEST EQUIPMENT - LEGEND

1. JOINT TESTING DEVECE (e.g.: PACKER).
2. SEWER WITH JOINT TO BE TESTED.
3. VOID BETWEEN EXPANDED ENDS OF TESTING DEVECE.
4. AIR SUPPLY (PRESSURIZED).
5. AIR SHUT-OFF VALVE.
6. AIR / WATER / SEALANT HOSES AND ELETRICAL TRANSMISSION LINES.
7. ELECTRICAL TRANSMISSION OF VOID PRESSURE FROM THE VOID.



**EAST BAY
INFILTRATION/INFLOW
CORRECTION PROGRAM**

**STANDARD
DETAIL**

PIPE JOINT AIR TEST SCHEMATIC

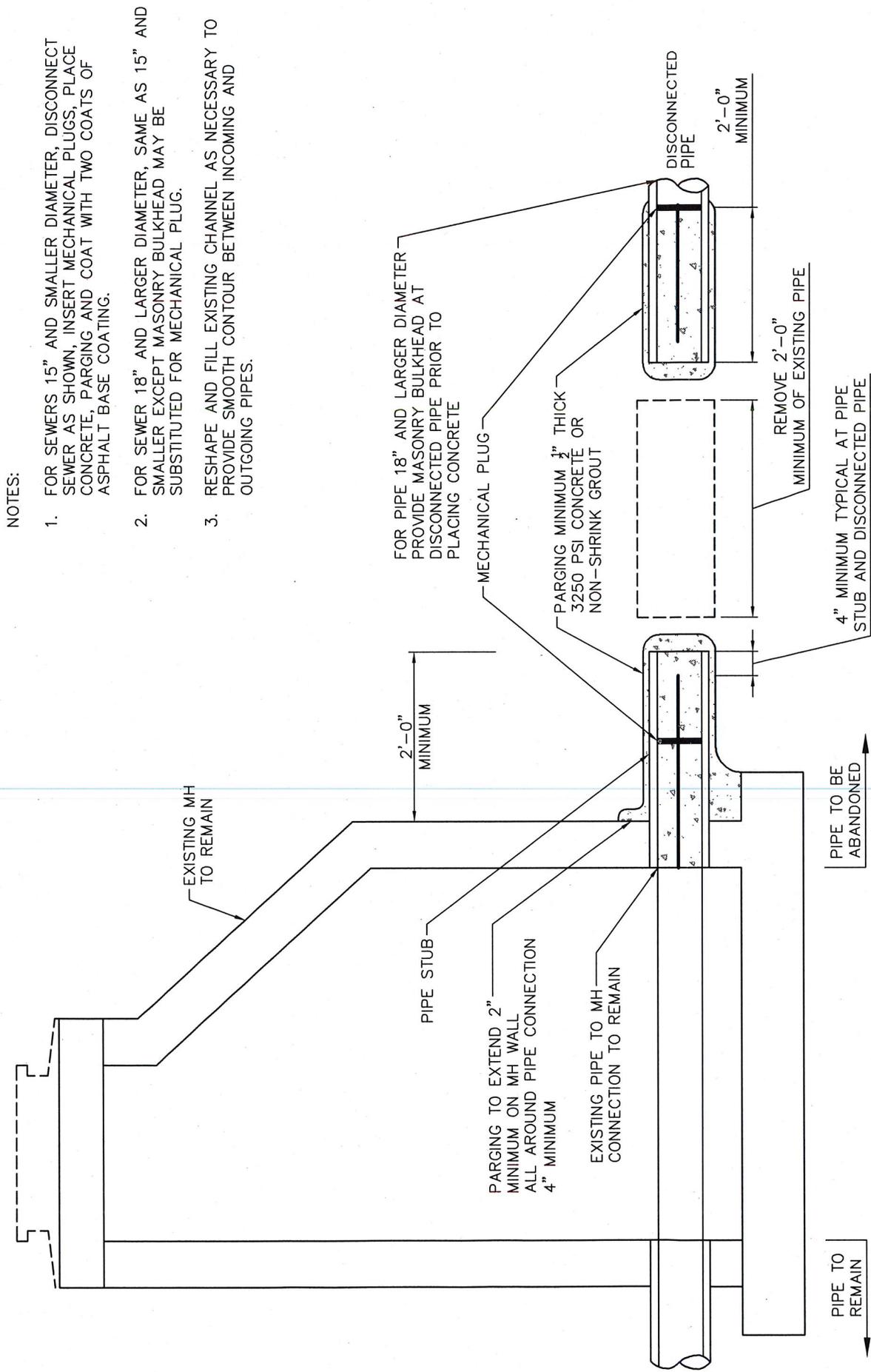
DATE:

RECOMMENDED:

APPROVED:

RCE

DWG NO. 29

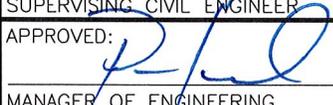


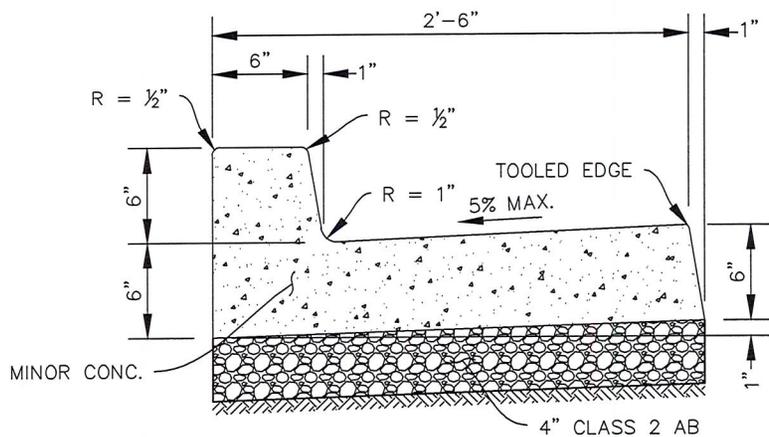
NOTES:

1. FOR SEWERS 15" AND SMALLER DIAMETER, DISCONNECT SEWER AS SHOWN, INSERT MECHANICAL PLUGS, PLACE CONCRETE, PARGING AND COAT WITH TWO COATS OF ASPHALT BASE COATING.
2. FOR SEWER 18" AND LARGER DIAMETER, SAME AS 15" AND SMALLER EXCEPT MASONRY BULKHEAD MAY BE SUBSTITUTED FOR MECHANICAL PLUG.
3. RESHAPE AND FILL EXISTING CHANNEL AS NECESSARY TO PROVIDE SMOOTH CONTOUR BETWEEN INCOMING AND OUTGOING PIPES.

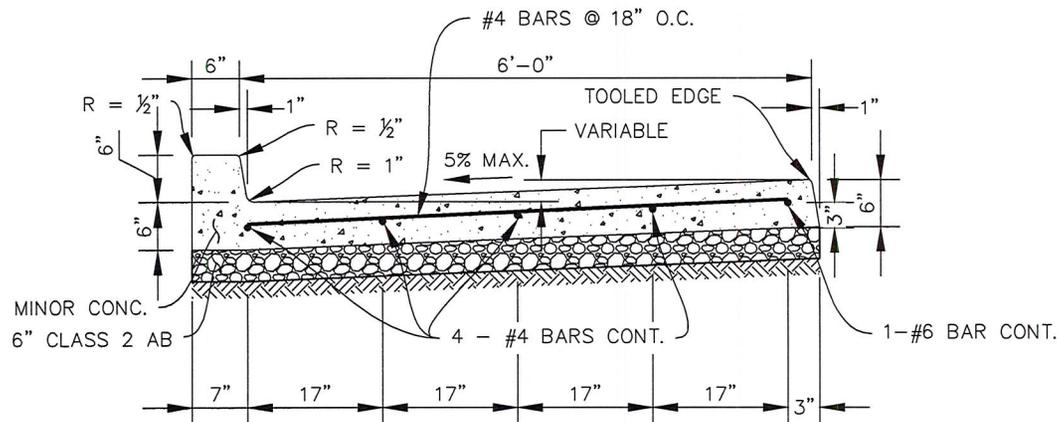
<p>STANDARD DETAIL ABANDONMENT OF PIPE AT SANITARY SEWER MAINTENANCE HOLE</p>	SUBMITTED: <i>[Signature]</i> ASSOCIATE CIVIL ENGINEER	DATE: <u>10-4-19</u> R.C.E. <u>73714</u>	CITY OF BERKELEY DEPARTMENT OF PUBLIC WORKS
	APPROVED: <i>[Signature]</i> MANAGER OF ENGINEERING	DATE: <u>10-4-19</u> R.C.E. <u>72491</u>	DESIGN: <u>RS</u> DRAWN: <u>TMP</u> CHECK: <u>NP</u>

1. CURB RAMPS SHALL CONFORM TO THE LATEST EDITION AND REVISED STANDARD PLAN (RSP) OF THE (CALIFORNIA DEPARTMENT OF TRANSPORTATION) STANDARD SPECIFICATIONS AND STANDARD PLAN A88A AND A88B.
2. PORTLAND CEMENT CONCRETE FOR SIDEWALK, CURB, DRIVEWAY, GUTTER AND VALLEY GUTTER SHALL BE MINOR CONCRETE CONFORMING TO THE REQUIREMENTS OF SECTION 90-2 "MINOR CONCRETE" OF THE (CALIFORNIA DEPARTMENT OF TRANSPORTATION) STANDARD SPECIFICATIONS. NO BAGGED MIX IS PERMITTED.
3. BUS PAD CONCRETE SHALL BE DESIGNED WITH A MINIMUM COMPRESSIVE STRENGTH OF 3,500 PSI AND SHALL BE SAMPLED (3 CYLINDERS REQ'D) AND TESTED.
4. EXISTING SUBGRADE SURFACE SHALL BE RE-GRADED (IF NECESSARY) AND RE-COMPACTED (MIN 95% RELATIVE COMPACTION) TO CONFORM TO THE GRADES SHOWN ON THE PLANS.
5. NEW CONCRETE WORK SHALL MATCH EXISTING IN FINISH, SCORE PATTERN, AND COLOR, OR AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
 - a) ROSE COLORED CONCRETE SHALL CONTAIN 6 POUNDS OF DAVIS #160 (ROSE) PER CUBIC YARD.
 - b) ALL OTHER CONCRETE SHALL CONTAIN 1.5 POUND OF LAMPBLACK PER CUBIC YARD.
6. NO ADMIXTURES SHALL BE USED WITHOUT APPROVAL OF THE ENGINEER.
7. CURBS, SIDEWALKS, DRIVEWAYS, AND CURB RAMPS SHALL HAVE FORMS REMOVED AND BE BACKFILLED WITHIN 3 DAYS AFTER PLACING CONCRETE. CONCRETE SHALL BE ALLOWED TO CURE FOR AT LEAST 48 HOURS PRIOR TO BACKFILLING.
8. MAXIMUM SLUMP OF FRESH CONCRETE PERMITTED IN THESE ITEMS SHALL BE 4 INCHES. SLUMP SHALL BE DETERMINED BY EITHER ASTM C-143 OR CALIFORNIA TEST METHOD NO. 520 AT THE ENGINEER'S DISCRETION. CONCRETE SHALL BE TRANSPORTED IN TRUCK MIXERS OR AGITATORS AND DISCHARGED WITHIN 70 MINUTES OF LEAVING THE PLANT.
9. WEAKENED PLANE JOINTS AT LEAST 1-1/2 INCHES DEEP AND 1/8 INCHES WIDE SHALL BE PLACED AT 10 FEET MAXIMUM SPACING.
10. EXPANSION JOINT FILLER FOR CONCRETE (BITUMINOUS TYPE) MUST BE IN COMPLIANCE WITH ASTM D 994.
11. ALL NEW CURB, SIDEWALK, VALLEY GUTTER AND DRIVEWAYS CONSTRUCTED ADJACENT TO EXISTING CONCRETE CURB OR SIDEWALK SHALL BE DOWELLED TO THE EXISTING CONCRETE. THE DOWELS SHALL BE #4 REBAR, 18 INCHES LONG AT 18 INCHES MAXIMUM SPACING. DOWELS SHALL BE EMBEDDED A MINIMUM OF 8-INCHES IN A 5/8 INCH DRILLED HOLE (EXIST. CONC.).
12. SIDEWALK SHALL BE CONSTRUCTED WITH EXPANSION JOINTS AT EACH BEGINNING OF CURVE (BC) AND END OF CURVE (EC).
13. CURB AND GUTTER, SIDEWALKS AND DRIVEWAYS SHALL BE GIVEN A MEDIAN BROOM FINISH. THE SURFACE SHALL FIRST BE GIVEN A FLOATED FINISH AND FINAL TROWELING SHALL BE DONE WITH A STEEL TROWEL. THE FINISHED SURFACE SHALL BE FREE OF ALL TROWEL MARKS AND SHALL BE UNIFORM IN TEXTURE AND APPEARANCE, BROOM TEXTURE SHALL BE IN THE LONGITUDINAL DIRECTION.
14. CLASS 2 AGGREGATE BASE (CL 2 AB) SHALL CONFORM TO THE CALTRANS STANDARD SPECIFICATIONS (LATEST EDITION) AND SHALL BE COMPACTED TO A MINIMUM DENSITY OF 95% RELATIVE COMPACTION.
15. EXISTING ASPHALT CONCRETE SHALL BE SAWCUT, REMOVED AND RECONSTRUCTED FOR A MINIMUM OF 2- FEET WITHIN EDGES OF CONCRETE WORK. HOT MIX ASPHALT SHALL BE A MINIMUM THICKNESS OF 8" AND CL 2 AB SHALL MATCH EXISTING THICKNESS. AS APPROVED BY THE CITY ENGINEER. SEE PLAN 8148 "CURB AND GUTTER RETROFIT" FOR ADDITIONAL REQUIREMENTS.

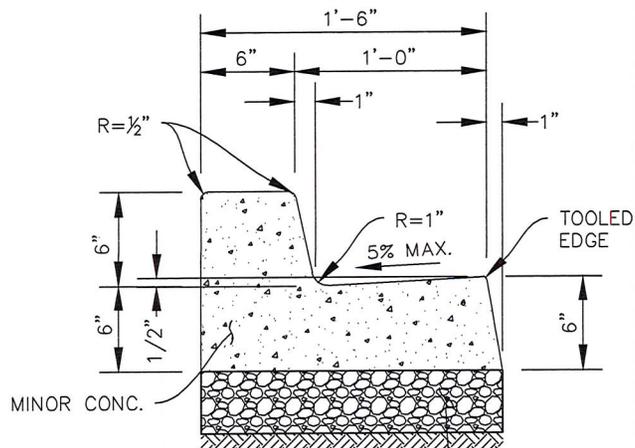
CITY OF BERKELEY DEPARTMENT OF PUBLIC WORKS		STANDARD DETAIL CONCRETE WORK NOTES	
SUBMITTED:  SUPERVISING CIVIL ENGINEER	DATE: <u>2/27/17</u> R.C.E. <u>64582</u>		
APPROVED:  MANAGER OF ENGINEERING	DATE: <u>2/28/17</u> R.C.E. <u>66014</u>	DESIGN: <u>HEI</u> DRAWN: <u>HEI</u> CHECK: <u>MS</u>	DATE: <u>01/26/17</u> SCALE: <u>N.T.S.</u> BOOK: _____
		PLAN: <u>8144</u> FILE: <u>20B-156</u> SHEET: <u>1 OF 1</u>	



STANDARD CURB AND GUTTER DETAIL

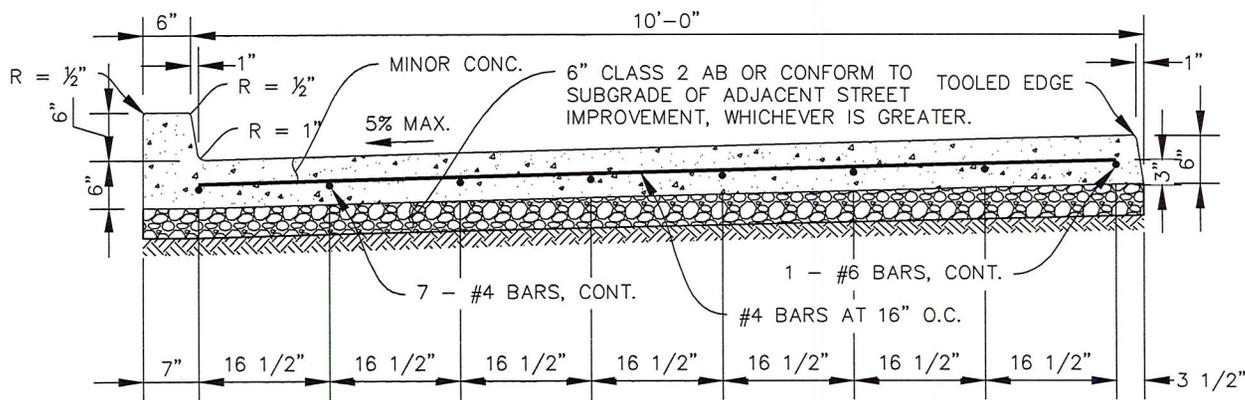


CURB AND 6 FOOT GUTTER DETAIL



4" CLASS 2 AB OR CONFORM TO SUBGRADE OF ADJACENT STREET IMPROVEMENT, WHICHEVER IS GREATER.

CURB AND 1 FOOT GUTTER DETAIL



CURB AND 10 FOOT GUTTER DETAIL

NOTE:

1. FOR ADDITIONAL REQUIREMENTS, SEE PLAN 8144, "CONCRETE WORK NOTES."

STANDARD DETAIL
CURB AND GUTTER

SUBMITTED:
Don Zrby
SUPERVISING CIVIL ENGINEER

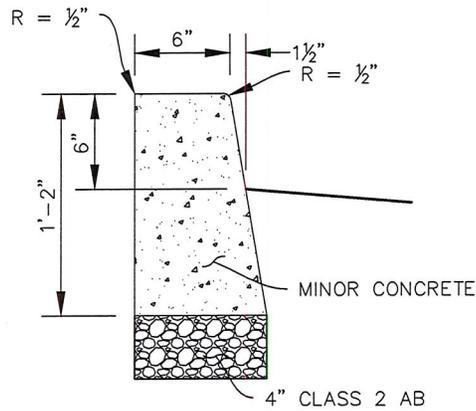
APPROVED:
R. J. [Signature]
MANAGER OF ENGINEERING

DATE: 2/27/17
R.C.E. 64582

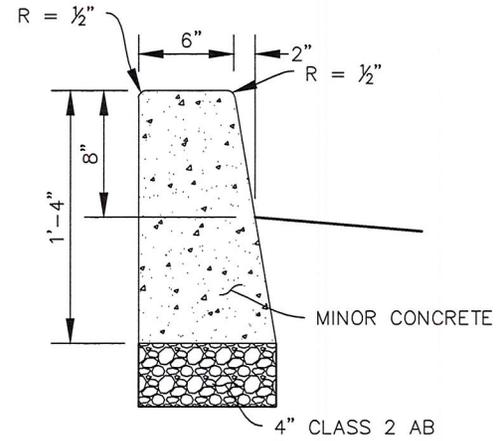
DATE: 2/28/17
R.C.E. 66014

CITY OF BERKELEY
DEPARTMENT OF PUBLIC WORKS

DESIGN: <u>HEI</u>	DATE: <u>01/26/17</u>	PLAN: <u>8145</u>
DRAWN: <u>HEI</u>	SCALE: <u>N.T.S.</u>	FILE: <u>20B-157</u>
CHECK: <u>MS</u>	BOOK: _____	SHEET: <u>1 OF 1</u>



STANDARD 6" VERTICAL CURB DETAIL



STANDARD 8" VERTICAL CURB DETAIL

NOTE:

1. FOR ADDITIONAL REQUIREMENTS, SEE PLAN 8144, "CONCRETE WORK NOTES."

STANDARD DETAIL
VERTICAL CONCRETE CURB

SUBMITTED:
Don Zrby
SUPERVISING CIVIL ENGINEER

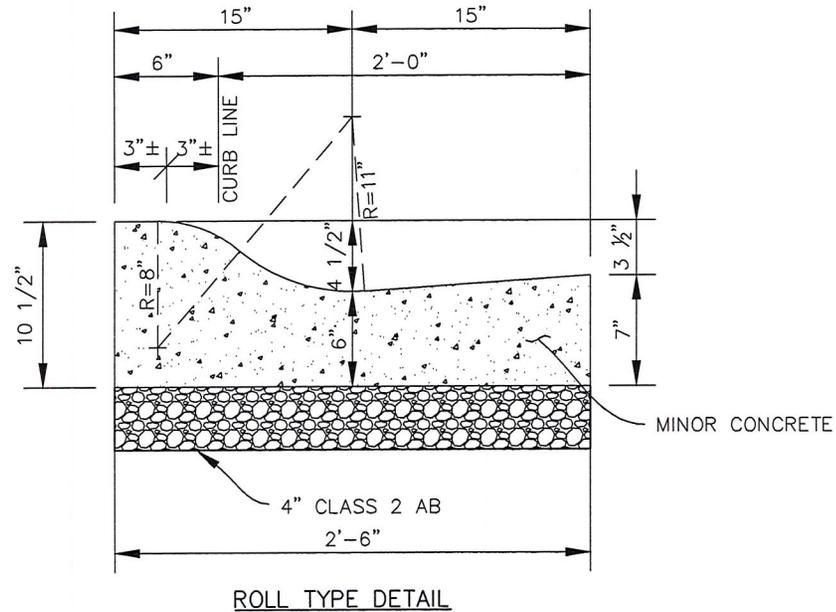
APPROVED:
[Signature]
MANAGER OF ENGINEERING

DATE: 2/27/17
R.C.E. 64582

DATE: 2/28/17
R.C.E. 66014

CITY OF BERKELEY
DEPARTMENT OF PUBLIC WORKS

DESIGN: <u>HEI</u>	DATE: <u>01/26/17</u>	PLAN: <u>8146</u>
DRAWN: <u>HEI</u>	SCALE: <u>N.T.S.</u>	FILE: <u>20B-158</u>
CHECK: <u>MS</u>	BOOK: _____	SHEET: <u>1 OF 1</u>



NOTE:

1. TO BE USED ONLY WITH SPECIAL PERMISSION FROM THE CITY ENGINEER.
2. FOR ADDITIONAL REQUIREMENTS, SEE PLAN 8144, "CONCRETE WORK NOTES."

**STANDARD DETAIL
ROLLED CURB**

SUBMITTED: Don Irby
SUPERVISING CIVIL ENGINEER

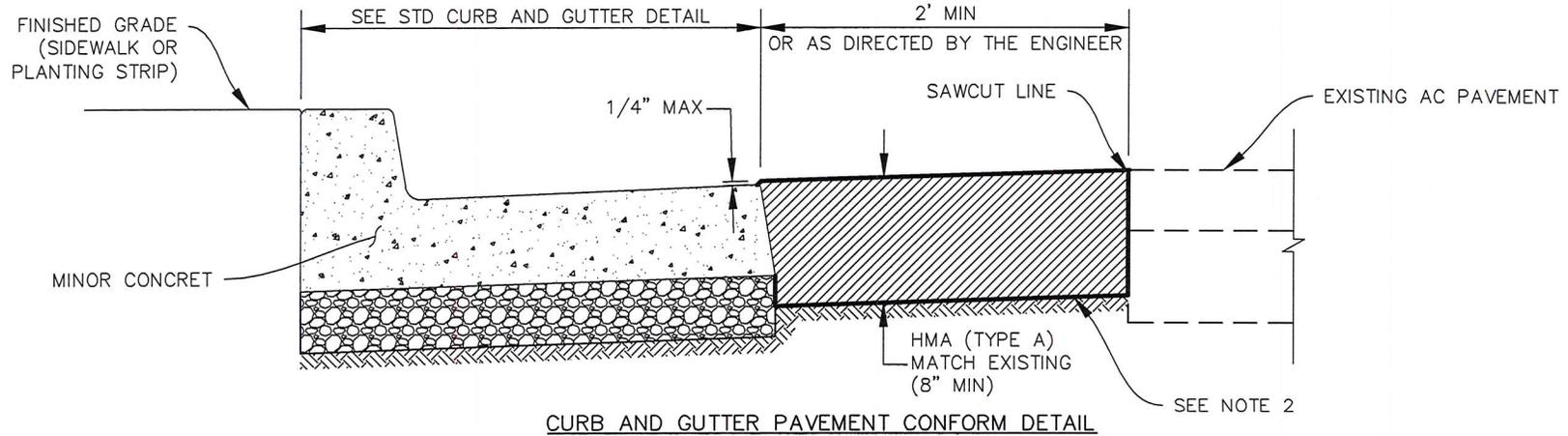
APPROVED: [Signature]
MANAGER OF ENGINEERING

DATE: 2/27/17
R.C.E. 64582

DATE: 2/28/17
R.C.E. 66014

CITY OF BERKELEY
DEPARTMENT OF PUBLIC WORKS

DESIGN: <u>HEI</u>	DATE: <u>01/26/17</u>	PLAN: <u>8147</u>
DRAWN: <u>HEI</u>	SCALE: <u>N.T.S.</u>	FILE: <u>20B-159</u>
CHECK: <u>MS</u>	BOOK: _____	SHEET: <u>1 OF 1</u>



NOTES:

1. PAVEMENT CONFORM SHALL BE PAVED IN 2 INCH MAXIMUM LIFTS.
2. APPLY ASPHALTIC EMULSION PAINT BINDER (TACK COAT) TO ALL EXISTING AC AND CONCRETE SURFACES IN ACCORDANCE WITH THE LATEST EDITION OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS.
3. FOR ADDITIONAL REQUIREMENTS, SEE PLAN 8144, "CONCRETE WORK NOTES."

**STANDARD DETAIL
CURB AND GUTTER RETROFIT**

SUBMITTED: _____
Don Kirby
 SUPERVISING CIVIL ENGINEER

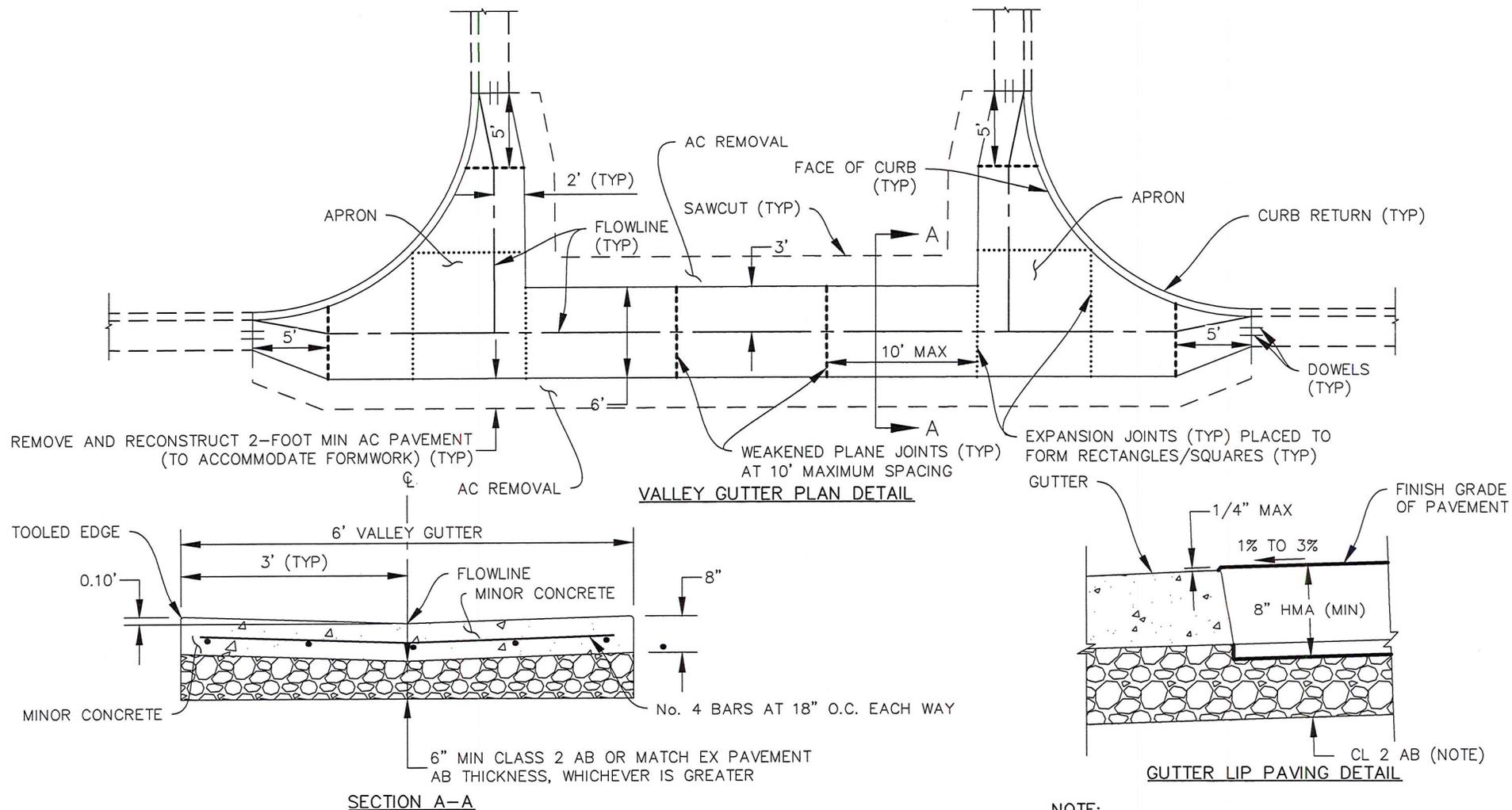
APPROVED: _____
P. J. O.
 MANAGER OF ENGINEERING

DATE: 2/27/17
 R.C.E. 64582

DATE: 2/28/17
 R.C.E. 66014

CITY OF BERKELEY
 DEPARTMENT OF PUBLIC WORKS

DESIGN: <u>HEI</u>	DATE: <u>01/26/17</u>	PLAN: <u>8148</u>
DRAWN: <u>HEI</u>	SCALE: <u>N.T.S.</u>	FILE: <u>20B-160</u>
CHECK: <u>MS</u>	BOOK: _____	SHEET: <u>1 OF 1</u>



NOTE:
 1. PAVEMENT SECTION SHALL BE AS APPROVED BY THE CITY ENGINEER. LAYERS SHALL NOT BE LESS THAN THE EXISTING THICKNESS.

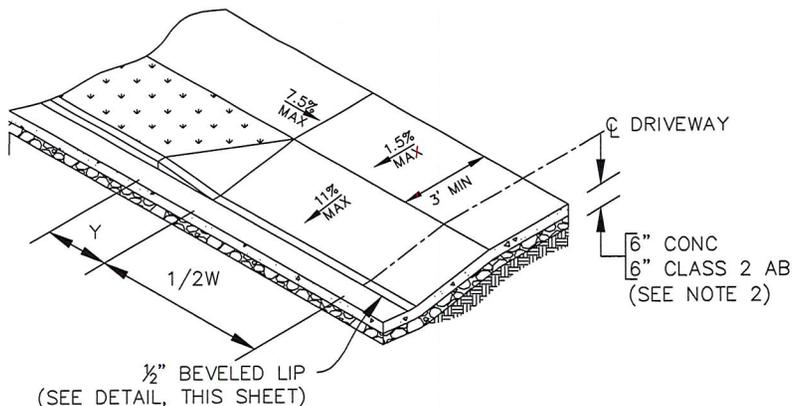
NOTE:
 1. FOR ADDITIONAL REQUIREMENTS, SEE PLAN 8144, "CONCRETE WORK NOTES."

**STANDARD DETAIL
 VALLEY GUTTER**

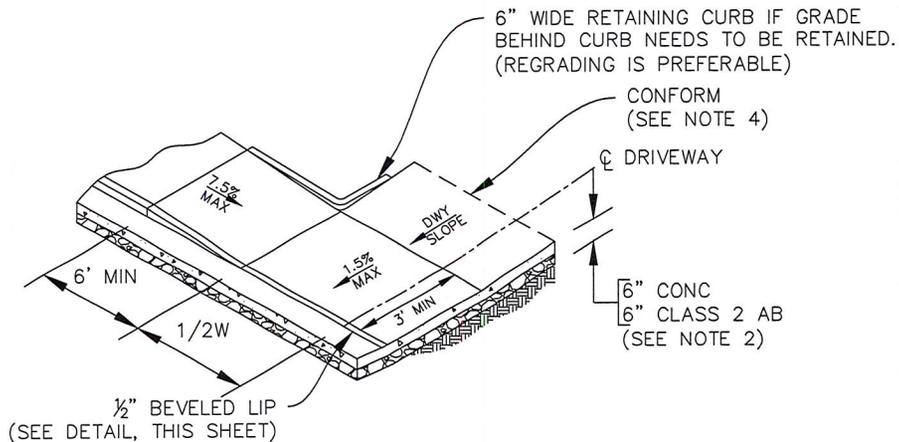
SUBMITTED:	DATE: 2/27/17
<i>Don Derby</i> SUPERVISING CIVIL ENGINEER	R.C.E. 64582
APPROVED:	DATE: 2/28/17
<i>D-LQ</i> MANAGER OF ENGINEERING	R.C.E. 66014

**CITY OF BERKELEY
 DEPARTMENT OF PUBLIC WORKS**

DESIGN: HEI	DATE: 01/26/17	PLAN: 8149
DRAWN: HEI	SCALE: N.T.S.	FILE: 20B-161
CHECK: MS	BOOK:	SHEET: 1 OF 1



DRIVEWAY WITH SEPARATED SIDEWALK
W=DRIVEWAY WIDTH (SEPARATED SIDEWALK)



DRIVEWAY WITH MONOLITHIC SIDEWALK
W=DRIVEWAY WIDTH (MONOLITHIC SIDEWALK)

NOTES:

1. REFER TO GENERAL NOTES FOR CONCRETE WORK.
2. RESIDENTIAL DRIVEWAYS SHALL BE 6 INCHES THICK PORTLAND CEMENT CONCRETE (PCC). COMMERCIAL AND INDUSTRIAL DRIVEWAYS SHALL BE 6 INCHES THICK REINFORCED CONCRETE. REINFORCEMENT SHALL BE 6"x6" WELDED WIRE FABRIC, #10 GAUGE MESH OR #4 BARS AT 18 INCH O.C. EACH WAY. THE REQUIRED STRUCTURAL SECTION FOR ANY DRIVEWAY SHALL BE CONTINUOUS FROM THE CURB TO THE BACK OF SIDEWALK.
3. DEPTH OF GUTTER FLOWS SHALL BE CALCULATED AND COMPARED TO PROPOSED SIDEWALK ELEVATIONS DURING DESIGN TO ENSURE GUTTER FLOWS ARE CONTAINED AND RUNOFF WITHIN THE PUBLIC RIGHT OF WAY DOES NOT DRAIN ONTO PRIVATE PROPERTY.
4. RETAINING CURBS AND DRIVEWAY CONFORMS AS REQUIRED.
5. FOR ADDITIONAL REQUIREMENTS, SEE PLAN 8144, "CONCRETE WORK NOTES."

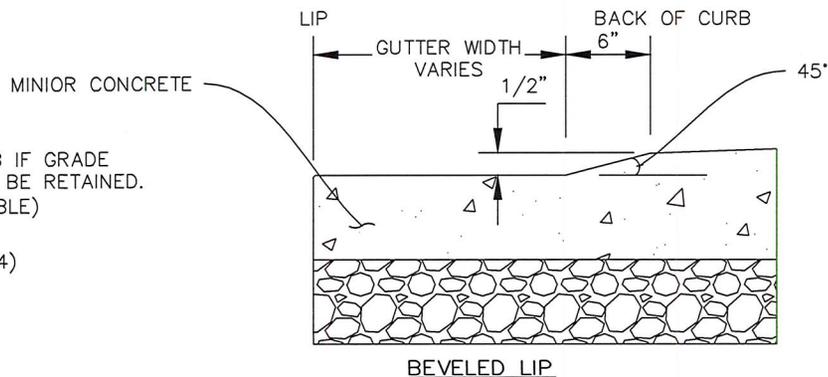


TABLE OF DRIVEWAY DIMENSIONS		
Dimension	Commercial & Industrial	Residential
Y	5' MIN	2' MIN
W	12' MIN	8' MIN

**STANDARD DETAIL
DRIVEWAY**

SUBMITTED:
Don Zib
SUPERVISING CIVIL ENGINEER

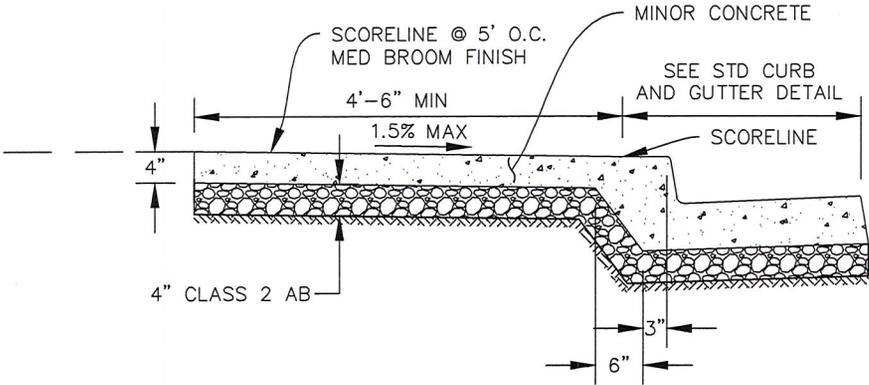
APPROVES:
P-LQ
MANAGER OF ENGINEERING

DATE: 2/27/17
R.C.E. 64582

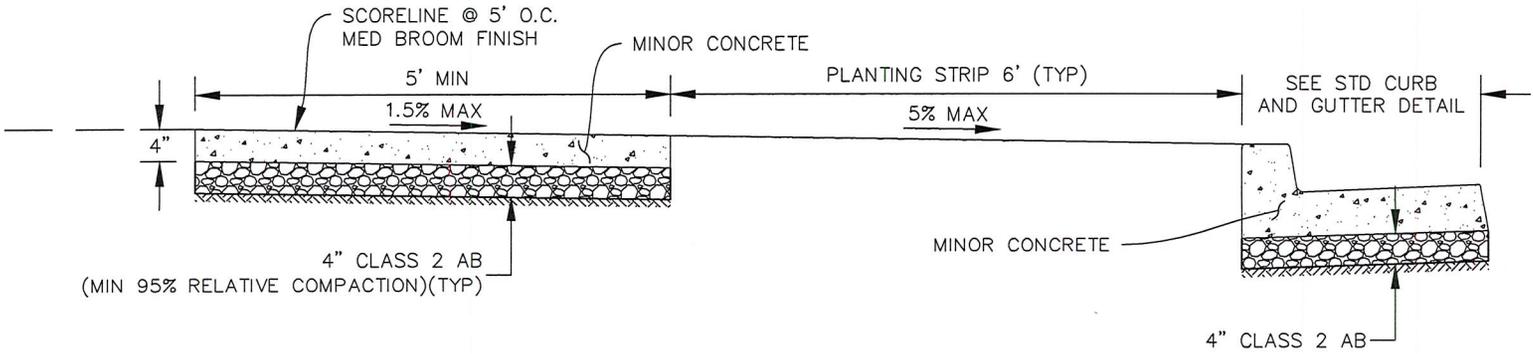
DATE: 2/28/17
R.C.E. 66014

CITY OF BERKELEY
DEPARTMENT OF PUBLIC WORKS

DESIGN: <u>HEI</u>	DATE: <u>01/26/17</u>	PLAN: <u>8151</u>
DRAWN: <u>HEI</u>	SCALE: <u>N.T.S.</u>	FILE: <u>20B-163</u>
CHECK: <u>MS</u>	BOOK: _____	SHEET: <u>1 OF 1</u>



STANDARD SIDEWALK DETAIL



STANDARD SIDEWALK WITH PLANTING STRIP DETAIL

NOTE:
 1. FOR ADDITIONAL REQUIREMENTS, SEE PLAN 8144, "CONCRETE WORK NOTES."

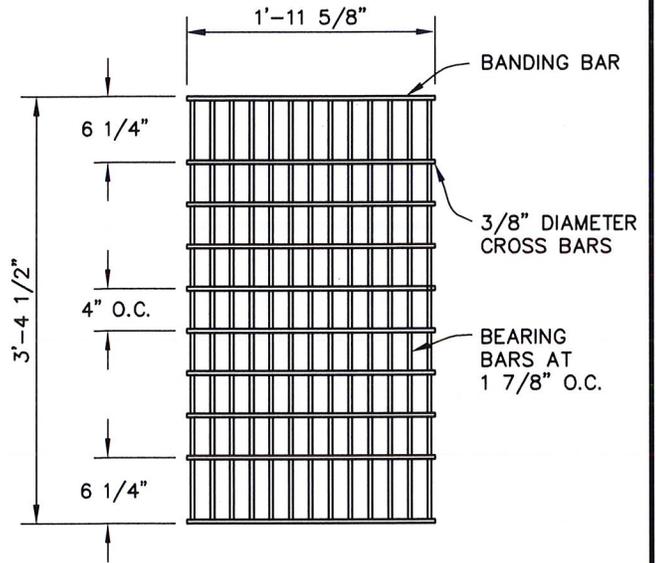
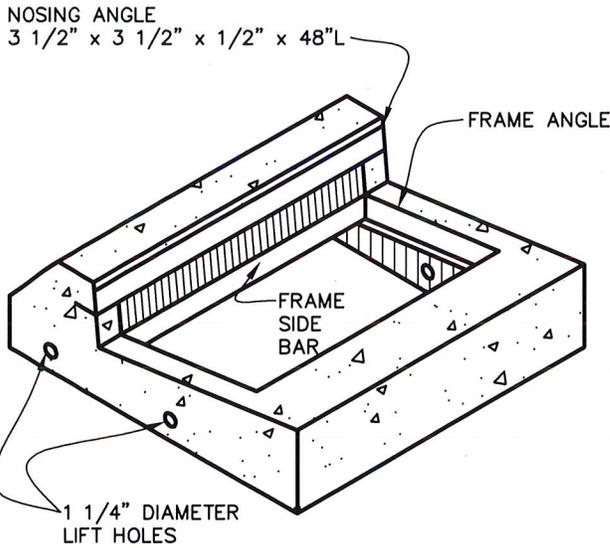
STANDARD DETAIL
 SIDEWALK

SUBMITTED: Don Zrb
 SUPERVISING CIVIL ENGINEER
 APPROVED: R-LO
 MANAGER OF ENGINEERING

DATE: 2/27/17
 R.C.E. 64502
 DATE: 2/28/17
 R.C.E. 66014

CITY OF BERKELEY
 DEPARTMENT OF PUBLIC WORKS

DESIGN: HEI	DATE: 01/26/17	PLAN: 8153
DRAWN: HEI	SCALE: N.T.S.	FILE: 20B-165
CHECK: MS	BOOK:	SHEET: 1 OF 1



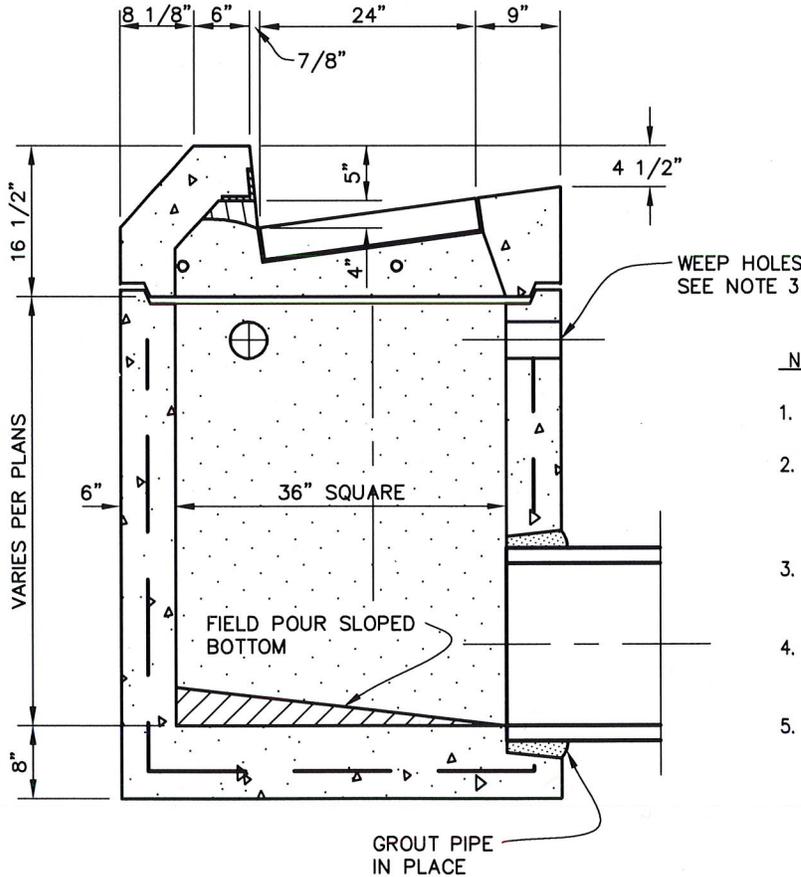
PRECAST TYPE V TOP

GRATE TYPE V

13 BEARING BARS 3 1/2" x 3/8"
2 BANDING BARS 2 1/2" x 3/8"

FRAME

4" x 3" x 1/2" ANGLES
3 1/2" x 1/2" SIDE BARS



**TYPICAL INSTALLATION
ON PRECAST BASE**

NOTES:

1. CONCRETE SHALL TEST 3000 PSI AT 28 DAYS.
2. ALL METAL SHALL BE STRUCTURAL GRADE STEEL AND BE GALVANIZED AFTER FABRICATION PER ASTM A123.
3. REQUIREMENTS FOR AND LOCATION OF 4" DIA. WEEP HOLES TO BE VERIFIED BY CONTRACTOR.
4. WALLS AND FLOOR ARE REINFORCED WITH 4"x4" W6-W6 WWF.
5. WEIGHT OF PRECAST TOP WITHOUT GRATE = 1350 LBS. GRATE = 210 LBS.

CBWCI

**CITY OF BERKELEY
DEPARTMENT OF PUBLIC WORKS**

**STANDARD DETAIL
CATCH BASIN
WITH CURB INLET**

SUBMITTED:
[Signature]
SUPERVISING CIVIL ENGINEER

DATE: 10/9/17
R.C.E. 64582
EXP. 6/30/19

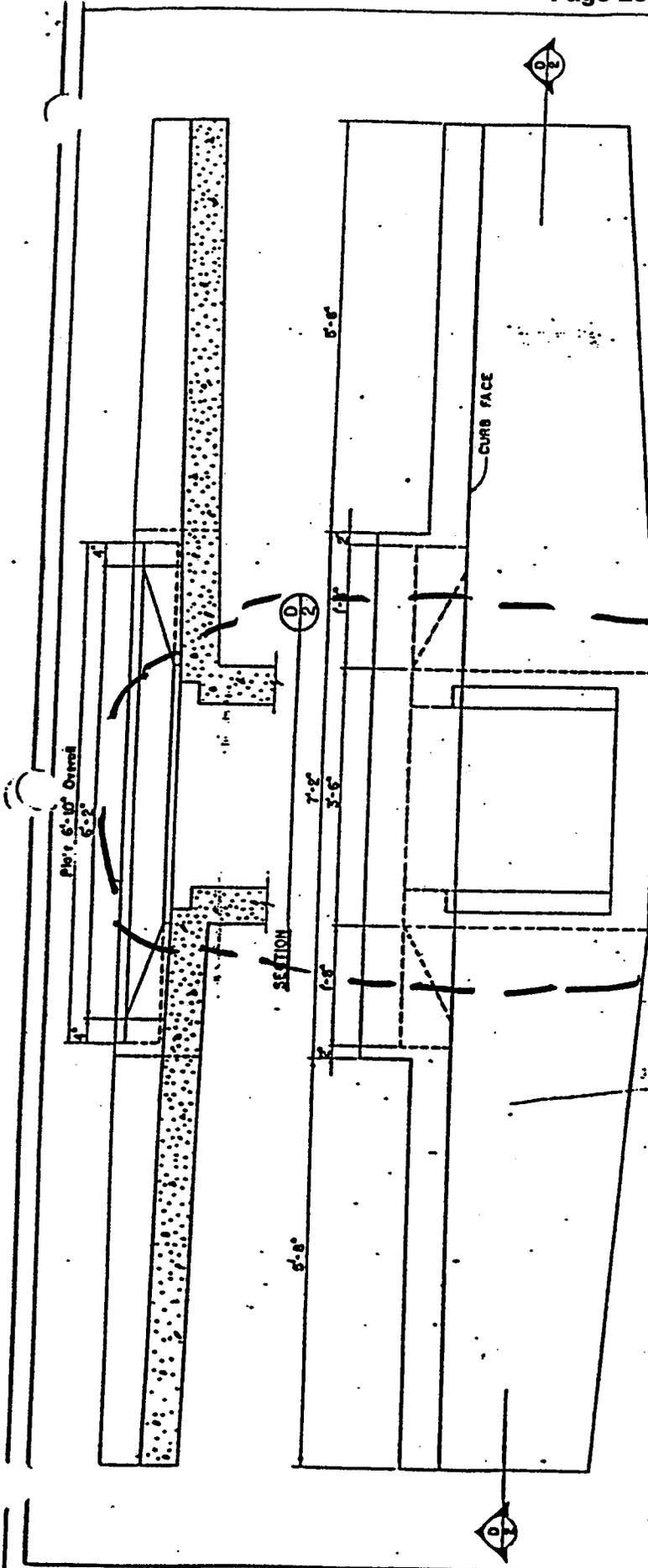
APPROVED:
[Signature]
MANAGER OF ENGINEERING

DATE: 10/6/17
R.C.E. 72491
EXP. 6/30/18

DESIGN: DA
DRAWN: JP
CHECK:

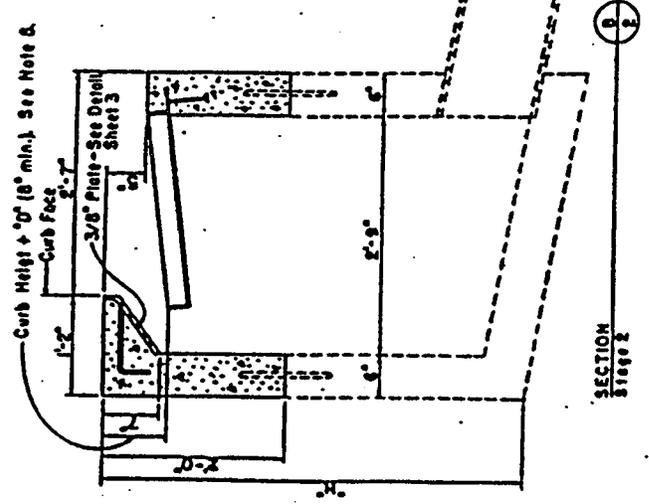
DATE: 10/17
SCALE: N.T.S.
BOOK:

PLAN: 6166
FILE: 20-B-105

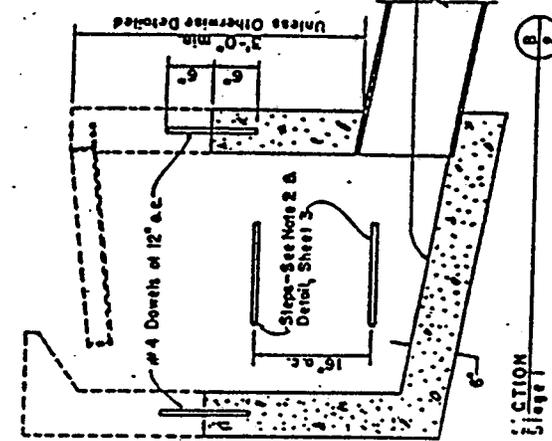


SEE PRE-CAST CATCH BASIN

PLAN - TWO WAY CATCH BASIN



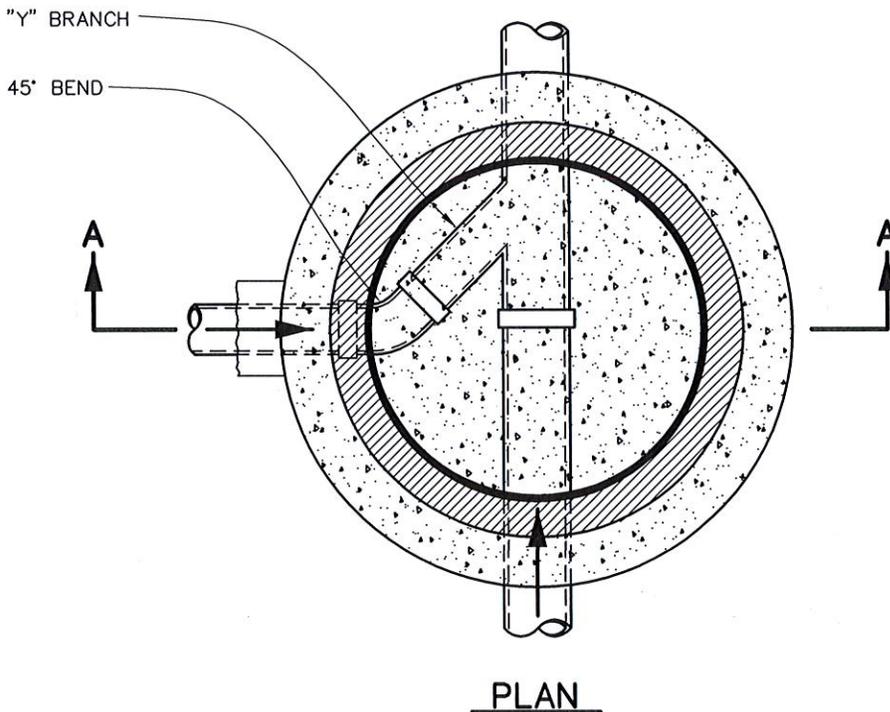
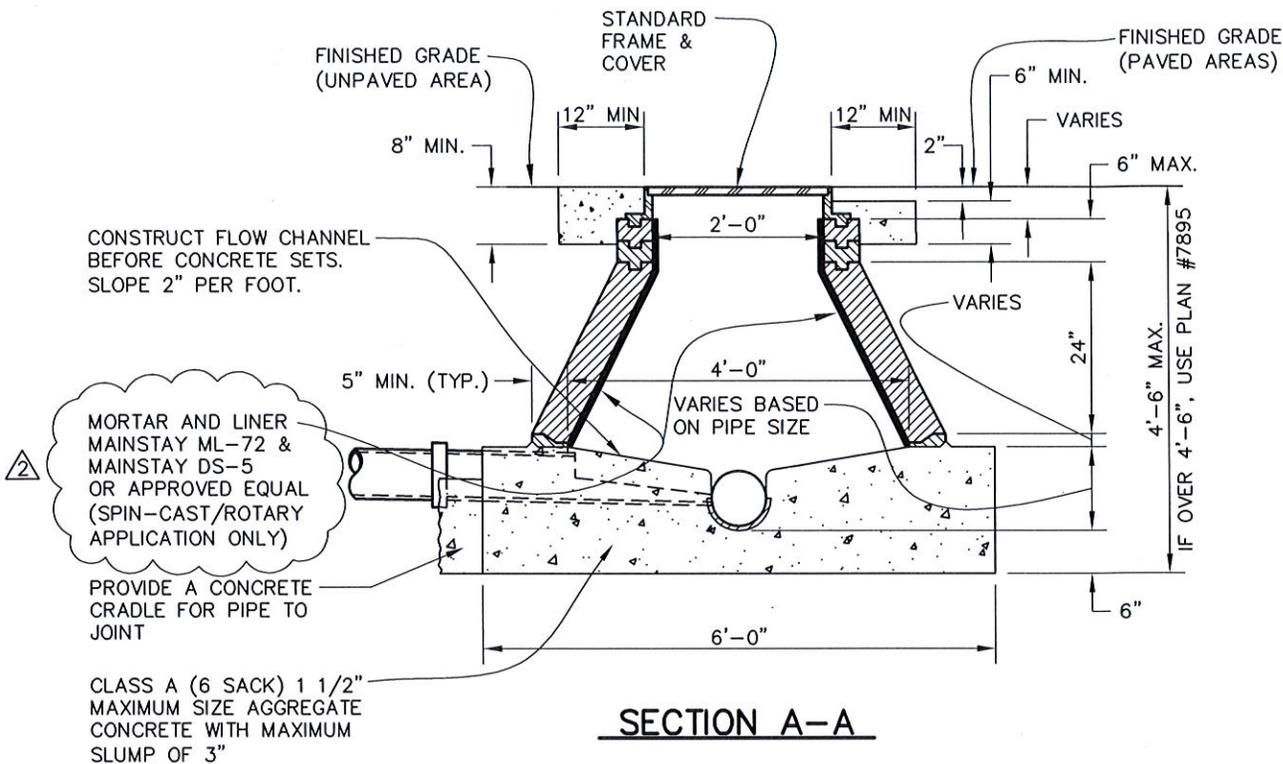
SECTION STAGE 2



SECTION STAGE 1

- NOTES**
1. Where "M" Exceeds 6, Place No. 4 Bars At 12" a.c. Both Ways In Walls & Floor.
 2. All Catch Basins Exceeding 3' Depth Shall Have 3/4" x 1/4" Galvanized Steel Strips Placed As Directed On 18" Centers.
 3. Reinforcing Steel Shall Conform To ASTM A615, Grade 40, Deformed.
 4. If Stage Construction Is Used, It May Be Divided Into Stages 1 & 2, As Shown.
 5. Place 3/4" x 1/4" Galvanized Rod Across Gallery Opening When Curb Height + "D" Exceeds 10'. Place So That Clear Opening Is Not Less Than 3" Nor More Than 7". Install Rod 2" Behind Curb Face.
 6. All Dimensions For Two-Way Catch Basins Not Shown Are Same As One-Way Catch Basin.

APPROVED DATE: 12/22/11 PROJECT: 11111 SHEET: 235 OF 413	CITY OF BERKELEY DEPARTMENT OF PUBLIC WORKS	STANDARD CATCH BASIN CONSTRUCTION DETAILS	DRAWN: JLD CHECKED: JLD DATE: 11/11/11	PLAN: 6165 DATE: 11-11-11
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4/20/15 ADDED MORTAR & LINER
 10/8/08 UPDATE AND REVISED TITLE BLOCK

CITY OF BERKELEY
DEPARTMENT OF PUBLIC WORKS

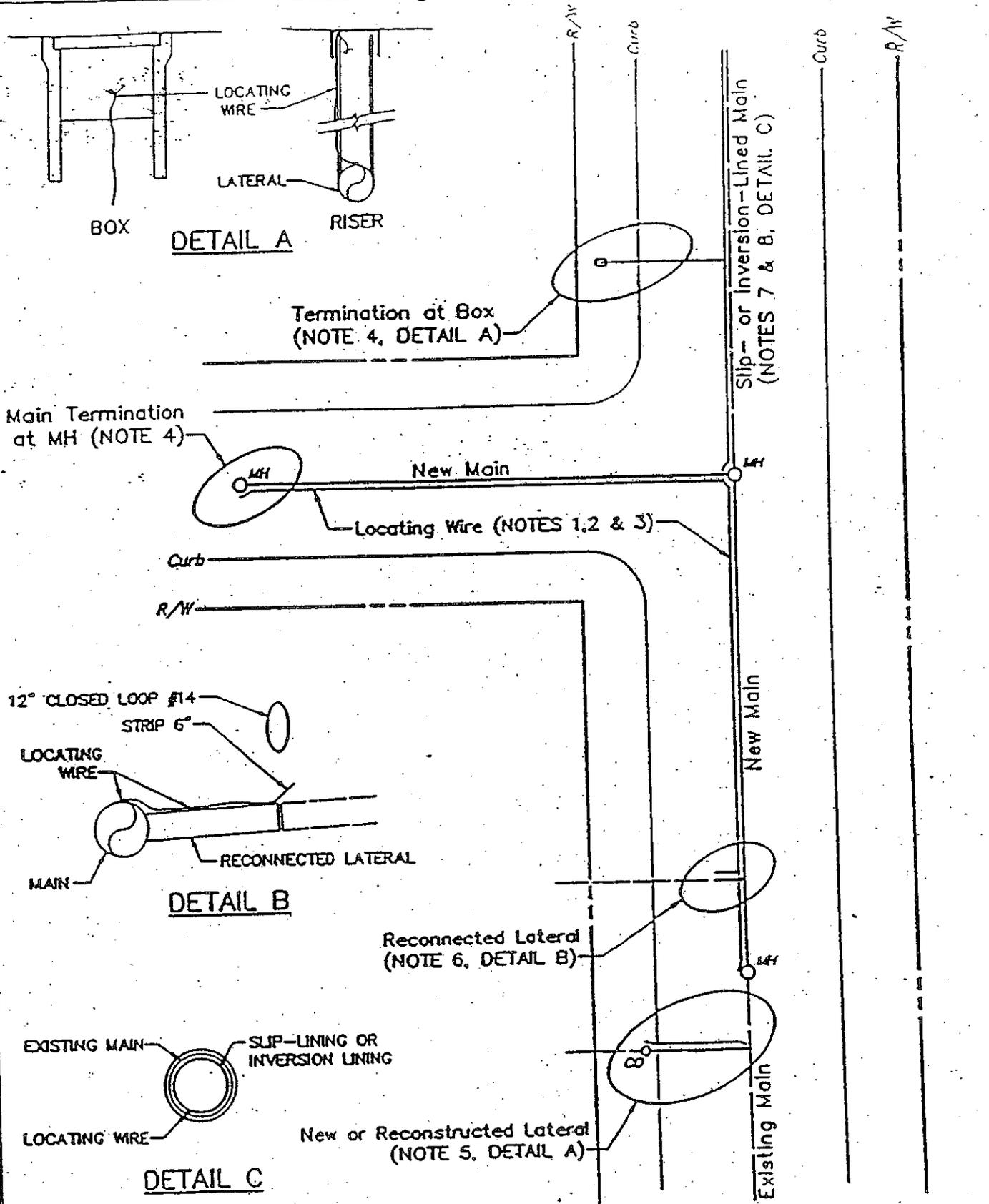
SUBMITTED: *[Signature]* DATE: 5/12/15
 SUPERVISING CIVIL ENGINEER R.C.E. 54937
 EXP. 6/30/16

APPROVED: *[Signature]* DATE: 5/12/15
 MANAGER OF ENGINEERING R.C.E. 64314
 EXP. 6/30/15

STANDARD DETAIL
SHALLOW PRECAST
CONCRETE MANHOLE

DESIGN: JR DATE: 2/97
 DRAWN: MS SCALE: N.T.S.
 CHECK: _____ BOOK: _____

PLAN: 6653
 FILE: 20-B-110



CITY OF BERKELEY
DEPARTMENT OF PUBLIC WORKS

LOCATING WIRE FOR
SANITARY SEWER AND
STORM DRAIN SYSTEMS

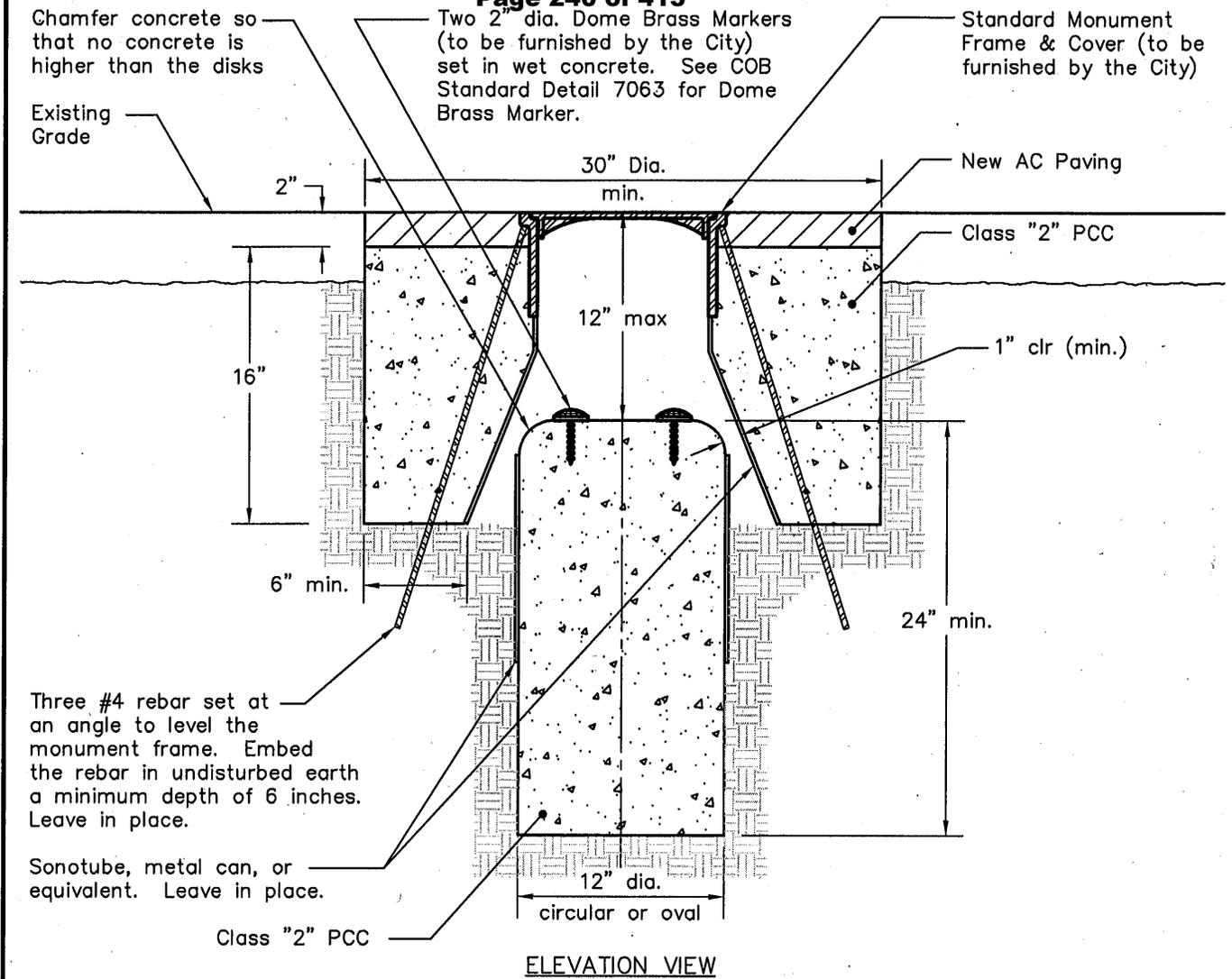
SUBMITTED: _____ DATE: _____
 R.C.E. 23,818
 ASSISTANT CITY ENGINEER EXP. 12/31/89
 APPROVED: _____ DATE: _____
 26 573

DESIGN: WOH DATE: 4/88
 DRAWN: lfm SCALE: none PLAN: 6905

LOCATING WIRE FOR SANITARY SEWER
AND STORM DRAIN SYSTEMS

GENERAL NOTES

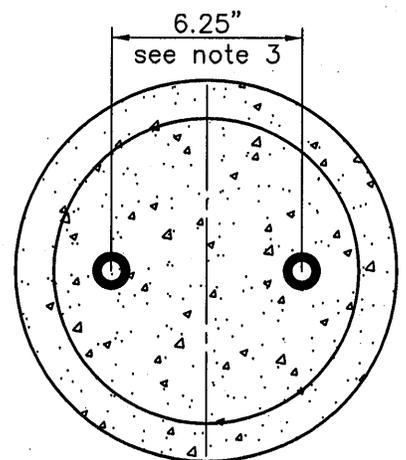
1. FOR LATERALS USE AVG. NO. 14 COPPER WIRE TW, BLUE. FOR MAINS USE AVG. NO. 10 COPPER WIRE TW, RED.
2. ALL WIRE SPLICES WILL BE SOLDERED AND WRAPPED WITH TAC-TAPE OR AQUA SEAL OR EQUAL. SPLICES SHALL THEN BE WRAPPED WITH ELECTRICAL TAPE. COMPRESSION FITTING MAY BE USED IN PLACE OF SOLDERING.
3. THE LOCATING WIRE SHALL BE STRAPPED TO THE TOP OF THE MAIN AND LATERALS AT INTERVALS SUFFICIENT TO ENSURE THAT THE LOCATING WIRE REMAINS ON TOP OF THE PIPE.
4. TERMINATE LOCATING WIRES FOR ALL NEW SANITARY SEWER AND STORM SYSTEMS IN A BOX OR AT A CLEANOUT RISER AT LOCATIONS SHOWN ON PROJECT DRAWINGS OR AS DIRECTED BY THE RESIDENT ENGINEER (SEE DETAIL A). THERE SHALL BE A MINIMUM OF ONE STATION PER BLOCK. THE LOCATING WIRE AT A MANHOLE AT THE END OF A MAIN SHALL BE STRIPPED 6 INCHES AND TERMINATED IN THE SOIL.
5. WHEN A NEW SANITARY SEWER LATERAL IS INSTALLED OR WHEN AN EXISTING LATERAL IS RECONSTRUCTED BY A CONTRACTOR OR CITY CREW, A LOCATING WIRE SHALL BE INSTALLED. THE END OF THE WIRE AT THE MAIN SHALL BE STRIPPED 6 INCHES AND TERMINATED IN THE SOIL. TERMINATE THE END LOCATED AT THE RISER AS SHOWN IN DETAIL A.
6. WHERE A LATERAL IS TO BE RECONNECTED TO A MAIN, A LOCATING WIRE SHALL BE TERMINATED AT THE END OF THE LATERAL RECONNECTION (SEE DETAIL B). IN ADDITION, INSTALL A SEPARATE 12-INCH CLOSED LOOP OF NO. 14 WIRE AT THE END OF THE STUB AND ABOUT A FOOT ABOVE IT; THIS LOOP CAN BE LOCATED USING A PIPE LOCATOR.
7. WHEN SLIP-LINING IS TO BE USED THE LOCATING WIRE IS SECURED TO THE LEADING END OF THE LINER. LOCATING WIRE SHALL THEN BE INSERTED SIMULTANEOUSLY WITH THE SLIP-LINER.
8. WHEN AN INVERSION LINING IS TO BE USED THE LOCATING WIRE SHALL BE PLACED INTO THE EXISTING MAIN PRIOR TO THE INSERTION OF THE LINER.



NOTES:

1. The existing frame & cover shall be salvaged and returned to the City of Berkeley Corporation Yard.
2. Disks shall be precisely placed in wet concrete from straddler points set by the City Surveyor or his/her designee.
3. This double pin monument is located at the intersection of Haskell Street and Mabel Street, COB Monument No. B0030 and No. B0057.

PLAN VIEW



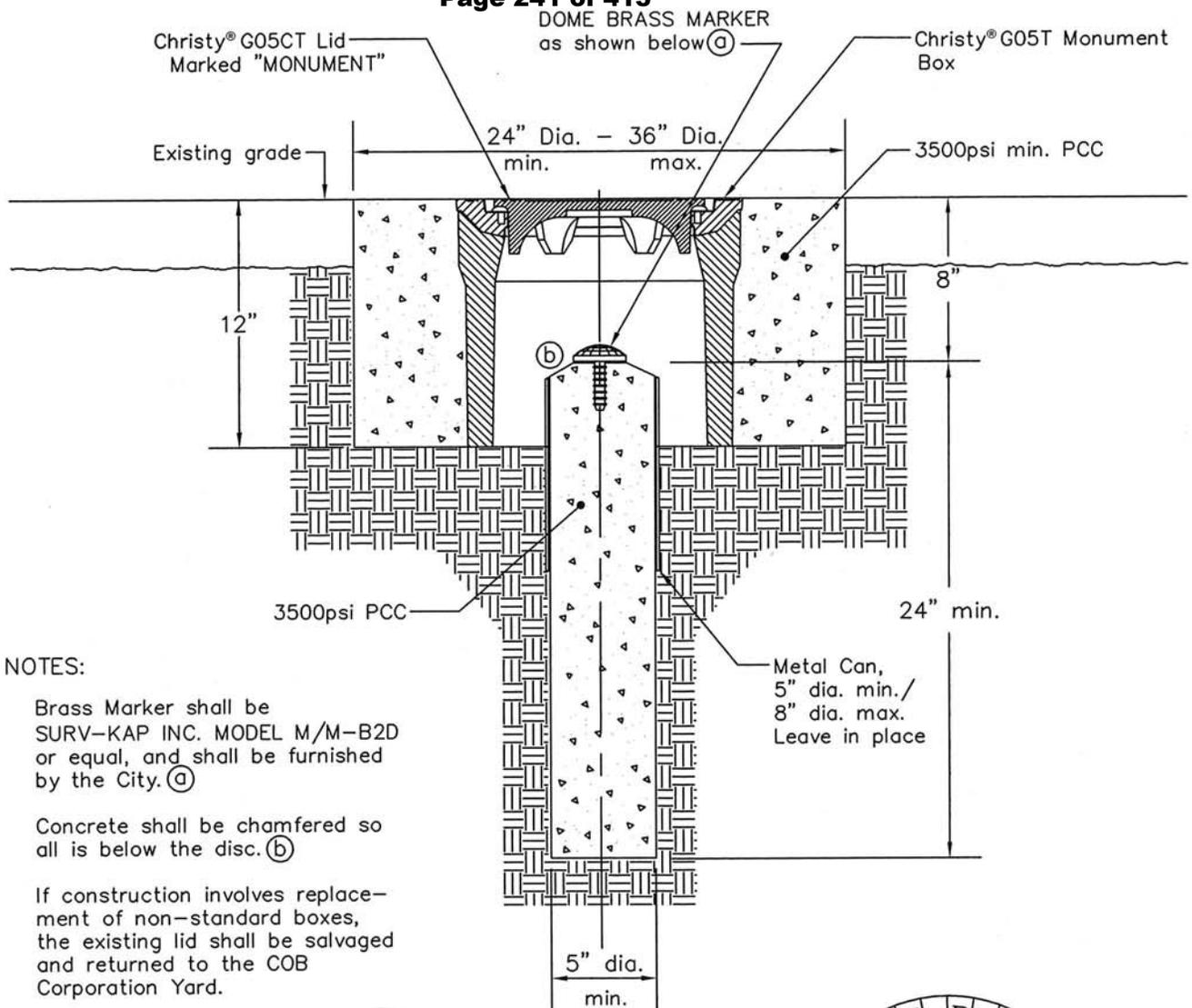
CITY OF BERKELEY
DEPARTMENT OF PUBLIC WORKS

STANDARD DETAIL
DOUBLE PIN CITY MONUMENT

SUBMITTED: *K. King* DATE: 12/4/09
 R.C.E. 54937
 SUPERVISING CIVIL ENGINEER EXP. 06/30/10

APPROVED: *[Signature]* DATE: 12/04/09
 R.C.E. 23818
 MANAGER OF ENGINEERING EXP. 12/31/09

DESIGN: EC/BB/AK DATE: 12/09
 DRAWN: EC SCALE: N.T.S. PLAN: 7940
 CHECK: KE BOOK: FILE: 20 B-149

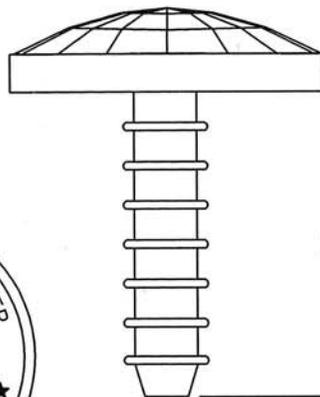


NOTES:

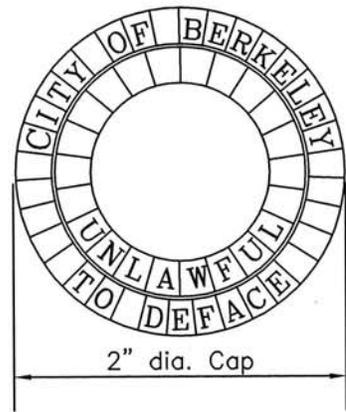
Brass Marker shall be SURV-KAP INC. MODEL M/M-B2D or equal, and shall be furnished by the City. (a)

Concrete shall be chamfered so all is below the disc. (b)

If construction involves replacement of non-standard boxes, the existing lid shall be salvaged and returned to the COB Corporation Yard.



2-1/2" stem

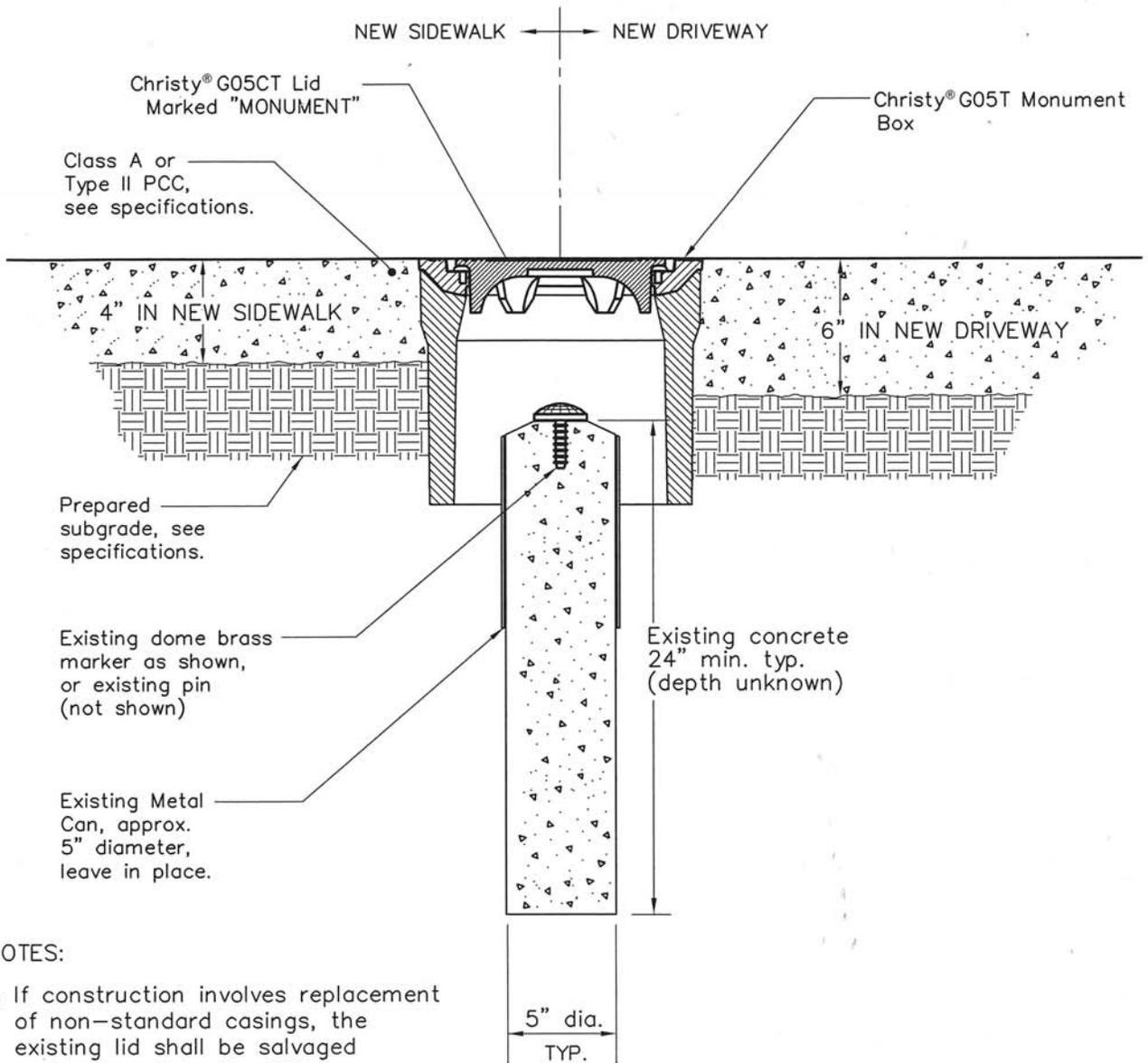


2" dia. Cap

DOMED BRASS MARKER

NOTE: This Drawing Supersedes COB Plan 7063, File: 20 B-120 MCT-12/2013

<p>1 DOME BRASS MARKER TO BE FURNISHED BY THE CITY</p>			<p>DATE: 11/2010</p>
<p>2 REVISED DETAIL TO INCLUDE NEW STANDARD CHRISTY®G05T BOX & LID</p>			<p>DATE: 12/2013</p>
<p>3 UPDATE STANDARD SETTING AND REVISED TITLE BLOCK</p>			<p>DATE: 12/2015</p>
<p>4 REVISED STANDARD SETTING TO FULL CONCRETE COLLAR FLUSH w/EX. GRADE</p>			<p>DATE: 11/2017</p>
<p>DESIGN: MCT</p>	<p>DATE: 11/2017</p>	<p>PLAN: 8090</p>	<p>CITY OF BERKELEY DEPARTMENT OF PUBLIC WORKS STANDARD DETAIL</p>
<p>DRAWN: MCT</p>	<p>SCALE: N.T.S.</p>	<p>FILE: 20-B-153</p>	
<p>CHECK: NAP</p>			
<p>APPROVED: <i>N. Patel</i></p>		<p>11-17-17</p>	<p>STANDARD CITY MONUMENT</p>
<p>CITY ENGINEER</p>		<p>DATE:</p>	



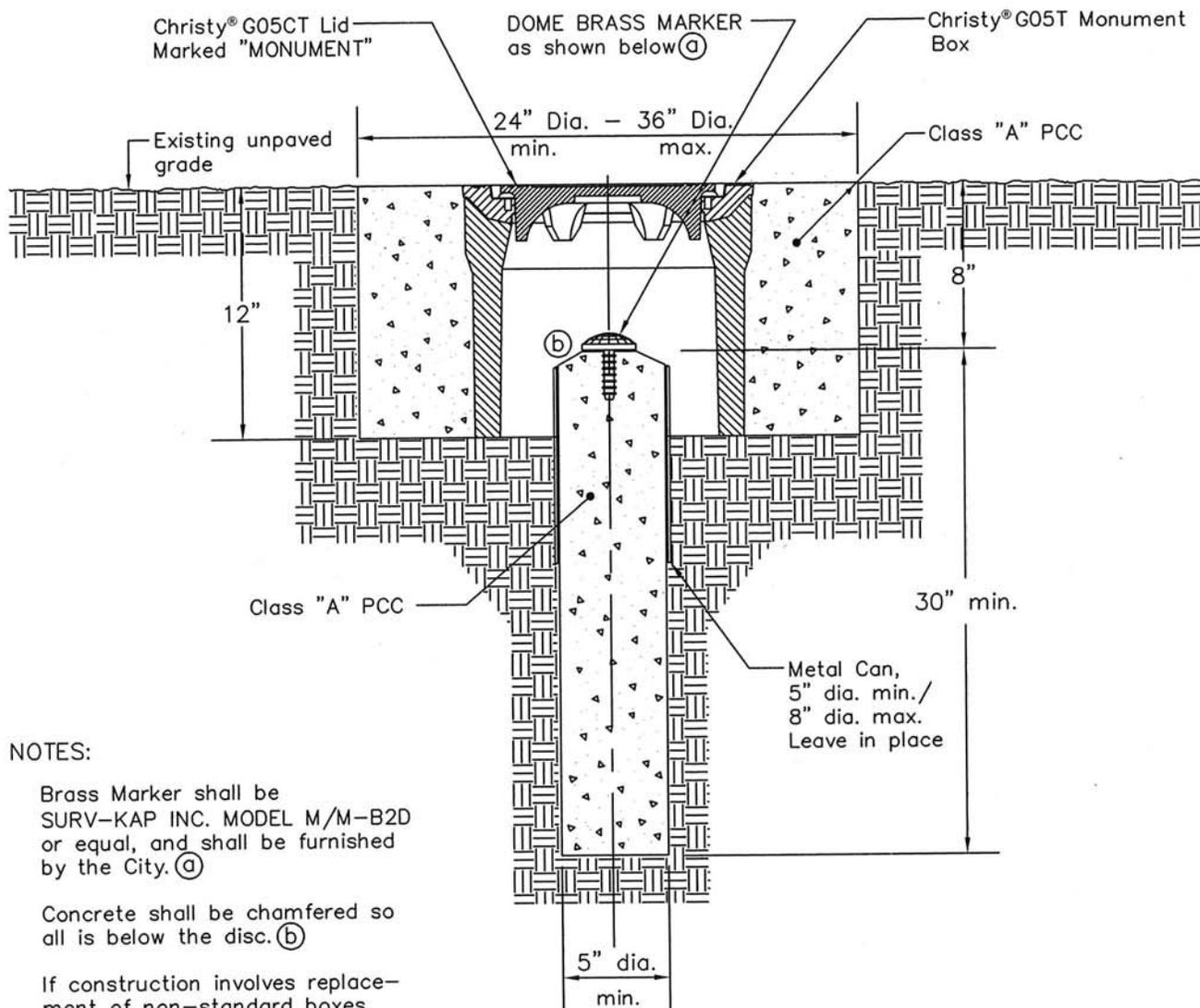
NOTES:

1. If construction involves replacement of non-standard casings, the existing lid shall be salvaged and returned to the COB Corporation Yard.



NOTE: This Drawing Supersedes COB Plan 7987, File: 20 B-150 MCT-12/2013

1	DOME BRASS MARKER TO BE FURNISHED BY THE CITY	DATE: 11/2010		
2	REVISED DETAIL TO INCLUDE NEW STANDARD CHRISTY® G05T BOX & LID	DATE: 12/2013		
3	UPDATE STANDARD SETTING AND REVISED TITLE BLOCK	DATE: 12/2015		
DESIGN:	EC/MCT	DATE: 12/2015	PLAN: 8091	CITY OF BERKELEY DEPARTMENT OF PUBLIC WORKS STANDARD DETAIL
DRAWN:	EC/MCT	SCALE: N.T.S.	FILE: 20-B-154	
CHECK:	SRR			
APPROVED:	DATE: 12/23/15			CITY MONUMENT REHAB IN NEW SIDEWALK OR DRIVEWAY
CITY ENGINEER				

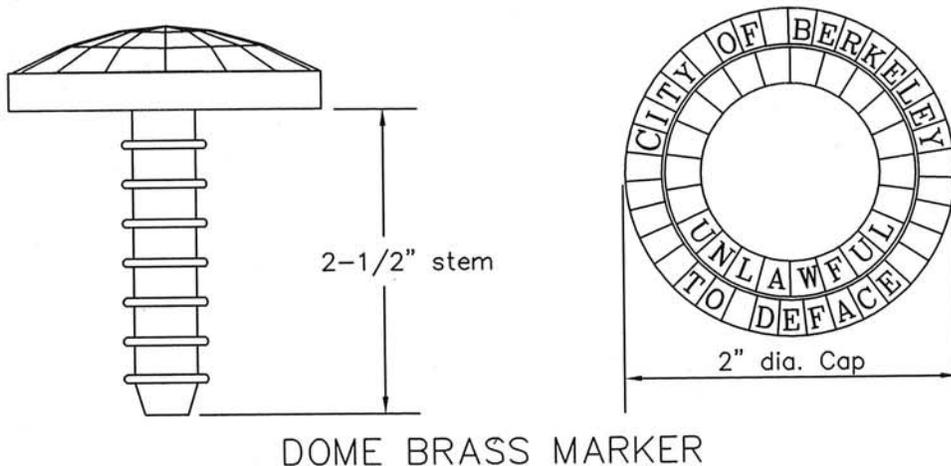


NOTES:

Brass Marker shall be SURV-KAP INC. MODEL M/M-B2D or equal, and shall be furnished by the City. (a)

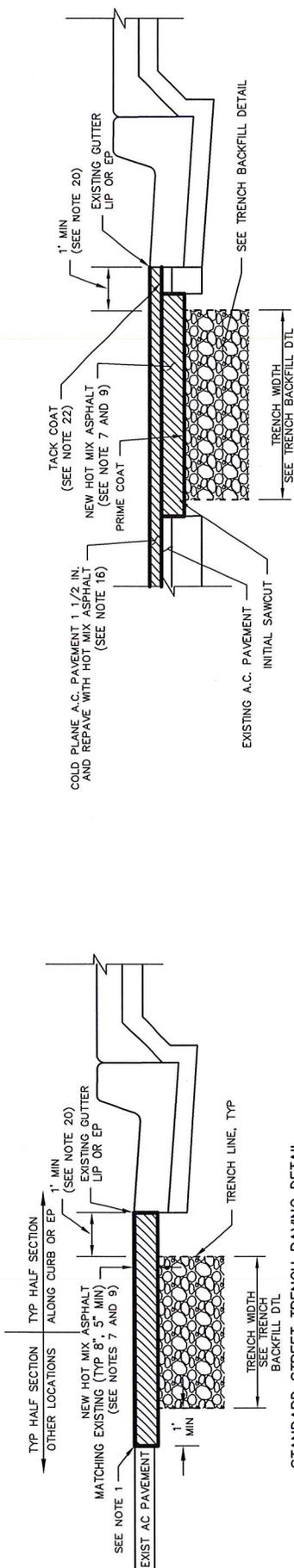
Concrete shall be chamfered so all is below the disc. (b)

If construction involves replacement of non-standard boxes, the existing lid shall be salvaged and returned to the COB Corporation Yard.

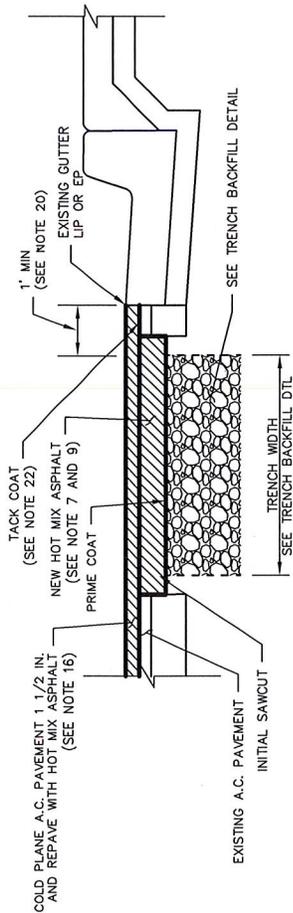


DESIGN: MCT	DATE: 11/2017	PLAN: 8179
DRAWN: MCT	SCALE: N.T.S.	FILE: 20-B-167
CHECK: NAP		
APPROVED: <i>Nisha Patel</i>	11-17-17	
CITY ENGINEER	DATE:	

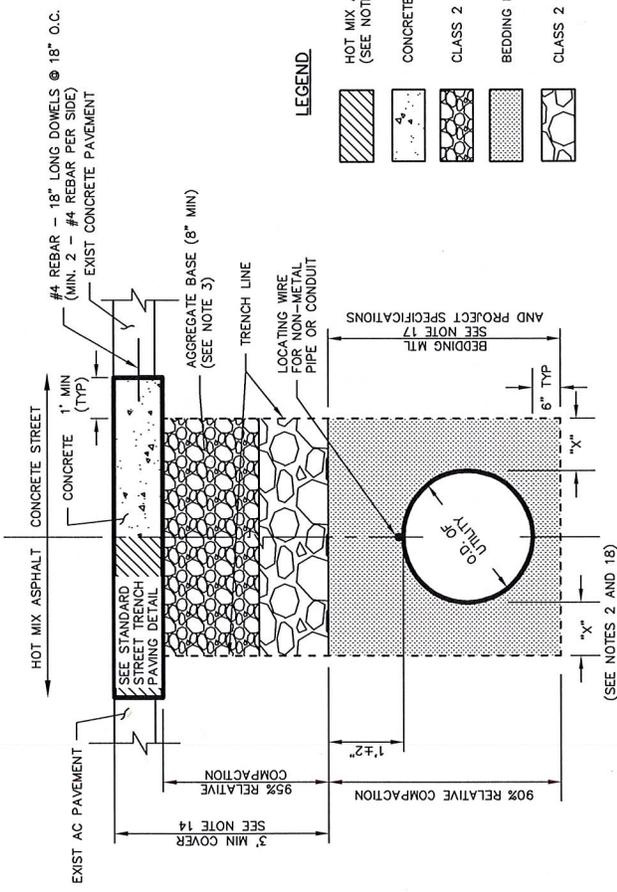
CITY OF BERKELEY
 DEPARTMENT OF PUBLIC WORKS
 STANDARD DETAIL
 CITY MONUMENT INSTALLATION
 IN UNPAVED SURFACE



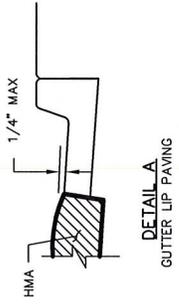
STANDARD STREET TRENCH PAVING DETAIL



MORATORIUM STREET TRENCH PAVING DETAIL
(SEE NOTE 13 AND 16 FOR MORATORIUM STREETS)



TRENCH BACKFILL DETAIL
TYPICAL HALF SECTIONS
(SEE NOTES 2 AND 18)



DETAIL-A
GUTTER LIP PAVING

LEGEND

- HOT MIX ASPHALT (HMA) PAVING (SEE NOTE 9)
- CONCRETE PAVEMENT
- CLASS 2 AGGREGATE BASE (AB)
- BEDDING MATERIAL (SEE NOTE 17)
- CLASS 2 AGGREGATE BASE (AB)

CITY OF BERKELEY DEPARTMENT OF PUBLIC WORKS		PLAN: 8136 FILE: 20-B-155 SHEET: 1 OF 2
SUBMITTED: <i>[Signature]</i> SUPERVISING CIVIL ENGINEER	DATE: 7/6/16 R.C.E.: 64582	DESIGN: HEI DRAWN: HEI CHECK: _____ DATE: 06/2016 SCALE: _____ BOOK: _____
STANDARD DETAIL TRENCH EXCAVATION AND SURFACE RESTORATION		DATE: 7/6/16 R.C.E.: 66014 MANAGER OF ENGINEERING

NOTES:

1. TRENCH EXCAVATION IN THE PUBLIC RIGHT OF WAY SHALL CONFORM TO THE CITY OF BERKELEY GENERAL REGULATIONS FOR TRENCH EXCAVATION AND SURFACE RESTORATION IN THE PUBLIC RIGHT OF WAY. CUT THROUGH THE FULL DEPTH OF EXISTING SURFACING TO A NEAT STRAIGHT LINE AT LEAST 1.0 FOOT OUTSIDE THE TRENCH LINE. RECUT PAVEMENT EDGES DAMAGED DURING CONSTRUCTION TO NEAT LINES PRIOR TO PAVING. APPLY PAINT BINDER (TACK COAT) TO ALL VERTICAL SURFACES IN ACCORDANCE WITH THE LATEST EDITION OF CALTRANS STANDARD SPECIFICATIONS.
2. MINIMUM WIDTH OF TRENCH SHALL BE IN ACCORDANCE WITH THE DIMENSION SHOWN ON THE TRENCH BACKFILL DETAIL. DIMENSIONS "X" IS SHOWN BELOW FOR THE UTILITY "O.D."

UTILITY O.D.	"X" MIN
UNDER 1.0'	0.5'
1.0' TO 4.5'	1.0'
OVER 4.5'	2.0'
3. CLASS 2 AGGREGATE BASE (AB) SHALL BE INSTALLED IMMEDIATELY BELOW THE PAVEMENT SECTION TO BE REPLACED. THE AB QUALITY, GRADATION AND THE METHOD OF INSTALLATION SHALL BE IN CONFORMANCE WITH SECTION 26 OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION. THE DEPTH OF THE AB SHALL BE IN ACCORDANCE WITH THE TRENCH BACKFILL DETAIL. 95% RELATIVE COMPACTION IS REQUIRED.
4. RELATIVE COMPACTION SHALL BE DETERMINED BY CALIFORNIA TEST NUMBER 231 (NUCLEAR GAUGE) OR APPROVED EQUAL. PERMITTEE SHALL ARRANGE AND PAY FOR THE TEST FOR RELATIVE COMPACTION WHEN ORDERED BY THE ENGINEER. THE TEST SHALL BE PERFORMED BY A QUALIFIED MATERIAL TESTING LABORATORY AND TEST RESULTS BE SUBMITTED TO ENGINEERING FORTY-EIGHT (48) HOURS IN ADVANCE OF PERMANENT PAVING OPERATION.
5. PERMITTEE SHALL PLACE TEMPORARY BITUMINOUS RESURFACING TWO (2) INCHES IN THICKNESS OVER THE COMPACTED BACKFILL AREAS. GREATER THICKNESS MAY BE REQUIRED FOR MAJOR INTERSECTIONS AND OTHER CRITICAL AREAS BY THE ENGINEER AS NECESSARY. STEEL PLATES MAY BE USED AS AN ALTERNATIVE IF APPROVED BY ENGINEER.
6. TEMPORARY BITUMINOUS RESURFACING (CUT-BACK) SHALL BE MECHANICALLY COMPACTED IN PLACE TO A UNIFORM, EVEN SURFACE AND SHALL BE TRUE TO STREET GRADE AND CROSS SECTION. THE PERMITTEE SHALL REGULARLY INSPECT AND MAINTAIN THE TEMPORARY BITUMINOUS RESURFACING UNTIL THE EXCAVATION IS PERMANENTLY PAVED. THE SURFACING SHALL NOT VARY TO MORE THEN 1/2" FROM THE EDGE OF A 10 FOOT STRAIGHT EDGE. UPON NOTIFICATION, THE PERMITTEE SHALL CORRECT THE SURFACE DEFICIENCY WITHIN 48 HOURS. LOOSE ROCKS AND OTHER DEBRIS GENERATED FROM TEMPORARY RESURFACING OPERATIONS SHALL BE IMMEDIATELY REMOVED FROM THE WORKSITE.
7. TEMPORARY BITUMINOUS RESURFACING SHALL BE REMOVED BEFORE PLACEMENT OF FINAL PAVING. FINAL PAVING SHALL BE MINIMUM FIVE (5) INCHES THICK OR SAME AS THE EXISTING PAVEMENT, WHICHEVER IS GREATER. THE PAVEMENT SHALL BE PLACED ON UNDISTURBED PREVIOUSLY COMPACTED BACKFILL AREAS.
8. PAVEMENT OUTSIDE OF THE FINAL CUT LINE DAMAGED BY THE PERMITTEE'S OPERATIONS SHALL BE REMOVED BY SAW-CUTTING IN LINES PERPENDICULAR OR PARALLEL TO THE ORIGINAL TRENCH LINES. NO DIAGONAL CUTS WILL BE PERMITTED.
9. HOT MIX ASPHALT (HMA) SHALL BE TYPE A IN CONFORMANCE WITH SECTION 39 OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS, UNLESS OTHER WISE SPECIFIED IN THE ENCROACHMENT PERMIT CONDITIONS OR AS DIRECTED BY THE PUBLIC WORKS DEPARTMENT. HMA SHALL BE COMPACTED TO 95% RELATIVE COMPACTION.
10. THE TOP 1 1/2" OF HMA SHALL HAVE A MAXIMUM AGGREGATE SIZE OF 1/2" UNLESS OTHERWISE SPECIFIED. THE HMA BENEATH THE TOP LAYER SHALL HAVE A MAXIMUM AGGREGATE SIZE OF 3/4".
11. UPON COMPLETION OF PAVING OPERATIONS THE PERMITTEE SHALL IMMEDIATELY REPLACE ALL PAVEMENT MARKING AND TRAFFIC STRIPING DAMAGED OR REMOVED BY HIS OPERATIONS. PAVEMENT MARKINGS AND TRAFFIC STRIPINGS SHALL BE REPLACED IN KIND OR WITH SUBSTITUTE MATERIAL APPROVED BY THE ENGINEER.
12. WHEN ANY PORTION OF THE CURB AT A LEGAL PEDESTRIAN CROSSWALK OR ANY PORTION OF THE SIDEWALK IN IMMEDIATE CONTACT WITH SUCH CURB IS REMOVED BY THE PERMITTEE OPERATIONS, THE PERMITTEE SHALL CONSTRUCT, AS PART OF HIS REPLACEMENT OPERATIONS, A CURB RAMP AS SHOWN IN CITY OF BERKELEY STANDARD DETAIL NO. 6780.
13. EXCAVATION ON STREETS RECONSTRUCTED OR RESURFACED WITHIN THE LAST 5 YEARS WILL NOT BE PERMITTED EXCEPT FOR CONDITIONS ENUMERATED IN THE CITY OF BERKELEY GENERAL REGULATIONS AND FOR TRENCH EXCAVATION AND SURFACE RESTORATION IN THE PUBLIC RIGHT OF WAY.
14. MINIMUM COVER OVER UTILITIES IS GOVERNED BY THE CALIFORNIA PUBLIC UTILITIES COMMISSION. UTILITY OWNERS SHALL CONSIDER PLACING THEIR UTILITY LINE AT A GREATER DEPTH TO AVOID FUTURE RELOCATION DUE TO STREET/ROAD RECONSTRUCTION. THE INCREASED DEPTH SHOULD INCLUDE SUFFICIENT CLEARANCE BETWEEN THE UTILITY AND PAVEMENT STRUCTURAL SECTION UPGRADE TO PREVENT DAMAGE BY CONSTRUCTION EQUIPMENT. THE PUBLIC WORKS DEPARTMENT RECOMMENDS A MINIMUM OF 36 INCHES OF COVER BELOW THE PAVEMENT SURFACE IN ROADWAYS AND 24 INCHES BELOW FINISH GRADE IN SIDEWALKS AND OTHER PUBLIC RIGHT OF WAY.
15. RESTORATION OF THE TRENCH EXCAVATION ON CALTRANS RIGHT OF WAY (SAN PABLO AVE., ASHBY AVE., AND TUNNEL RD.) SHALL BE IN ACCORDANCE WITH CALTRANS ENCROACHMENT PERMIT.
16. RESTORE PAVEMENT AS FOLLOWS: FOR TRENCHES PARALLEL WITH THE CENTERLINE OF THE STREET, COLD PLANE AND REPAVE THE LANE IN WHICH THE TRENCH LIES. FOR TRANSVERSE TRENCHES, COLD PLANE AND REPAVE 1/2 LANE WIDTH ON EACH SIDE OF THE TRENCH. FOR BELL HOLES, COLD GRIND AND PAVE 1 LANE WIDTH ON EACH SIDE OF THE EXCAVATION. PRIOR TO COLD PLANING, THE TRENCH SHALL BE PAVED IN 3 INCH MAXIMUM LIFTS TO THE ORIGINAL SURFACE GRADES OR TO WITHIN 1 1/2 INCHES OF THE EXISTING SURFACE. IF THE CONTRACTOR ELECTS TO PAVE WITHIN 1 1/2 INCHES OF THE EXISTING SURFACE, THE REMAINING 1 1/2 INCHES MUST BE PAVED WITH CUT BACK ASPHALT UNTIL THE SURFACE IS PLANED. FINAL PAVING SHALL COMMENCE WITHIN 3 DAYS AFTER COLD GRINDING. ALL LOOSE MATERIAL SHALL BE REMOVED FROM THE AREA TO BE REPAVED PRIOR TO REPAVING.
17. BEDDING MATERIAL SHALL BE CLASS 2 AB OR CRUSHED ROCK PER 2015 GREENBOOK, TABLE 200-1.2.1(A), 3/4" SIEVE SIZE. ALTERNATIVE MATERIALS SHALL BE APPROVED BY THE PUBLIC WORKS DEPARTMENT. IN NO CASE SHALL "PEA" GRAVEL BE ALLOWED. A MAXIMUM OF 6 INCHES OF SAND MAY BE USED AS A BEDDING MATERIAL FOR COMMUNICATION, GAS AND ELECTRIC CONDUITS ONLY.
18. FOR GAS, ELECTRIC AND COMMUNICATION CONDUITS WITH AN OUTSIDE DIAMETER EQUAL TO OR LESS THAN 4 INCHES, THE TRENCH WIDTH MAY BE REDUCED TO NO LESS THAN 12 INCHES.
19. UNSUITABLE NATIVE MATERIAL SHALL BE EXCAVATED BELOW THE LIMIT OF EXCAVATION AND REPLACED WITH SUITABLE BACKFILL MATERIAL WHEN DIRECTED BY THE PUBLIC WORKS DEPARTMENT.
20. WHERE THE TRENCH PARALLELS CURB AND THE NEAREST TRENCH LINE IS LESS THAN 3 FEET FROM THE GUTTER LIP, ALL EXISTING HMA SHALL BE REPLACED TO THE GUTTER LIP.
21. SLURRY CEMENT BACKFILL SHALL COMPLY WITH SECTION 19-3.02E OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS.
22. APPLY PAINT BINDER (TACK COAT) TO ALL EXISTING AC AND CONCRETE SURFACES IN ACCORDANCE WITH THE LATEST EDITION OF CALIFORNIA DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS.

CITY OF BERKELEY
DEPARTMENT OF PUBLIC WORKS

STANDARD DETAIL
TRENCH EXCAVATION AND
SURFACE RESTORATION

SUBMITTED:

Don Ruby
SUPERVISING CIVIL ENGINEER

DATE: 7/6/16
R.C.E. 64582

APPROVED:

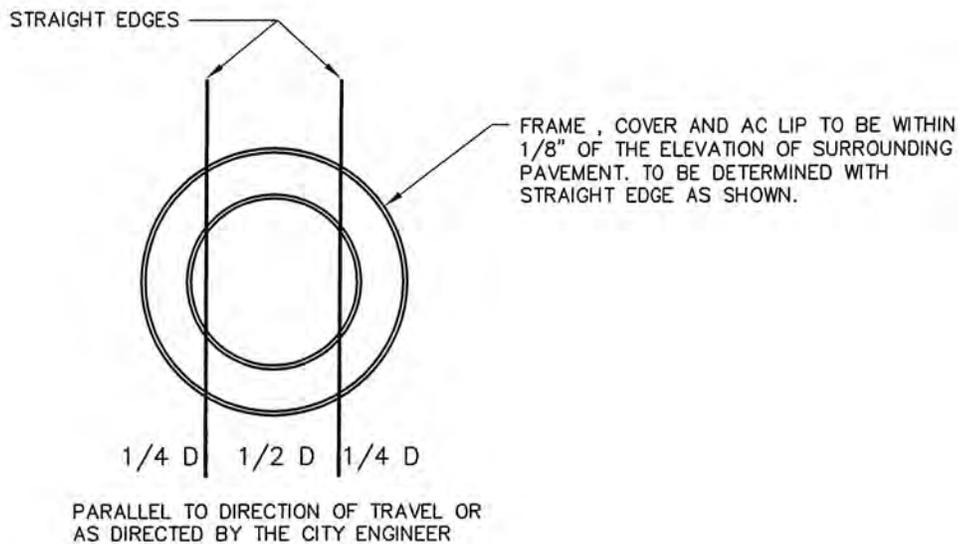
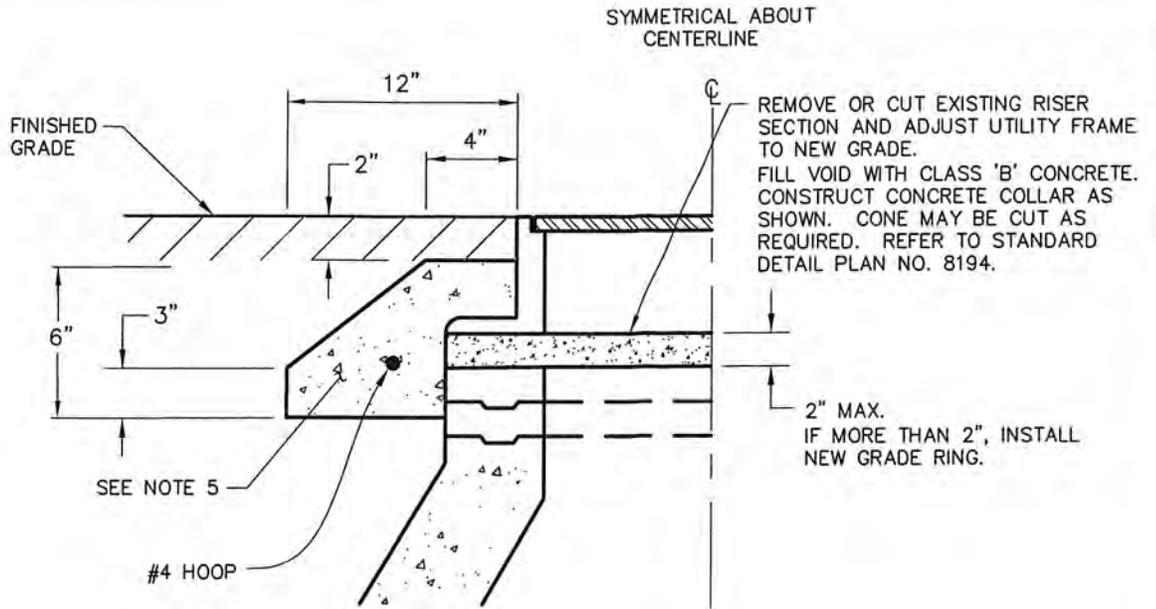
R-L
MANAGER OF ENGINEERING

DATE: 7/6/16
R.C.E. 66014

DESIGN: HEI
DRAWN: HEI
CHECK: _____

DATE: 06/2016
SCALE: _____
BOOK: _____

PLAN: 8136
FILE: 20-B-155
SHEET: 2 OF 2



NOTES:

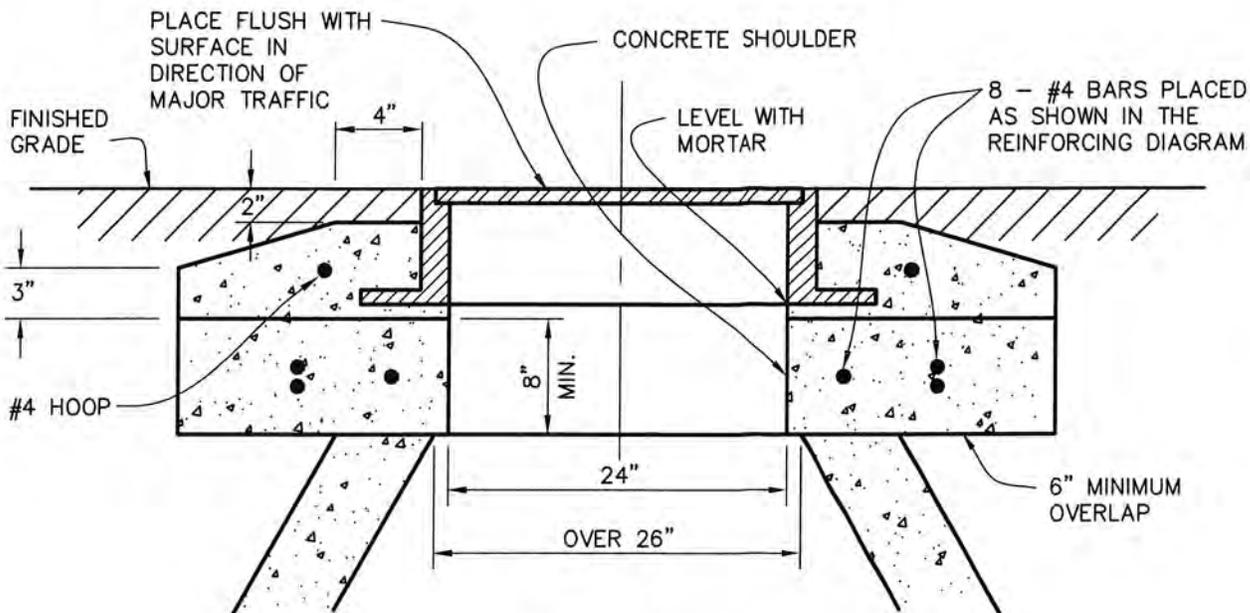
1. ALL SURFACE STRUCTURES EXTENDING 2" ABOVE THE NEW SUBGRADE OR MILLING PLANE SHALL BE LOWERED BY CONTRACTOR OR UTILITY OWNER TO THE NEW SUBGRADE BEFORE PAVING. STRUCTURES PROJECTING LESS THAN 2" ABOVE THE SUBGRADE MAY BE PAVED OVER AND LATER ADJUSTED TO GRADE.
2. ADJUST FRAME AND COVER TO FINISHED GRADE AFTER FINAL LIFT OF PAVING.
3. TRAFFIC CONTROL APPROVAL IS REQUIRED PRIOR TO ANY TRAFFIC LANE OBSTRUCTION.
4. PLACE TEMPORARY AC (CUT BACK) AROUND UTILITY FRAME UNTILL PERMANENT PAVING IS IN PLACED.
5. CAST-IN-PLACE CONCRETE COLLARS SHALL CONFORM TO STANDARD SPECIFICATIONS (GREENBOOK) SECTION 201-1.1.2 AND BE CLASS 560-B-3250.

DESIGN: TP	DATE: 5/23	PLAN: 8193
DRAWN: LG	SCALE: N.T.S.	FILE: 20B-169
CHECK: KE		

APPROVED: *[Signature]* DATE: 5-23-18
CITY ENGINEER

CITY OF BERKELEY
DEPARTMENT OF PUBLIC WORKS
STANDARD DETAIL

MANHOLE FRAME & COVER
ADJUSTMENT



SECTION A-A



REINFORCING
DIAGRAM

NOTES:

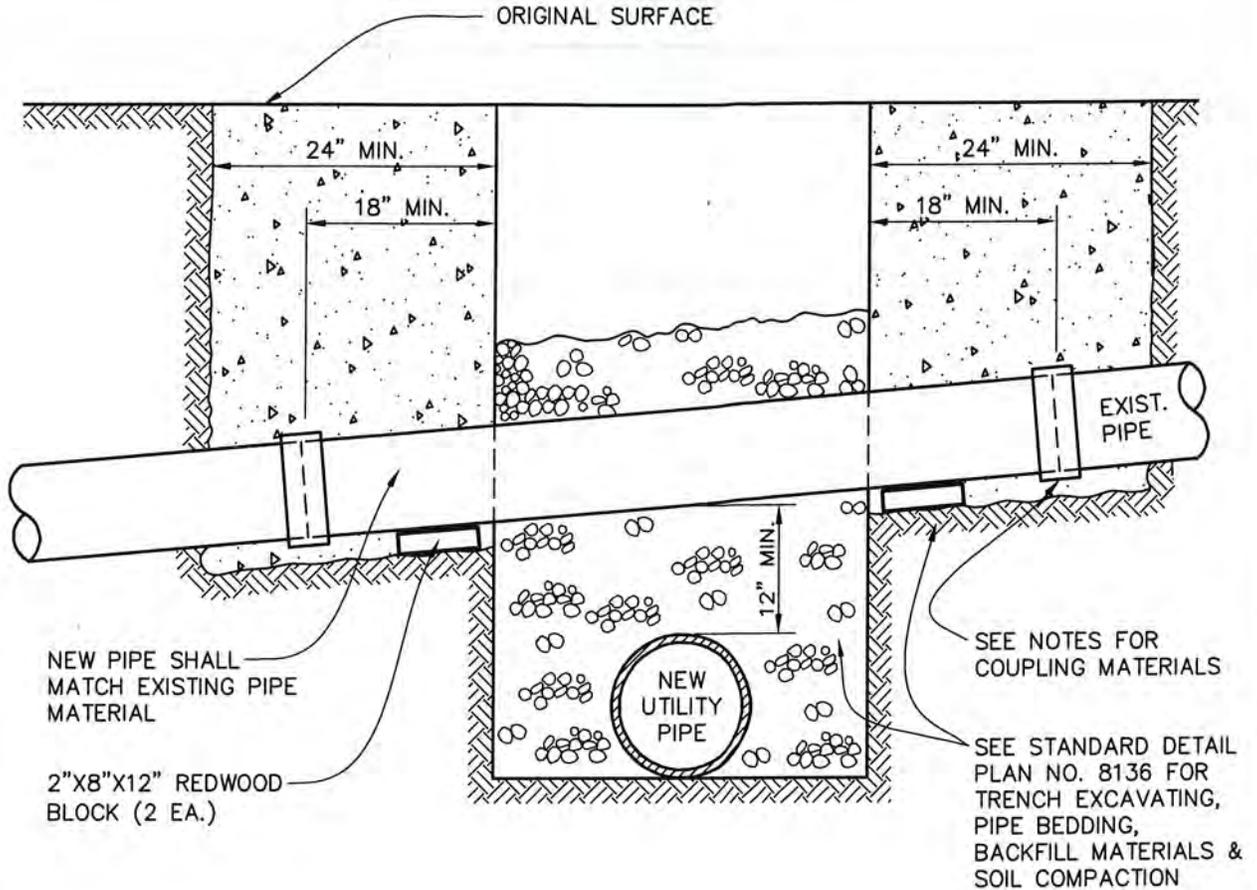
1. WHEN THE MANHOLE HAS TO BE CUT DOWN SO THAT THE TAPERED SECTION AT THE TOP OF THE EXISTING MANHOLE EXCEEDS 26 INCHES, A CONCRETE SHOULDER MUST BE CONSTRUCTED AS SHOWN ABOVE.
2. WHEN DIRECTED BY THE ENGINEER, THE EXISTING FRAME AND COVER SHALL BE SALVAGED AND RETURNED TO THE CITY CORPORATION YARD, 1326 ALLSTON WAY.
3. CAST-IN-PLACE CONCRETE COLLARS SHALL CONFORM TO SPECIFICATIONS (GREENBOOK) SECTION 201-1.1.2 AND BE CLASS 560-B-3250.

DESIGN: TP	DATE: 5/18	PLAN: 8194
DRAWN: MS	SCALE: N.T.S.	FILE: 20B-170
CHECK: KE		

APPROVED: *[Signature]* 5-23-18
CITY ENGINEER DATE:

CITY OF BERKELEY
DEPARTMENT OF PUBLIC WORKS
STANDARD DETAIL

MANHOLE FRAME & COVER
ADJUSTMENT - LOWERING



NOTES:

1. FOR HDPE PIPE USE ELECTROFUSION COUPLING.
2. FOR PIPE MATERIALS OTHER THAN HDPE USE FERNCO COUPLING STRONG BACK (RC) 5000 SERIES OR APPROVED EQUAL.
3. SEWER LATERAL SHALL REMAIN IN SERVICE AT ALL TIMES.

DESIGN: TP	DATE: 4/2019	PLAN: 8214
DRAWN: MS	SCALE: N.T.S.	FILE: 20B-174
CHECK: NP		

APPROVED: *[Signature]*
 CITY ENGINEER

4-29-19
 DATE:

CITY OF BERKELEY
 DEPARTMENT OF PUBLIC WORKS
 STANDARD DETAIL

SEWER LATERAL REPAIR

G:\ENGINEER\StandardDetails\Sanitary Sewer\SewerLateralRepair-8214.dwg

SUBMITTAL TRANSMITTAL FORM



SUBMITTAL NO.: _____

Date: _____

To: City of Berkeley
Department of Public Works
Engineering Division
1947 Center Street, 4th Floor
Berkeley, CA 94704-1155
Attn.: _____

From: _____

PROJECT NAME: SS Rehab -

SPECIFICATION NO.: _____

Original Submittal 2nd Submittal 3rd Submittal Copies Sent: _____

ITEM DESCRIPTION: _____

SPECIFICATION SECTION – PAGE NUMBER/PARAGRAPH: _____

We have verified that the material transmitted herein is in compliance with the contract specifications:

- With no exceptions
- Except for the following deviations:

Contractor's Signature

City Use Only:

Remarks:

**REVIEW OF SHOP DRAWINGS
AND SUBMITTALS**

- NO EXCEPTIONS TAKEN
- EXCEPTIONS AS NOTED
- SUBMIT SPECIFIED ITEM
- REVISE AND RESUBMIT
- REJECTED

Review is only for general conformance with the design concept, dimensions, equipment, and materials as presented in the Plans and Specifications. Markings or comments made during the review do not relieve the Contractor of his/her responsibility to comply with the requirements of the Contract Documents. The Contractor is responsible for the details and dimensions of fabrication and manufacture, the means, methods, techniques, sequences, or procedures of construction, and performing the work in a safe and satisfactory manner.

By: _____
Date: _____

CITY OF BERKELEY
Oppressive States Compliance Statement for Personal Services

The undersigned, an authorized agent of _____ (hereafter "Vendor"), has had an opportunity to review the requirements of Berkeley City Council Resolution Nos. 59,853-N.S., 60,382-N.S., and 70,606-N.S., (hereafter "Resolutions"). Vendor understands and agrees that the City may choose with whom it will maintain business relations and may refrain from contracting with those Business Entities which maintain business relationships with morally repugnant regimes. Vendor understands the meaning of the following terms used in the Resolutions:

"Business Entity" means "any individual, firm, partnership, corporation, association or any other commercial organization, including parent-entities and wholly-owned subsidiaries" (to the extent that their operations are related to the purpose of the contract with the City).

"Oppressive State" means: **Tibet Autonomous Region, the provinces of Aho, Kham, and U-Tsang; and Burma (Myanmar)**

"Personal Services" means "the performance of any work or labor and shall also include acting as an independent contractor or providing any consulting advice or assistance, or otherwise acting as an agent pursuant to a contractual relationship."

Contractor understands that it is not eligible to receive or retain a City contract if at the time the contract is executed, or at any time during the term of the contract it provides Personal Services to:

- a. The governing regime in any Oppressive State.
- b. Any business or corporation organized under the authority of the governing regime of any Oppressive State.
- c. Any person for the express purpose of assisting in business operations or trading with any public or private entity located in any Oppressive State.

Vendor further understands and agrees that Vendor's failure to comply with the Resolution shall constitute a default of the contract and the City Manager may terminate the contract and bar Vendor from bidding on future contracts with the City for five (5) years from the effective date of the contract termination.

The undersigned is familiar with, or has made a reasonable effort to become familiar with, Vendor's business structure and the geographic extent of its operations. By executing the Statement, Vendor certifies that it complies with the requirements of the Resolution and that if any time during the term of the contract it ceases to comply, Vendor will promptly notify the City Manager in writing.

Based on the foregoing, the undersigned declares under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Printed Name: _____ Title: _____

Signature: _____ Date: _____

Business Entity: _____

I am unable to execute this Statement; however, Vendor is exempt under Section VII of the Resolution. I have attached a separate statement explaining the reason(s) Vendor cannot comply and the basis for any requested exemption.

Signature: _____ Date: _____

Contract Description/Specification No.: _____

Attachment D



PEDESTRIAN ACCESS DURING CONSTRUCTION PROJECTS

- ◆ The purpose of these standards for construction in the public right-of-way is to ensure pedestrian safety and access
- ◆ Standards apply to City of Berkeley crews, Contractors with the City, and all others working in the right-of-way
- ◆ Each project is unique and requires thorough review to ensure complete, safe, usable and accessible paths of travel

MAINTENANCE OF A CLEAR AND ACCESSIBLE PEDESTRIAN CORRIDOR

The Contractor or permittee shall maintain an accessible corridor that provides at least one safe path of travel for all pedestrians at all times for the duration of the project.

- Pedestrian corridor shall be a nominal width of 6' whenever feasible, and shall conform to ADAAG guidelines. It shall not be less than 48" wide at single point of contact or obstruction.
- Accessible pedestrian corridor shall connect with facilities throughout the project area.
- Equipment, debris, construction materials or vehicles shall not obstruct the corridor.
- No parked vehicles can obstruct blue curb parking spaces unless permitted by the City.
- Temporary closure of designated pedestrian routes and crossings shall be allowed only when flaggers are present and safely directing pedestrians around hazards.

CONSTRUCTION OF SIGNPOSTS, BARRICADES AND FENCING

Barricades that are impenetrable shall be used to separate pedestrians from hazards on all sides of excavations that may be exposed to pedestrians. Use materials and methods suitable to site conditions. Signs and fencing material shall not protrude into the clear pathway.

- A-frames used for defining path of travel (not barricading trenches) shall be placed end-to-end without spacing, shall be connected and maintained to ensure stability to help a person who is blind negotiate a safe path while using a cane.
- Caution Tape shall NOT be used by itself to delineate the path of travel or create a barricade.
- Fencing material requires a minimum 3" height, solid, uninterrupted toe-board.
- Signposts, scaffolding and fencing supports shall be placed entirely outside the pedestrian path of travel, minimum 4' wide and 80" high without obstruction.
- Construction barriers shall be maintained in a sound, neat and clean condition.

SURFACING OF PEDESTRIAN CORRIDORS

During construction, tripping hazards and barriers for people with mobility impairments must be removed to maintain an accessible pedestrian corridor.

- Any change of level, which exceeds 1/4" height, must be beveled at 45°.
- Closed trenches, temporary paving surfaces, walking surfaces, steel plates; etc. shall have a smoothly finished, firm walking surface made even w/surrounding walkways.
- Aisle or loading area adjacent to a parking space is part of the pedestrian corridor.

TEMPORARY RAMPS CONFORMING TO ACCESSIBILITY STANDARDS

The Contractor or permittee shall install and maintain temporary concrete, asphalt or wood ramps to provide a safe path of travel for mobility-impaired pedestrians at all locations where ramps have been temporarily removed OR needed to route pedestrians.

- Temporary ramps shall be constructed so installation and removal will not damage existing pavement, curb and/or gutter.
- Ramps shall have a minimum 4' wide walking surface and a slope not to exceed 8%.
- Ramps shall snugly meet existing surfaces without gaps. When required for drainage
- Schedule 40 PVC pipe minimum 2" diameter shall be installed through ramp.
- Transitions between ramps and the street surface shall be smooth such that no lip exists at the base of the ramp.
- Sides of a ramp shall be protected where there is any drop-off.

IDENTIFICATION OF SAFE PATH OF TRAVEL

If a portion of the pedestrian way is rerouted due to construction, the path of travel shall be clearly defined. Traffic Engineer shall review any pedestrian access limitations and notification requirements for pedestrians with mobility or vision impairments.

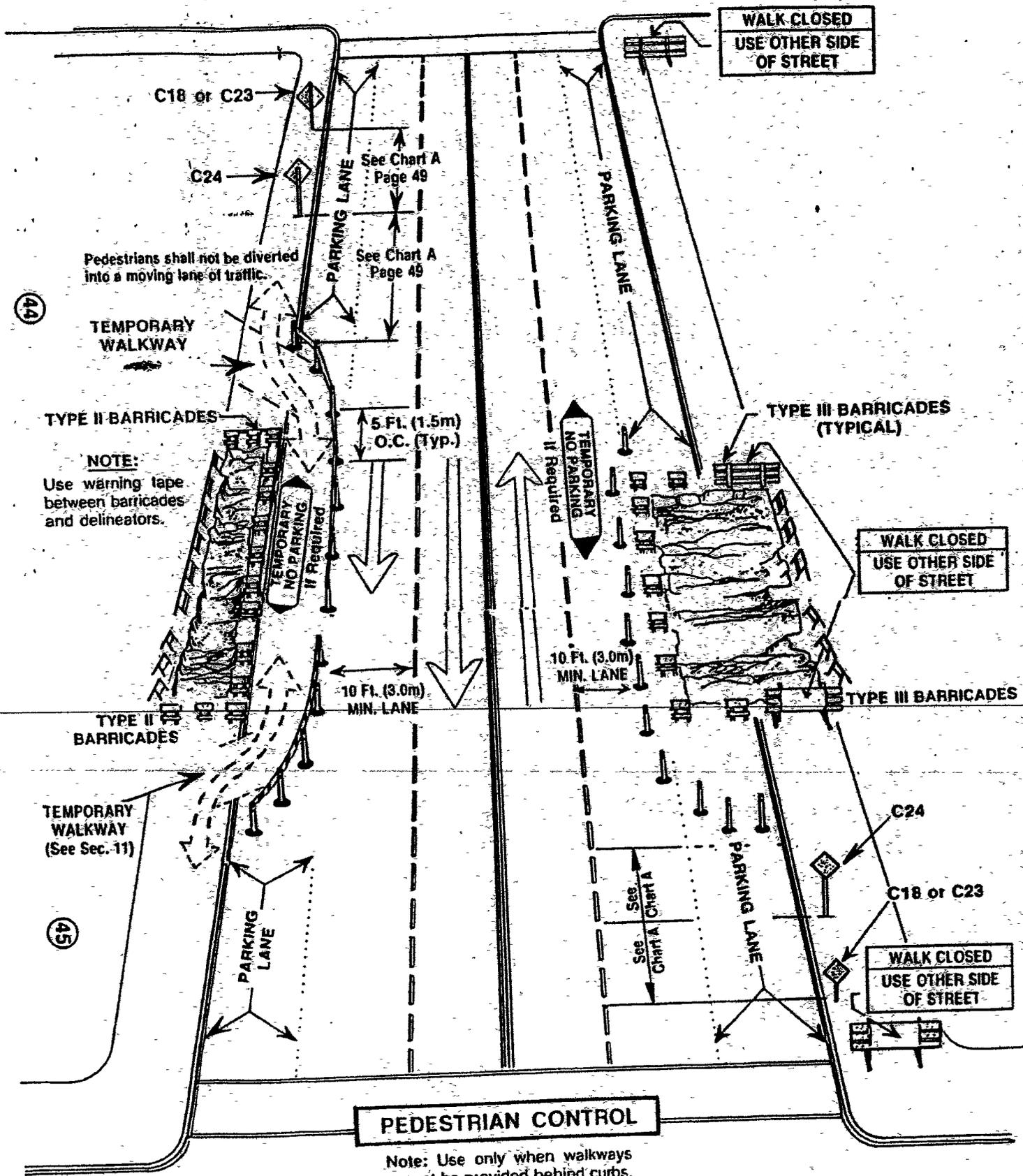
- Paths of travel that DO NOT continue to the next corner or to a safe crosswalk shall be closed to pedestrian traffic. Signs a minimum of 36" x 36" must be posted stating the sidewalk is closed and detour pedestrians to accessible sidewalk.
- Pedestrian access corridors shall be clearly delineated with cones or barricades, as approved by the Engineer.
- If a crosswalk is closed, curb ramps leading into that crosswalk must be barricaded in such a manner that walkways that are not closed remain accessible to use.
- Caution Tape shall NOT be used by itself to delineate the path of travel or create a barricade

RESTORATION OF PEDESTRIAN ROUTES

After construction, the site shall be returned to its former condition, or new condition as required.

- Temporary ramps shall be removed as soon as construction and approval of permanent ramp is completed.
- After work is completed, surface of the pedestrian path shall be restored free from all ridges, gaps, bumps and rough edges.
- Construction that affects existing curb ramp shall include replacement or repair of the curb ramp to meet current City standards.

PLEASE NOTE: City of Berkeley Engineers may stop work when any hazardous conditions are present.



Note: Use only when walkways cannot be provided behind curbs.

04/88

ASPHALT CONCRETE

DETAIL SPECIFICATION NO. 16

1601 DESCRIPTION

1601.1 DESCRIPTION Asphalt concrete shall be designated as Type A, B, or Open Graded and shall conform to the general and specific requirements specified herein. The type of asphalt to be used and the thickness of the courses to be placed will be designated in the special provisions or on the plans.

1602 MATERIALS

1602.1 ASPHALTS

1602.11 Asphalt Cement (paving asphalt) to be mixed with mineral aggregate in the manufacture of asphalt concrete shall be steam refined paving asphalt having a RTFC AR 4000 or AR 8000. Generally, the RTFC AR 4000 will be designated for light to medium traffic and RTFC AR 8000 will be designated for heavy traffic. The range of the AR value will be designated in the Special Provisions or by the Engineer. Asphalt cement shall conform to the provisions of subsections 92-1.01, 92-1.02, and 92-1.03 of the CALTRANS Standard Specifications and the following provisions.

1602.12 Prime Coat shall be used on non-asphalt base course prior to placement of asphalt concrete. Prime coat shall be liquid asphalt, Grade SC-70, conforming to provisions of subsections 93-1.01, 93-1.02 and 93-1.03 of the CALTRANS Standard Specifications and to the following provisions. When approved by the Engineer, Asphaltic Emulsion Grade SS-1 conforming to the provisions of subsection 94-1.01 through subsection 94-1.06 of the CALTRANS Standard Specifications, may be substituted for the said Grade SC-70 liquid asphalt. When an asphaltic emulsion is used, it must be mixed into the base material by a motor grader, rotary mixer, or other type of equipment as approved by the Engineer.

1602.13 Tack Coat shall be used on existing asphalt concrete prior to placement of an additional asphalt concrete course. Tack coat shall be emulsified liquid asphalt grade SS-1 conforming to provisions of subsections 94-1.01 through subsection 94-1.06 of the CALTRANS Standard Specifications. Bituminous base used on Manufacturing SS-1 type emulsion shall be paving asphalt, with RTFC AR value of 8000, conforming to provisions of subsection 92-1.02 of the CALTRANS Standard Specifications.

1602.2 Types A and B Asphalt Concrete

1602.21 Mineral Aggregate. Mineral aggregate for Type A or B asphalt concrete shall consist of a mixture of coarse and fine aggregates and if required, a filler material conforming to the following requirements.

1602.22 Coarse Aggregate. Coarse aggregate shall consist of broken stone, crushed gravel, or both. If crushed gravel is used, not less than ninety (90) percent by weight of the individual pieces shall have at least one (1) fractured face. The aggregate shall be clean, tough, durable and sound; and shall be of uniform quality and free from disintegrated materials, lumps or

coatings of clay, vegetable matter and other deleterious substances.

1602.23 Fine Aggregate. Fine aggregate shall consist of material containing not less than 70 percent by weight of crushed particles in the portion passing the No. 4 sieve and retained in the No. 8 sieve.

1602.24 Filler Material. If the crushed material is deficient in fines, commercial filler material may be added. Such filler material shall consist entirely of crushed material and the final combination of materials shall conform to all the quality and grading requirements herein specified.

1602.25 Gradings. The combined mineral aggregate shall be of such size that the percentage composition by weight as determined by laboratory sieves, shall conform to one of the following gradings:

TYPE A AND B
Percentage Passing Sieves

SIEVE SIZE	3/4" Max.	1/2" Max.	3/8" Max.	No. 4 Max.
1	100	-	-	-
3/4"	95 - 100	100	-	-
1/2"	-	95 - 100	100	-
3/8"	65 - 80	85 - 95	95 - 100	100
No. 4	45 - 60	55 - 72	65 - 85	95 - 100
No. 8	30 - 45	38 - 55	50 - 70	70 - 80
No. 30	15 - 25	18 - 33	28 - 40	35 - 50
No. 200	3 - 8	3 - 8	7 - 14	7 - 16

The grading limits specified are based on materials having a specific gravity of 2.65. Corrections shall be made to compensate for variations in specific gravity.

The grading limits are master ranges and the component materials shall be so proportioned that when the combined sieve analysis is plotted on semi-log paper, a uniform concave curve results, which has the same general shape as the proposed limits and falls within the limits at all points.

1602.26 Tests. The combined mineral aggregate shall conform to all of the quality requirements designated in subsection 39-2.02 of the CALTRANS Standard Specification.

1602.3 Open Graded Asphalt Concrete

1602.31 Mineral Aggregate. Mineral aggregate for open graded asphalt concrete shall consist of broken stone, crushed gravel or both. If crushed gravel is used, not less than 90 percent, by weight, of the individual pieces shall have at least one fractured face.

The material shall be tough, durable and sound, and shall be of uniform quality and free from disintegrated materials, adobe, vegetable matters and other deleterious materials.

1602.32 Grading. The combined mineral aggregate shall be of such size that the percentage composition by weight, as determined by laboratory sieves, shall conform to the following grading:

<u>Sieve Sizes</u>	<u>Percentage Passing Sieves</u>
1/2"	100
3/8"	90 - 100
1/4"	55 - 75
No. 4	30 - 50
No. 8	15 - 32
No. 16	0 - 15
No. 200	0 - 3

1602.33 Tests. The combined mineral aggregate shall conform to all of the quality requirements designated in subsection 39-2.02 of the CALTRANS Standard Specifications.

1603 PROPORTIONING AND MIXING

1603.1 Storage and Drying. Aggregates shall be stored in accordance with subsection 39-3.01 and dried in accordance with subsection 39-3.02 of the CALTRANS Standard Specifications.

1603.2 Proportioning. After being dried and in advance of mixing with asphalt cement, the mineral aggregate shall be separated into sizes, stored in separate bins and proportioned in accordance with the provisions of subsection 39-3.03 of the CALTRANS Standard Specifications.

1603.21 If the mineral aggregate is deficient in fines, filler material conforming to the requirements specified Section 1602.2 for Mineral Aggregate shall be added in sufficient quantity to provide aggregate conforming to the specified gradings. The filler material shall be thoroughly dry and shall be added to the aggregate at the mixing plant by thoroughly pre-mixing it with the other fine aggregate or by feeding it separately into either the hot or cold elevator. Spreading filler material over the tops of the aggregate pits or dumping it indiscriminately into the hopper at crushing plants will not be permitted.

1603.22 In placing materials in storage or in moving them from storage to the plant, bulldozers or other similar equipment which may cause the segregation of the material of any grading, or the combining of materials of different gradings, will not be permitted.

1603.23 The amount of asphalt cement to be added to Type A or B asphalt concrete shall be between four (4) percent and six (6) percent, by weight, of the dry mineral aggregate. The amount of asphalt cement to be added to open graded asphalt concrete shall be between six (6) percent and six and one-half (6 1/2) percent by weight, of the dry mineral aggregate. The exact amount of asphalt cement to be added to the mineral aggregate will be determined by the Engineer, at the time of mixing.

1603.24 The Contractor shall advise the Engineer in writing not less than 21 calendar days prior to placement of asphalt concrete of the retail source of supply of the mixture to be used and of the sources of its constituents. The Engineer will obtain samples of the mixture to be used and will prepare laboratory samples for correlation of field measurements to be made during production and placement. Once the Contractor has designated the mixture supplier, the supplier and sources shall not be changed without written approval of the Engineer.

1603.3 Mixing. Aggregates and Asphalt Cement shall be mixed in accordance with subsection 39-3.04 and one of the following appropriate subsections of the CALTRANS Standard Specifications: 39-3.04A, 39-3.04B and 39-3.04C.

1603.31 The temperature of the mineral aggregate at the time of adding the asphalt cement shall not be in excess of three hundred twenty-five (325) degrees F.

Asphalt cement shall be added to the mineral aggregate at a temperature of not less than two hundred seventy-five (275) degrees F., nor more than three hundred twenty-five (325) degrees F.

1603.32 All scales shall be certified as to accuracy by the California State Department of Agriculture, Bureau of Weights and Measures, or by the Alameda County Sealer of Weights and Measures, or by other organizations acceptable to the Engineer. The Contractor shall, at his own expense, furnish for use in testing scales one standard 50-pound weight for each 500 pounds of batch scale capacity for each individual installation.

The City reserves the right to order the use of any drying, proportioning, and mixing equipment discontinued which, in the opinion of the Engineer, fails to properly dry and proportion the aggregate or fails to produce a satisfactory mixture.

1604 CONSTRUCTION METHODS

1604.1 Prime Coat and Tack Coat. In advance of spreading the surfacing material, a prime coat of liquid asphalt or a tack coat of asphaltic emulsion shall be applied to the areas to be surfaced in accordance with the provisions of section 1602.1 and the following provisions:

1604.11 Prime coat shall be spread on non-asphaltic base at the approximate total rate of 0.25 gallon per square yard of surface covered. The exact rate and number of applications will be determined by the Engineer.

1604.12 Tack Coat shall be applied on asphaltic base in one application at a rate of from 0.02 to 0.10 gallon per square yard of surface covered. The exact rate of application will be determined by the Engineer.

1604.13 Non-asphalt bases to receive prime coat should not have a moisture content in the upper three inches in excess of 4% as determined by either California Test Method 226 or ASTM test designation C-70.

1604.14 Immediately before applying a prime coat or tack coat, the area to be surfaced shall be cleaned of all loose material by means of power brooms supplemented by hand-brooming if necessary. Prime coat or tack coat shall not be applied until subgrade preparation has been completed, and only so far in advance of placing the surfacing as is ordered by the Engineer.

1604.15 Liquid asphalt prime coat and asphaltic emulsion tack coat shall be applied at the appropriate following listed temperatures:

Grade	Application Temperatures	
	Min. °F	Max. °F
SC-70 Liquid Asphalt	105	175
MC-250 Liquid Asphalt	140	225

1604.16 After the prime coat or tack coat has penetrated the surface, and if, and only if, ordered by the Engineer, the primed area shall be covered with an approved sandy material. All loose sand shall be completely removed before placing any asphalt concrete thereon.

1604.17 Asphaltic emulsion tack coat shall be applied to all vertical surfaces of existing pavement, curbs, gutters and construction joints in the surfacing against which additional asphalt concrete is to be placed, and to other surfaces designated by the Engineer.

1604.18 Immediately in advance of placing asphalt concrete, additional prime coat or tack coat shall be applied as directed to areas where the priming has been damaged, and loose or extraneous material shall be removed, and no additional compensation will be allowed for such work and materials.

1604.2 Spreading and Compacting Equipment. Spreading equipment shall conform to the provisions of subsection 39-5.01 of CALTRANS Standard Specifications.

1604.21 All rolling equipment shall be self-propelled and reversible. Rollers used for initial or breakdown rolling shall be equipped with wheels having a diameter of 40 inches or more.

1604.22 Pneumatic-tired rollers shall have a minimum width of 6 feet and be equipped with pneumatic tires of equal size and diameter having treads satisfactory to the Engineer. Tires shall have a minimum outside diameter of 40 inches and inflation pressure of 90 p.s.i.g. Tires shall be so spaced that the gap between adjacent tires shall be covered by the tread of the following tire. Operating weight shall be not less than 2,000 pounds per tire and be not less than nine (9) tons total weight.

1604.23 Two-axle steel-tired tandem rollers shall weigh not less than eight (8) tons.

1604.24 Three-wheel steel-tired rollers shall weigh not less than 12 tons with a compression of the rear wheels of not less than 325 pounds per linear inch of tire width.

1604.25 Three-axle steel-tired tandem rollers shall weigh not less than 12 tons.

1604.26 The Contractor shall supply a public weighmaster certificate which identifies and establishes the true operating weight on each axle of each and every roller used on the work.

1604.27 The Contractor shall furnish a minimum of one 9-ton pneumatic-tired roller and one 8-ton 2-axle tandem roller for each asphalt paver laying Type A asphalt concrete and furnish a minimum of one 8-ton 2-axle tandem roller for each paver laying Open Graded asphalt concrete.

1604.28 When, in the opinion of the Engineer, production rate exceeds the compactive capacities of the rollers and operators provided, additional rolling equipment of a type to be designated by the Engineer shall be supplied by the Contractor or production rate shall be reduced or stopped.

1604.29 Asphalt concrete areas which, in the opinion of the Engineer, are inaccessible and cannot be compacted satisfactorily with the above specified

rollers shall be compacted with a ramming or impact type of compactor having minimum impact power of 900 ft. lbs. per second and energy of 1500 ft. lbs. per blow exerted on a ramming shoe of 248 square-inch area.

1604.3 Spreading and Compacting. All types of Asphalt Concrete shall be spread only when the weather is satisfactory to the Engineer. Tarpaulins shall be furnished and used to cover all loads during transportation. Types A or B asphalt concrete shall be spread at a minimum temperature of 275 degrees F., and when the atmospheric temperature is above 40 degrees F. Open Graded asphalt concrete shall be spread at a minimum temperature of 225 degrees F and when the atmospheric temperature is above 60 degrees F.

1604.31 Longitudinal joints in the top course shall coincide with the edges of proposed traffic lanes, unless excepted by the Engineer. Longitudinal joints in all courses shall be offset not less than 0.5-foot alternately so that no joint is coincident with the joint in the underlying course.

Before placing the top course adjacent to cold transverse construction joints, such joints shall be neatly trimmed to a vertical face in a neat line transverse to the surfacing. Top joints shall be tested with a 10-foot straight-edge and cut back as required if the surface varies more than one-eighth (1/8) inch from the lower edge of the straight-edge. All longitudinal and transverse joints shall be fully compressed and where the asphaltic surfacing is placed adjacent to an existing pavement, the roller on the initial pass shall be supported by the new surface high enough that the roller will ride just clear of the old surface. Transverse joints in the top course shall be offset from joints in the base course by at least six (6) feet. Wherever the wearing surface is brought to a thin edge (feather edge) the existing surface shall be thinly tack coated and the coarse aggregate shall be raked out of the mixture.

Unless specifically approved by the Engineer, the surface course shall be placed so that no longitudinal joints remain after the end of a normal operating day.

1604.32 All layers, except as otherwise provided in section 1604.33 or in the Special Provisions, shall be spread with an asphalt paver. Asphalt paver shall be operated in such a manner as to insure continuous and uniform movement of the paver. The paver shall not start any single pass until sufficient hot material is on the job site to lay down a minimum length of pass of 100 feet in one continuous motion of the paver.

1604.33 In advance of placing asphalt concrete over an existing base or surfacing or pavement, and after the base or surfacing or pavement has been prepared as hereinbefore specified, and, if ordered by the Engineer, surfacing mixture shall be spread as directed to level irregularities, dips, depressions, sags, and excessive crown and to provide a smooth base of uniform grade and cross-section, in order that subsequent layers of surfacing will be of uniform thickness. This leveling course may be placed either by hand or by blade. No additional compensation will be allowed for placing asphalt concrete as above specified and full compensation for all work incidental to such operations shall be considered as included in the contract price or prices paid for the surfacing material.

1604.34 Initial or breakdown rolling shall consist of one complete coverage of asphalt mixtures and shall be performed with a pneumatic-tired roller on base or leveling courses and with a steel-tired roller on top courses. Rolling

shall commence at the lower edge and shall progress toward the highest portion. Under no circumstances shall the center be rolled first. Rollers shall be operated so that the driving axle is the first axle to pass over the uncompacted material. The movement of the roller shall be slow and uniform to secure maximum compression. Each movement of the roller shall lap the path of the preceding one by half the width of the roller. The roller shall operate in a straight line with a minimum of turning, stopping and starting. Turning shall be done on the compacted surface. After the initial pass on the uncompacted material, the roller shall retrace its path over compacted material back to previously compacted areas before starting the next pass.

1604.35 The minimum length of pass for breakdown roll shall be 100 feet, unless excepted by the Engineer. The breakdown pass shall be made in one smooth and continuous motion of the roller with reversal of direction to be made once near the paver. Direction reversal shall not be made more than once at the same place on the mat.

1604.36 Pneumatic-tired rollers shall operate immediately after the paver, and the tires shall remain dry and be allowed to attain the temperature of the hot mixture. The use of water on pneumatic tires will not be allowed. Pneumatic-tired rollers shall not be used on Open-Graded asphalt concrete.

1604.37 Rollers shall be used continuously on the hot mat until the temperature of the mat has dropped below 200 degrees F. or until the compacted density is determined satisfactory by the Engineer.

1604.38 The porosity of each compacted course of Type A Asphalt Concrete may be measured immediately after rolling and while the fresh mat is still above 200 degrees F and compactable. The acceptable void content shall be between 5% and 9% and will be correlated with the compacted laboratory samples of the mix. The desired compacted-in-place void content of each course will be determined by the Engineer.

1604.39 Any ridges, indentations, or other objectionable marks left in the surfacing shall be eliminated either by rolling or some other approved means. The surfacing shall have the average thickness specified and shall not vary more than one-quarter ($1/4$) inch from the specified thickness. The surface of the pavement shall be true to grade, have a uniform and smooth contour, and be free from depressions exceeding one-quarter ($1/4$) inch as measured from a 10-foot straight-edge.

1604.40 Obstructions. After placing the final lift of asphalt concrete, the Contractor shall be required to reset, in a workmanlike manner, all metal frames and covers, sewer manholes, lampholes, catch basins, junction boxes, storm water inlets, monuments and sewer cleanouts along the line of the work which are not now at the required grade and line. Concrete around these facilities shall be six (6) sack concrete with 2% calcium chloride added. All manholes within the limits of the construction shall be kept clean of earth materials. Frames and covers broken or damaged by the Contractor shall be replaced by him, at no extra expense to the City, with the present City of Berkeley standards. The Engineer may require that any sewer frame and cover to be reset by the Contractor be replaced with a new frame and cover to be furnished by the City. The size, number and location of metal covers, sewer manholes, lampholes, catch basins, junction boxes, storm water inlets, monuments and sewer cleanouts as shown on the plans are from the best information available, but not guaranteed by the City.

1604.41 Frames and covers belonging to the Utilities will be adjusted by them. The Contractor shall be responsible for notifying the utility companies.

1604.42 As part of the asphalt concrete surfacing work, the Contractor shall restore all property affected by the Contractor's operations to a condition approved by the Engineer.

1605 METHOD OF MEASUREMENT

1605.1 Measurement. The weight of asphalt concrete shall be determined as provided in applicable portions of subsection 9-1.01 "Measurement and Payment" of the CALTRANS Standard Specifications, except as herein noted:

The City reserves the right to appoint a weigher compensated by the City, to weigh all materials weighed on scales furnished by the Contractor.

A maximum tonnage will be allowed based on 12.5 pounds of asphalt concrete surfacing for each square foot of one (1) inch thick pavement placed. The thickness of pavement shall be as designated on the plans and specification plus the thickness tolerance of one-quarter (1/4) inch allowed in paragraph 1604.39, and the area shall be measured in a horizontal plane in square feet. An increase of density will be allowed if the Contractor can establish by approved testing procedures that the density is greater.

1606 BASIS OF PAYMENT

1606.1 Basis of Payment. Asphalt concrete will be paid for at the unit price bid per ton, which price shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all the work necessary in constructing the pavement complete in place, including traffic control and incidental work. No payment will be made for tonnage over the maximum as defined above, except that asphalt concrete used in leveling irregularities as directed by the Engineer and described in section 1604.33 will not be totaled into or used with the maximum tonnage figure. Payment for asphalt cement, prime coat, and tack coat will be included in the price bid for asphalt concrete.

APPENDICES

APPENDIX 1

CRITERIA FOR THE SEPARATION OF WATER MAINS AND SANITARY SEWERS

EDMUND G. BROWN JR.
GOVERNORMATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board

Division of Drinking Water

December 14, 2017

Separation of Water Mains and Non-Potable Pipelines – Requests for Alternatives to the Waterworks Standards

Dear Public Water System Owners and Operators:

This letter supersedes prior guidance regarding the separation of water mains and non-potable pipelines, including Guidance Memo 2003-02, dated October 16, 2003. Guidance Memo 2003-02 and previous versions should be discarded.

The California Waterworks Standards (California Code of Regulations (CCR), Title 22, Division 4, Chapter 16, Section 64572) establish criteria for the separation of new water mains from non-potable pipelines. Public water systems should ensure that these distances are met, whenever feasible, for all new construction. The Division of Drinking Water (Division) recognizes that certain conditions may call for the installation of pipelines with less separation distance than what is required by the regulations. In these situations, the water system may propose an alternative pursuant to CCR, Title 22, Section 64551.100:

§64551.100. Waivers and Alternatives.

- (a) *A water system that proposes to use an alternative to a requirement in this chapter shall:*
- (1) *Demonstrate to the State Board that the proposed alternative would provide at least the same level of protection to public health; and*
 - (2) *Obtain written approval from the State Board prior to implementation of the alternative.*

In proposing an alternative to the Waterworks Standards, water systems should observe the following:

- The water system must accept responsibility for the adequacy of the proposed alternative. The Division may require a written statement, signed by the water system's management, certifying that the proposed alternative adequately protects public health.
- In most circumstances, the Division cannot offer technical assistance with pipeline or infrastructure design. The water system proposing an alternative must demonstrate adequate expertise on the part of its own personnel or its hired consultants.
- The water system should describe how the proposed alternative provides at least the same level of protection to public health as the minimum separation distances prescribed in the regulation.
- While exorbitant cost may present a hardship in meeting the regulatory separation requirements and can be considered, public health must be prioritized above construction costs in determining an acceptable alternative.

FELICIA MARCUS, CHAIR | THOMAS HOWARD, EXECUTIVE DIRECTOR

1001 I Street, Sacramento, CA 95814 | Mailing Address: P.O. Box 100, Sacramento, Ca 95812-0100 | www.waterboards.ca.gov

The Division has prepared an application checklist that may be used by water systems in proposing an alternative to the Waterworks Standards (Enclosure). The purpose of the checklist is to ensure that the Division has sufficient information to evaluate the proposal. **The water system may submit the information in a different format from the checklist, provided that the submittal provides adequate information.** The checklist may also be used to provide written certification that the proposed alternative adequately protects public health.

If you have any questions, please contact the Division office that oversees your water system.

Sincerely,



Darrin Polhemus, P.E.
Deputy Director
Division of Drinking Water

Enclosure: Waterworks Standards Main Separation Alternative Request Example Checklist

STATE WATER RESOURCES CONTROL BOARD
Division of Drinking Water
Waterworks Standards Main Separation Alternative
Request Checklist

Water System Name/Number: [Click here to enter text.](#)

Name of Applicant: [Click here to enter text.](#)

Phone Number and Email Address: [Click here to enter text.](#)

Project Name and Location: [Click here to enter text.](#)

Attach plans or field drawings to show the standard installation and the proposed installation for which the alternative is being requested. (e.g. vertical profile and horizontal alignment, specifications, and other exhibits, as appropriate).

The Waterworks Standards in the California Code of Regulations (CCR) Title 22, Chapter 16, Section 64572 provide separation criteria for new construction. When buried water mains are in close proximity to non-potable pipelines, the water mains are vulnerable to contamination that can pose a risk of waterborne disease outbreaks.

Per CCR Title 22, Chapter 16, Section 64551.100, a water system that proposes to use an alternative to a requirement in Chapter 16 shall: 1) demonstrate to the State Board that the proposed alternative would provide at least the same level of protection to public health; and 2) obtain written approval from the State Board prior to implementation of the alternative. Requests for alternatives to the Waterworks Standards must consist of information outlined in at least four of the attachments below. Information contained in Attachments A, B and E will be required for all alternative requests. Information contained in Attachments C and/or D will also be needed depending on your particular situation. Please review all the attachments and submit the information for your specific project. The information must be submitted to your local Division of Drinking Water District Office for review and approval prior to construction.

Attachment A represents the standard pipe material and construction that would be used if the standard separation criteria can be met by the utility.

Attachment B represents information on the current pipe in the ground that is being crossed by a new pipeline or being paralleled by a new pipeline.

Attachments C and D represent information on the new pipeline being installed. Attachment C is for parallel construction and Attachment D is for crossings.

Attachment E is certification language that is needed to consider the Waterworks Standard alternative application.

Please Note: The information may be submitted using this checklist or another format, but all relevant information must be provided to the Division of Drinking Water District Office for consideration. If multiple crossings or parallel pipelines in multiple locations are part of the application, please indicate in the comments field of the applicable attachment or submittal. Alternatively, the applicant can provide an attachment or separate submittal for each location.

Attachment A (All Cases)

Water System's Standard Pipe Material and Construction Details

Attach the water system's standard pipe specification and construction details to this as Exhibit 1 and describe below.

Liquid Conveyed By New Pipeline:

- Domestic Water Raw Water Recycled Water
 Sewer Force Sewer Storm Drain
 Other (describe) [Click here to enter text.](#)

Nominal Size: [Click here to enter text.](#) inches

Operating Pressure: [Click here to enter text.](#) psi or Gravity flow/atmospheric

Pipe Material: Ductile Iron Cast Iron Welded Steel
 HDPE PVC Concrete Clay
 Other describe [Click here to enter text.](#)

AWWA Material Designation Code: [Click here to enter text.](#)

Pressure Class/Thickness/Coating [Click here to enter text.](#)

Joint Type Construction: Push On Restrained Welded Joints Fused
 Other describe [Click here to enter text.](#)

Depth of Cover: [Click here to enter text.](#)

Comments:

[Click here to enter text.](#)

Attachment B (All Cases)

Existing Pipeline Material – Paralleling or Crossing the Proposed Pipe

List the condition of the existing pipeline being paralleled or crossed.

Liquid Conveyed By Existing Pipeline:

- Domestic Water Raw Water Recycled Water
 Sewer Force Sewer Storm Drain
 Other (describe) [Click here to enter text.](#)

Nominal Size: [Click here to enter text.](#) inches

Operating Pressure: [Click here to enter text.](#) psi or Gravity flow/atmospheric

Pipe Material: Ductile Iron Cast Iron Welded Steel
 HDPE PVC Concrete Clay
 Other (describe) [Click here to enter text.](#)

AWWA Material Designation Code: [Click here to enter text.](#)

Pressure Class/Thickness/Coating [Click here to enter text.](#)

Joint Type Construction: Push On Restrained Welded Joints Fused
 Other (describe) [Click here to enter text.](#)

Length of Project: [Click here to enter text.](#)

Age/Condition: [Click here to enter text.](#)

Depth of Cover: [Click here to enter text.](#)

Separation from proposed pipeline

Note: all distances are measured from the outside walls of both pipelines.

Vertical: [Click here to enter text.](#)

Horizontal: [Click here to enter text.](#)

Have there been many repairs on the existing pipeline in this area? Yes No

If yes, explain: [Click here to enter text.](#)

COMMENTS:

[Click here to enter text.](#)

Attachment C

Proposed Parallel Pipeline Material and Construction Information

Where the Waterworks Standards cannot be met, it is the responsibility of the water system proposing an alternative to demonstrate that its proposed construction will have at least the “same level of protection to public health” as the minimum separation distances prescribed in the regulations.

Intended Use of New Pipeline: Distribution Transmission Storage
 Other (describe) [Click here to enter text.](#)

Liquid Conveyed:
 Domestic Water Raw Water Recycled Water
 Sewer Force Sewer Storm Drain
 Other (describe) [Click here to enter text.](#)

Nominal Size: [Click here to enter text.](#) inches Flow rate: [Click here to enter text.](#) gpm
Operating Pressure: [Click here to enter text.](#) psi or Gravity flow/atmospheric

Pipe Material: Ductile Iron Cast Iron Welded Steel
 HDPE PVC Concrete Clay
 Other describe [Click here to enter text.](#)

AWWA Material Designation Code: [Click here to enter text.](#)

Pressure Class/Thickness/Coating [Click here to enter text.](#)

Joint Type Construction: Push On Restrained Welded Joints Fused
 Other describe [Click here to enter text.](#)

Length of Project: [Click here to enter text.](#)

Depth of Cover: [Click here to enter text.](#)

Separation From Existing Non- Potable Pipeline

Note: all distances are measured from the outside walls of both pipelines.

Vertical: [Click here to enter text.](#)

Horizontal: [Click here to enter text.](#)

Is this a temporary installation? Yes No

If yes, how long will it be in place? [Click here to enter text.](#)

Can the new pipeline be installed in accordance with the Waterworks Standards? If not explain below:

[Click here to enter text.](#)

Proposed additional protective measures (*material construction methods, operational considerations, etc.*):

[Click here to enter text.](#)

Attach additional exhibits as necessary

Attachment D Proposed Pipeline Crossing Material and Construction Information

Where the Waterworks Standards cannot be met, it is the responsibility of the water system proposing an alternative to demonstrate that its proposed construction will have at least the "same level of protection to public health" as the minimum separation distances prescribed in the regulations.

Intended Use of New Pipeline: Distribution Transmission Storage
 Other (describe)_[Click here to enter text.](#)

Liquid Conveyed:
 Domestic Water Raw Water Recycled Water
 Sewer Force Sewer Storm Drain
 Other (describe) [Click here to enter text.](#)

Nominal Size: [Click here to enter text.](#) inches
Operating Pressure: [Click here to enter text.](#) psi or Gravity flow/atmospheric

Pipe Material: Ductile Iron Cast Iron Welded Steel
 HDPE PVC Concrete Clay
 Other describe [Click here to enter text.](#)

AWWA Material Designation Code: [Click here to enter text.](#)

Pressure Class/Thickness/Coating [Click here to enter text.](#)

Joint Type Construction: Push On Restrained Welded Joints Fused
 Other describe [Click here to enter text.](#)

Length of Project: [Click here to enter text.](#)

Depth of Cover: [Click here to enter text.](#)

Number of Crossings: [Click here to enter text.](#)

Angle of Crossings: [Click here to enter text.](#)

Description of crossing pipelines:

[Click here to enter text.](#)

Can the new pipeline be installed in accordance with the Waterworks Standards? If not explain below:

[Click here to enter text.](#)

Proposed additional protective measures (*material construction methods, operational considerations, etc.*):

[Click here to enter text.](#)

Attach additional exhibits as necessary

Attachment E Certification

CERTIFYING SIGNATURE:

For consultants, contractors, and developers: attach written concurrence from the governing water system and pipeline owners stating that the selected project alternative is the preferred alternative.

Attached concurrence?: YES NO N/A

I certify that the forgoing information is true and correct to the best of my ability, and that I believe this alternative would provide at least the same level of protection to public health as the minimum separation distances prescribed in the California Waterworks Standards (CCR, Title 22, Section 64572)..

Signature

Name and Title [Click here to enter text.](#)

Date [Click here to enter a date.](#)

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APPENDIX 2

**RESOLUTION NO. 59,853 – N.S.
REFERENCE TO OPPRESSIVE STATES STATEMENT**

**RESOLUTION NO. 60,382 – N.S.
AMENDMENT TO APPENDIX A OF RESOLUTION NO. 59,853 – N.S.**

**RESOLUTION NO. 70,606 – N.S.
AMENDMENT TO APPENDIX A OF RESOLUTION NO. 59,853 – N.S.**

RESOLUTION NO. 59,853-N.S.

EXPRESSING SUPPORT FOR A NATIONAL FOREIGN POLICY WHICH PLACES PARAMOUNT IMPORTANCE ON HUMAN RIGHTS BY PROHIBITING THE EXPENDITURE OF PUBLIC FUNDS FOR PERSONAL SERVICES OR FOR THE PROCUREMENT OF GOODS OR FOR DEPOSIT OR INVESTMENT IN ACCORDANCE WITH THE STANDARDS ENUMERATED IN THIS RESOLUTION AND REPEALING RESOLUTION NOS. 57,881-N.S., 59,009-N.S. AND 59,107-N.S.

WHEREAS, the Council of the City of Berkeley finds as follows:

SECTION I. PREAMBLE

- A. The citizens of the City of Berkeley, believing that their quality of life is diminished when peace and justice are not fully present in the world, adopted Ordinance No. 5985-N.S. to promote universal respect for human rights and fundamental freedoms, and to stimulate public debate regarding the paramount importance of the rule of law and the need to end injustices and egregious violations of human rights wherever they may occur.
- B. The citizens of the City of Berkeley believe that the foreign policy of the United States of America should be grounded upon equality, respect for human rights and the abhorrence of exploitation and all forms of oppression. However, the foreign policy of the United States of America with regard to particular countries, or governments, fails to accord sufficient importance to promoting equality, respect for human rights and the abhorrence of exploitation and all forms of oppression.
- C. The citizens of the City of Berkeley believe that the expenditure, and the withholding, of public funds derived from their taxes constitutes an expression of their civic conscience regarding a subject of legitimate public debate and, therefore, can influence the views of their fellow American citizens.
- D. The citizens of the City of Berkeley believe that effective advocacy of both public and private points of view is undeniably enhanced by group association, including their association as electors and taxpayers in the City of Berkeley.
- E. The citizens of the City of Berkeley reaffirm that the right of the people peaceably to assemble for the purpose of petitioning Congress for a redress of grievances, or for anything else connected with the powers and duties of the national government, is an attribute of American citizenship, and, as such, under the protection of, and guaranteed by, the United States.

- F. The citizens of the City of Berkeley are cognizant of the fact that in the global marketplace the City's expenditures for services, goods, deposits and investments subject to this Resolution are not substantial enough to have even an indirect coercive effect on foreign governments and, therefore, the policies established herein represent principally a symbolic gesture rather than an economic threat, a regulatory action or an act to change the domestic policies of any foreign country.
- G. The citizens of the City of Berkeley desire to establish the policies herein for the purposes of stimulating public discussion, influencing the views of their fellow American citizens, and affecting the formulation and implementation of foreign policy by the United States Congress.
- H. The procurement of personal services and commodities, and the deposit and investment of public funds are municipal affairs of the City of Berkeley and the policies established herein are not established for the benefit of contractors submitting bids, but for the benefit of the Citizens of the City of Berkeley.
- I. The citizens of the City of Berkeley believe that like any participant in the global marketplace, the City of Berkeley possesses the right to consider the moral character of its business partners in determining with whom it seeks to maintain business relations and therefore to refrain from contracting with those entities which maintain business relationships with morally repugnant regimes.

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

SECTION II. DEFINITIONS

"City" or "City of Berkeley" shall mean the City of Berkeley, or any entity acting under the direction of the City Council of the City of Berkeley.

"City Manager" shall mean the City Manager of the City of Berkeley, or any authorized representative of the City Manager.

"Peace and Justice Commission" shall mean the City of Berkeley's Peace and Justice Commission established pursuant to Chapter 3.68 of the Berkeley Municipal Code.

"Commodities" shall include, but not be limited to, any tangible supplies, goods, vehicles, machinery, or equipment.

"Oppressive State" shall mean the territory, or any portion of the territory, of a foreign government designated in the Oppressive States List.

"Business Entity" shall mean any individual, firm, partnership, corporation, association, or any other commercial organization, and including parent-entities and wholly-owned subsidiaries to the extent that their operations are related to the purpose of its contract with the City. The term "Business Entity" does not include not-for-profit community based organizations, the United States of America, any State, municipality or other public corporation or agency.

"Personal Services" shall mean the performance of any work or labor and shall also include acting as an independent contractor or providing any consulting advice or assistance, or otherwise acting as an agent pursuant to a contractual agreement.

"Oppressive States List" shall mean Appendix A to this Resolution, as amended from time to time, and consisting of a compilation of Oppressive States and their respective Delisting Criteria.

"Delisting Criteria" shall mean the standard or standards which must be met in order for a government to be removed from the Oppressive States List.

"Remote Transaction" shall mean a sale of Commodities initiated and consummated completely by means of postal or Internet service and not exceeding the sum of \$10,000 U.S. Dollars to a single purchaser in a 12 month period.

"Loan" shall mean purchasing securities, investing in assets, lending monies, making interest-bearing deposits, extending lines of credit, or any other such transaction that is anticipated to result in a return, directly or indirectly, of assets.

All terms used in the Resolution shall be construed in a manner consistent with the intent of this Resolution.

SECTION III. PROVISION OF PERSONAL SERVICES

A. General Prohibited Transactions

The City is prohibited from entering into any contractual agreement for the provision of Personal Services with any Business Entity that is providing or is willing to provide personal services to:

- (i) the governing regime in any Oppressive State;
- (ii) any business or corporation organized under the authority of the governing regime of any Oppressive State;
- (iii) any person for the express purpose of assisting in business operations or trading with any public or private entity located in any Oppressive State.

B. Contract Stipulation

Any Business Entity contracting with the City for the provision of Personal Services shall be required as a material condition of any such contract to represent and certify that said Business Entity has reviewed this Resolution, that said Business Entity does not provide Personal Services to any entity described in Section III.A. and will not provide Personal Services to any such entity during the term of said contract; and that in the event of violation of the terms of this Resolution, the Business Entity will be subject to the remedies provided in Section VIII. The provisions of this section shall apply to renewals of existing contracts as well as to new contracts.

C. Disclosure Statement Required

Before any contract for the provision of Personal Services is awarded by the City pursuant to a formal or informal bid or proposal solicitation, the City Manager shall obtain from the prospective supplier of Personal Services a statement disclosing information sufficient for the City Manager to ascertain whether said supplier maintains any of the relationships described in Section III.A or is otherwise exempt from requirements of this Resolution pursuant to Section VII. The statement shall be signed and certified by an employee of the prospective supplier of Personal Services with sufficient legal authority to obligate the prospective supplier under the laws of the State of California. The Statement shall require the prospective supplier of Personal Services to notify the City Manager by written communication if the information disclosed in the statement is subsequently materially changed.

SECTION IV. SELECTIVE PURCHASE OF COMMODITIES

A. General Prohibited Transactions

1. The City shall not purchase any Commodity that is manufactured, assembled, extracted, harvested or refined in any Oppressive State;
2. The City shall not purchase any Commodity that is manufactured, assembled, extracted, harvested or refined by any Business Entity that buys, sells, leases or distributes Commodities in the conduct of business with, or who provides or is willing to provide Personal Services to:
 - (i) the governing regime in any Oppressive State;
 - (ii) any business or organization organized under the authority of the governing regime in any Oppressive State;
 - (iii) any Business Entity for the purpose of assisting in business operations or trading with any public or private entity located in an Oppressive State.

3. For the purposes of this Section only, a Remote Transaction(s) shall not be deemed selling, leasing, or distributing Commodities in the conduct of business.

B. Disclosure Statement Required

Each prospective supplier of Commodities that submits a formal or informal bid or proposal for a contract to supply Commodities shall include with its bid or proposal documents a statement disclosing information sufficient for the City Manager to ascertain whether or not said supplier of Commodities complies with the requirements of this Resolution or is exempt under Section VII. The statement shall be signed and certified by an employee of the prospective supplier of Commodities with sufficient legal authority to obligate the prospective supplier of Commodities under the laws of the State of California. The statement shall require the prospective supplier of Commodities to notify the City Manager by written communication if the information disclosed in the statement is subsequently materially changed.

C. Contract Stipulation

Any Business Entity contracting with the City for the provision of Commodities shall be required as a material condition of any such contract to represent and certify that said Business Entity has reviewed this Resolution; that the Commodities it provides to the City comply with the standards set forth in Section IV.A above; that the Business Entity will continue to comply with this Resolution during the term of said contract; and that in the event of violation of the terms of this Resolution, the Business Entity will be subject to the remedies provided Section VIII. The provisions of this section shall apply to renewals of existing contracts as well as to new contracts.

D. Selective Purchasing Process

The ability of a bidder to comply with the requirements of this Resolution is a material term of every bid solicited by the City pursuant to City Charter Section 67 or Ordinance No. 6420-N.S. Therefore, if the Commodity offered thereunder is manufactured, extracted, harvested or refined in any Oppressive State, or by an entity having any of the relationships described in Section IV.A above, said bid shall be deemed "non-responsive."

SECTION V. DEPOSIT AND INVESTMENT OF CITY FUNDS

A. General Prohibited Transaction

1. No City funds shall be deposited or remain deposited in any bank or financial institution which has any outstanding Loan to:

- (i) the governing regime in any Oppressive State;

- (ii) any business or entity organized under the authority of the governing regime of any Oppressive State;
- (iii) any person for the express purpose of assisting in business operations or trading with any public or private entity located in any Oppressive State.

2. No City funds shall be invested or remain invested in the stocks, bonds, securities, notes, debentures, certificates of indebtedness, or other obligations of any bank or financial institution which has any outstanding Loan to:

- (i) the governing regime in any Oppressive State;
- (ii) any business or entity organized under the authority of the governing regime of any Oppressive State;
- (iii) any person for the express purpose of assisting in business operations or trading with any public or private entity located in any Oppressive State.

3. The prohibitions of this Section shall not apply to City funds invested under a trust indenture or investment agreement or otherwise invested by the City under a pre-existing contractual obligation, provided that such funds, if invested or deposited in non-compliance with this Resolution, shall be withdrawn or divested at the earliest possible maturity date.

B. Disclosure Statement Required

1. Before any City funds can be deposited or invested in any bank or financial institution, the City Manager shall obtain from each bank or financial institution a statement certifying that it does not have any outstanding loan of the type listed in subsection A of this Section, or, in the alternative, the City Manager shall obtain from each bank or financial institution a statement stating that the policy of the bank or financial institution is to not make any such future loans during the period that it holds City funds. The statement shall require the bank or financial institution to notify the City Manager if it subsequently enters into any loan described in this subsection, or if the policy prohibiting such loans is changed.

2. The requirements of this Section shall be satisfied by ensuring that no City funds are invested or deposited by banks or financial institutions which fail to submit the Statements required by this Section.

C. Compliance

1. The withdrawal or divestiture required by this Section shall be completed within one hundred twenty (120) days after the effective date of this Resolution.

2. When the City Manager determines that City funds must be withdrawn or divested from banks or financial institutions for noncompliance with the provisions of this Resolution, the City Manager shall advise the bank or financial institution that the withdrawal or divestiture of City funds is required by this Resolution.

3. If the City Manager determines that City funds have been deposited or invested in a bank or financial institution which subsequently fails to comply with this Resolution, the City Manager shall require the withdrawal or divestment of those funds within one hundred twenty (120) days after the date of determination of noncompliance.

D. The prohibitions of Subsection V.A.1. and V.A.2 shall not apply if the City Manager finds that:

1. no bank or financial institution is available which is capable of performing the desired function, or
2. the City will incur a significant financial loss as a consequence of said prohibitions.

SECTION VI. CITY REAL PROPERTY MANAGEMENT

To the maximum extent permitted by law, it shall be the policy of the City of Berkeley that the City Manager shall not sell, rent, or dispose of any real property including, but not limited to, granting the right to lay, construct, maintain, or operate pipelines through, over, across, or under land, water, park, reservation or highway of the City of Berkeley, to any entity which meets the criteria set forth in Sections III.A and IV.A of this Resolution. For the purposes of City Charter Section 76, the City Council will determine in each individual case whether the public interest is served by applying the terms of this Resolution to the grant of a franchise. The City Manager may sell, rent, or dispose of said property or grant said rights to said entity only if he or she finds such action is essential to protect the health, safety and welfare of the public.

SECTION VII. WAIVERS AND EXEMPTIONS

A. The prohibitions of this Resolution shall not apply if the City Manager makes one or more of the following findings:

1. The special characteristics of the particular Personal Services or Commodities offered by the Business Entity are necessary for the efficient operation of the City or the health, safety, and welfare of the City, or no comparable Personal Service or Commodity is available without financial loss occurring. The City Manager shall periodically report to the City Council his or her exercise of the waiver authority granted pursuant to this subsection.

2. The Business Entity offering the particular Personal Services or Commodities to the City is operating in an Oppressive State exclusively for the one or more of the following purposes :

- (i) providing medical goods or services; or
- (ii) providing emergency or humanitarian goods or services; or
- (iii) news reporting or publishing.

SECTION VIII. REMEDIES

A. Upon a finding by the City Manager that a person has violated the terms of this Resolution, the City Manager shall be authorized to terminate said contract and bar the Business Entity from bidding on future contracts with the City for five years from the effective date of the contract termination. The City Council may, in its discretion, waive or modify such punitive action if the Business Entity can demonstrate to the City Council's satisfaction that the person did not knowingly violate the contract stipulation and has taken appropriate steps to prevent future violations.

B. In addition to the above, the City Council or City Manager may take any such actions as deemed necessary to recover damages resulting from the violations of contractual agreements as specified in Sections IV.C or V.C above.

SECTION IX. RULES AND REGULATION

The City Manager shall be authorized to promulgate any rules and regulations not in conflict with the purposes of this Resolution.

SECTION X. EFFECTIVE DATE

This Resolution shall take effect and apply to all bids and proposals due to the City, and contracts executed, on or after March 1, 1999. Any contract already executed at the effective date of this Resolution shall remain in full force and effect and not be subject to the provisions of this Resolution until such a time as the existing contract is renewed. At the time of the renegotiation, extension, or other similar action to effect the continuation or renewal of any existing contract, all provisions of this Resolution shall apply to such contract.

SECTION XI. AMENDMENT PROCESS

The City Council may alter the Oppressive States List only by amendment to this Resolution. Said amendment shall identify the country or territory to be added to, or removed from, the Oppressive States List, the basis for said action, and the applicable Delisting Criteria.

SECTION XII. PUBLIC AWARENESS

In furtherance of the purposes of this Resolution, the City Clerk shall distribute copies of the text of this Resolution, and any amendments thereto: (1) on or about the Independence Day holiday as observed each year; and (2) whenever the Council adopts an amendment to this Resolution. Copies shall be distributed by mail to the following officials: California's U.S. Senate delegation, the member(s) of the U.S. House of Representatives from the congressional district(s) representing the citizens of the City of Berkeley, the President of the United States, the U.S. Secretary of State, to a local newspaper of general circulation, and to a newspaper of national circulation.

SECTION XIII. SEVERABILITY

This Resolution shall be enforced to the full extent of the authority of the City of Berkeley. If any section, subsection, clause, sentence, paragraph or word of this Resolution or the application thereof to any entity or circumstances is deemed to be invalid or beyond the authority of the City of Berkeley by any court or agency of competent jurisdiction, such invalidity shall not affect the validity of the remaining sections, subsections, clauses, sentences, paragraphs or words of this Resolution, and the applications thereof; and to this end, the sections, subsections, clauses, sentences, paragraphs and words of this Resolution are declared to be separate, distinct, independent, and severable.

SECTION XIV. OVERSIGHT

A. Public Hearing and Reports

Pursuant to Section 3.68.070(L) of the Berkeley Municipal Code, the Peace and Justice Commission is directed to review the implementation of this Resolution on a regular basis as described below. One month prior to each public hearing, the City Manager shall provide a written report to the Peace and Justice Commission on the implementation of this Resolution.

B. Schedule of Hearings

The Peace and Justice Commission shall hold public hearings at least annually on the implementation of the Resolution with the first public hearing taking place at the first Peace and Justice Commission meeting in May after the effective date of the Resolution.

SECTION XV. REPEAL.

The following resolutions are hereby repealed upon the effective date of this Resolution: Resolution No. 57,881-N.S., Resolution No. 59,009-N.S., Resolution No. 59,107-N.S. However, the repeal of said resolutions is not intended to amend or modify the terms of any existing City contract and the terms of the such contracts will remain enforceable according to the resolutions in effect at the date of their execution.

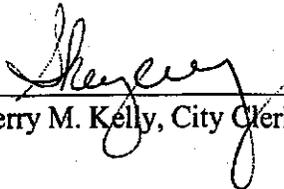
The foregoing Resolution was adopted by the Berkeley City Council on January 12, 1999 by the following vote:

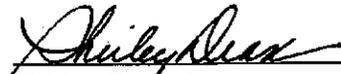
Ayes: Councilmembers Breland, Maio, Olds, Shirek, Spring, Woolley, Worthington and Mayor Dean.

Noes: None.

Abstain: Councilmember Armstrong.

Absent: None.

Attest: 
Sherry M. Kelly, City Clerk


Shirley Dean, Mayor

APPENDIX A

OPPRESSIVE STATES LIST

1. Country/Region: **Union of Myanmar (Burma).**

Delisting Criteria: The Citizens of the City of Berkeley, acting through the City Council, determine that the foreign policy of the United States regarding the Union of Myanmar embodies an effective strategy for bringing about democratic government for the People of Burma.

2. Country/Region: **Federal Republic of Nigeria.**

Delisting Criteria: The Citizens of the City of Berkeley, acting through the City Council, determine that the foreign policy of the United States regarding the Federal Republic of Nigeria embodies an effective strategy for bringing about democratic government for the Nigerian People.

3. Country/Region: **Tibet Autonomous Region and the provinces of Abo, Kham, and U-Tsang.**

Delisting Criteria: The Citizens of the City of Berkeley, acting through the City Council, determine that the foreign policy of the United States regarding the Tibet Autonomous Region and the provinces of Abo, Kham, and U-Tsang embodies an effective strategy for bringing about democratic government for the Tibetan People.

4. Country/Region: **Republic of Indonesia**

Delisting Criteria: The Citizens of the City of Berkeley, acting through the City Council, determine that the foreign policy of the United States embodies an effective strategy for bringing about East Timorese self-determination and independence in a referendum agreeable to, and supervised by, the United Nations, as called for in United Nations General Assembly Resolutions 31/53 of 1 December 1976, 32/34 of 28 November 1977, 33/39 of 13 December 1978, 34/40 of 21 November 1979, 35/27 of 11 November 1980, 36/50 of 24 November 1981, and 37/30 of 23 November 1982, as well as in United Nations Security Council Resolutions 384 of 22 December 1975 and 389 of 22 April 1976, which, together with United Nations Human Rights Commission Resolution 1997/63 of 16 April 1997, co-sponsored by the United States, must be fully complied with by the Republic of Indonesia.

RESOLUTION NO. 60,382-N.S.

AMENDING APPENDIX A OF RESOLUTION NO. 59,853-N.S. TO REMOVE THE FEDERAL REPUBLIC OF NIGERIA AND THE REPUBLIC OF INDONESIA FROM THE OPPRESSIVE STATES LIST

WHEREAS, the Council of the City of Berkeley adopted Resolution No. 59,853-N.S. to express support for a national foreign policy which places paramount importance on human rights by prohibiting the expenditure of public funds for personal services or for the procurement of goods or for deposit or investment; and

WHEREAS, the Peace and Justice Commission has determined that the foreign policy of the United States regarding the Federal Republic of Nigeria embodies an effective strategy for bringing about the democratic government for the people of Nigeria; and

WHEREAS, the Peace and Justice Commission has determined that the foreign policy of the United States embodies an effective strategy for bringing about East Timorese self-determination and independence in a referendum agreeable to, and supervised by, the United Nations, as called for in United Nations General Assembly Resolutions 31/53 of December 1, 1976, 32/34 of November 28, 1977, 33/39 of December 13, 1978, 34/40 of November 21, 1979, 35/27 of November 11, 1980, 36/50 of November 24, 1981, and 37/30 of November 23, 1982, as well as in United Nations Security Council Resolutions 384 of December 22, 1975 and 389 of April 22, 1976, which, together with United Nations Human Rights Commission Resolution 1997/63 of April 16, 1997, co-sponsored by the United States, must be fully complied with by the Republic of Indonesia.

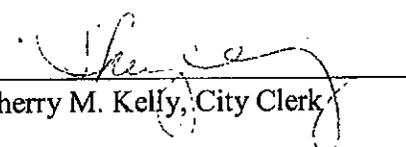
NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that Appendix A of Resolution No. 59,853-N.S. is hereby amended to remove the Federal Republic of Nigeria and the Republic of Indonesia from the Oppressive States List.

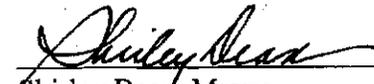
The foregoing Resolution was adopted by the Berkeley City Council on January 11, 2000 by the following vote:

Ayes: Councilmembers Breland, Maio, Olds, Shirek, Spring, Worthington and Mayor Dean.

Noes: None.

Absent: Councilmembers Armstrong and Woolley.

Attest: 
Sherry M. Kelly, City Clerk


Shirley Dean, Mayor

RESOLUTION NO. 70,606-N.S.

RESOLUTION TO REINSTATE BURMA (MYANMAR) ON BERKELEY'S OPPRESSIVE STATES LIST

WHEREAS, the Peace and Justice Commission advises the City Council on all matters relating to the City of Berkeley's role in issues of peace and social justice (Berkeley Municipal Code Chapter 3.68.070); and

WHEREAS, the Peace and Justice Commission mandate, as amended in 1990, includes Function K of BMC section 3.68.070: "Advise the City Council on matters relating to the responsible investment of public funds in accordance with the responsible investment policy established by Resolution No. 55,141A-NS;" and

WHEREAS, in 1990 the Berkeley City Council passed the Oppressive States Contract Prohibition (Res. 59,853-N.S.), banning contracts with companies doing business in several countries including Burma (Myanmar);¹ and

WHEREAS, in 2003 President George W Bush signed the Burma Freedom and Democracy Act (BFDA) into law, including a ban on all imports from Myanmar and imposed other sanctions; and.

WHEREAS, the Berkeley City Council therefore removed Burma from the Oppressive States list in deference to the federal action; and

WHEREAS, on June 10, 2008, the Berkeley City Council approved a series of resolutions proposed by the Peace and Justice Commission commending the people of Burma for 46 years of struggle against dictatorship, honoring the 20th anniversary of the 1988 popular uprising and declaring August 8 as "Burma Day," to be marked by raising Burmese freedom flags at Berkeley City Hall every August 8;² and

WHEREAS, in July 2012, the U.S. formally eased sanctions on Myanmar in response to a perceived democratization process, but between 2017 and 2021 the situation in Myanmar deteriorated, with 600,000 Rohingya refugees displaced, and finally State Counsellor Aung San Suu Kyi was overthrown and imprisoned in a military coup in February 2021, whereupon the U.S. gradually resumed aspects of the former sanctions regime; and

¹https://en.wikipedia.org/wiki/Myanmar%E2%80%93United_States_relations#:~:text=The%20political%20relationship%20between%20the,2007%2C%20further%20strained%20the%20relationship.

² "US City Declares August 8 'Burma Day,'" https://www2.irrawaddy.com/article.php?art_id=12680Day, "https://www2.irrawaddy.com/article.php?art_id=12680"

WHEREAS, the renewed sanctions grant an exception for investment in the Myanmar Oil and Gas Enterprises (MOGE), a partner of Chevron Corporation, prompting criticism from human rights groups including Human Rights Watch, which stated, “By allowing deals with Myanmar’s state-owned oil company, the U.S. looks like it caved to industry pressure and undercut Aung San Suu Kyi and others in Myanmar who are promoting government accountability;”³ and Chevron and Total own a majority controlling interest in a huge oil project that has generated billions of dollars for the regime;⁴ and

WHEREAS, since its 2021 coup that toppled Burma's democratic government, the terrorist Myanmar military council has killed more than 2,000 civilians including trade unionists and children, arrested more than 14,000, and displaced more than 1 million people; and

WHEREAS, in 2022, in a new wave of violence and impunity, the military council has publicly executed four democracy activists, and is planning to execute 41 more political prisoners; the dictatorship has also sentenced State Counsellor Aung San Suu Kyi to ten years in prison at hard labor and dismissed the international community's demand for peace talks, including what it has committed to under the ASEAN's five-point consensus;⁵ and

WHEREAS, credible allegations of crimes documented in the present and previous reports represent only a fraction of the violations and abuses that the people of Myanmar have had to endure since February 1, 2021. Patterns of arbitrary arrest and detention, of torture and other cruel, inhuman or degrading treatment or punishment and of killings, particularly in Yangon, Mandalay, Sagaing, Bago, Magway and Tanintharyi Regions, seem to indicate that individuals have been targeted for their political or professional affiliation or for exercising their political rights;⁶ and

WHEREAS, Burmese civil society is calling for the UN Credential Committee to re-elect U Kyaw More Tun the Ambassador from Burma to the UN;⁷ and.

³ “US to Invest in Burma’s Oil,” <https://www.rfa.org/english/news/myanmar/sanctions-07112012185817.html>

⁴ “Chevron, in partnership with Total, PTT, and Myanmar Oil and Gas Enterprise (MOGE), holds equity in one of the largest investment projects in Myanmar (Burma): the Yadana gas field and pipeline that has generated billions of dollars for the Myanmar military junta. Together, Total and Chevron have a majority controlling interest in the Yadana project. Since it seized power in the February 2021 coup d’etat, the Myanmar military now holds total control over MOGE,” Human Rights Watch, <https://www.hrw.org/news/2022/04/22/myanmar-aseans-failed-5-point-consensus-year>

⁵ “UN Security Council Calls For Five-point ASEAN Consensus To Cease Myanmar Crisis,” <https://www.republicworld.com/world-news/rest-of-the-world-news/un-security-council-calls-for-five-point-asean-consensus-to-cease-myanmar-crisis.html#:~:text=The%20ASEAN%20five-point%20consensus%20states%20that%20there%20should,peaceful%20solution%20in%20the%20interests%20of%20the%20people>

⁶ “Press briefing notes on Myanmar,” UN Office of the High Commissioner on Human Rights, March 16, 2021, <https://www.ohchr.org/en/taxonomy/term/762?page=16>

⁷ <https://specialadvisorycouncil.org/2022/09/united-nations-general-assembly-accept-credentials-nug/>; [https://actionnetwork.org/petitions/myanmar-for-u-kyaw-moe-tun](https://actionnetwork.org/petitions/myanmar-for-u-kyaw-moe-tun;);

WHEREAS, the UN Human Rights Council recently called on the international community to “Take immediate action to prevent the supply of arms to the military of Myanmar or other armed parties in the country, in accordance with the call made by the General Assembly, and apply other targeted sanctions on military and economic interests, as appropriate.”⁸

THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that the Council urges the U.S. Congress to require and President Joe Biden to extend sanctions to Myanmar’s state-owned oil company, Myanmar Oil and Gas Enterprises (MOGE), and any other state-owned companies in Myanmar; and to provide support for and recognize the Burma National Unity Government (NUG), formed by the representatives rightfully chosen in the 2020 elections.

BE IT FURTHER RESOLVED by the Council of the City of Berkeley that Council urge the U.S. Ambassador to the United Nations to ensure the continued representation of Burma by U Kyaw More Tun.

BE IT FURTHER RESOLVED by the Council of the City of Berkeley that the country of Burma (Myanmar) be reinstated on Berkeley’s Oppressive States list and be fully subject to the City’s Oppressive States Ordinance.

BE IT FURTHER RESOLVED that the City Clerk send a copy of this resolution to Berkeley’s congressional delegation, Senator Dianne Feinstein, Senator Alex Padilla, and Representative Barbara Lee, Representatives Jackie Speier and Ro Khanna, Secretary of State Antony Blinken, and U.S. Ambassador to the United Nations Linda Thomas-Greenfield.

The foregoing Resolution was adopted by the Berkeley City Council on November 15, 2022 by the following vote:

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

Noes: None.

Absent: None.


Jesse Arreguin, Mayor

Attest: 
Mark Numainville, City Clerk

<https://www.passblue.com/2022/09/13/the-un-general-assembly-must-fix-myanmars-muddled-representation-and-send-a-profound-message-to-the-junta/>;
<https://burmacampaign.org.uk/civil-society-calls-on-un-to-retain-myanmars-ambassador-u-kyaw-moe-tuns-accreditation-to-the-un/>

⁸ <https://www.ohchr.org/en/press-releases/2022/09/un-report-calls-urgent-action-halt-access-revenue-and-arms-supplies-myanmar>

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APPENDIX 3

**ORDINANCE NO. 6623 – N.S.
CHAPTER 13.29
PROVISION OF EQUAL BENEFITS TO
EMPLOYEES OF CITY CONTRACTORS**

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ORDINANCE NO. 6623-N.S.

AMENDING BERKELEY MUNICIPAL CODE TITLE 13 BY ADDING CHAPTER 13.29 ESTABLISHING A REQUIREMENT THAT SPECIFIED CITY CONTRACTORS PROVIDE EQUAL BENEFITS TO EMPLOYEES WITH SPOUSES AND EMPLOYEES WITH DOMESTIC PARTNERS AND TO THE SPOUSES AND DOMESTIC PARTNERS OF SUCH EMPLOYEES, INCLUDING PROCEDURE FOR ADMINISTRATION AND ENFORCEMENT, AND AUTHORIZING THE CITY MANAGER TO PROMULGATE REGULATIONS CONSISTENT HEREWITH

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

Section 1. That Chapter 13.29 is hereby added to the Berkeley Municipal Code to read as follows:

Chapter 13.29

PROVISION OF EQUAL BENEFITS TO EMPLOYEES OF CITY CONTRACTORS

Sections:

- 13.29.010 Title and Purpose.**
- 13.29.020 Definitions.**
- 13.29.030 Contractors Subject to the Requirements of this Chapter.**
- 13.29.040 Non-discrimination in Provision of Benefits Under this Chapter.**
- 13.29.050 Required Contract Provisions.**
- 13.29.060 Waivers and Exemptions.**
- 13.29.070 Retaliation and Discrimination Prohibited.**
- 13.29.080 Employee Complaints to City.**
- 13.29.090 Remedies.**
- 13.29.100 Effective Date.**
- 13.29.110 Severability.**

13.29.010 Title and Purpose.

This Ordinance shall be known as the "Berkeley Equal Benefits Ordinance." The purpose of this Ordinance is to protect the public health, safety and welfare by requiring that public funds be expended in such a manner as to prohibit discrimination in the provision of employee benefits by City contractors between employees with spouses and employees with domestic partners, and/or between domestic partners and spouses of such employees.

13.29.020 Definitions.

The following definitions shall apply throughout this Ordinance:

- A. "Contractor" shall mean any person or persons, firm, partnership, corporation, or combination thereof, who enters into a contract with the City.
- B. "Domestic Partner" shall mean any person who has a currently registered domestic partnership with a governmental body pursuant to state or local law authorizing such registration or with his or her employer or his or her domestic partner's employer.
- C. "Non-profit" shall mean a non-profit organization described in Section 501(c)(3) of the Internal Revenue Code of 1954 which is exempt from taxation under Section 501(c)(3) of that code, or any nonprofit educational organization qualified under Section 23701(d) of the Revenue and Taxation Code.

13.29.030 Contractors Subject to the Requirements of this Chapter.

A. The following Contractors are subject to this Chapter:

1. For-profit entities which enter into an agreement with the City for public works or improvements to be performed, or for goods or services to be purchased, for an amount of \$25,000 or more; and
2. Non-profit entities which enter into an agreement with the City for public works or improvements to be performed, or for goods or services to be purchased, for an amount of \$100,000 or more; and
3. Entities which generate \$350,000 or more in annual gross receipts and which occupy City property pursuant to a written agreement for the exclusive use or occupancy of said property for a term exceeding 29 days in any calendar year; and
4. Entities which receive a grant agreement for an amount of \$100,000 or more.

B. The requirements of this Chapter shall only apply to those portions of a Contractor's operations that occur (i) within the City; (ii) on real property outside the City if the property is owned by the City or if the City has a right to occupy the property, and if the Contractor's presence at that location is connected to a contract with the City; and (iii) elsewhere in the United States where work related to a City contract is being performed. The requirements of this Chapter shall not apply to subcontracts or subcontractors of any contract or Contractor.

13.29.040 Non-discrimination in Provision of Benefits Under this Chapter.

A. No Contractor subject to this Chapter pursuant to Section 13.29.030 shall discriminate in the provision of bereavement leave, family medical leave, health benefits, membership or membership discounts, moving expenses, pensions and retirement benefits or travel benefits or in the provision of any benefits other than bereavement leave, family medical leave, health benefits, membership or membership discounts, moving expenses, pensions and retirement benefits or travel benefits between employees with domestic partners and employees with spouses, and/or between the domestic partners and spouses of such employees, except as set forth in subsections 13.29.040(A)(1) and (2), below:

1. In the event that the Contractor's actual cost of providing a particular benefit for the domestic partner of an employee exceeds that of providing it for the spouse of an employee, or the Contractor's actual cost of providing a particular benefit for the spouse of an employee exceeds that of providing it for the domestic partner of an employee, the Contractor shall not be deemed to discriminate in the provision of employee benefits if the Contractor conditions providing such benefit upon the employee agreeing to pay the excess costs.

2. The Contractor shall not be deemed to discriminate in the provision of employee benefits if, despite taking reasonable measures to do so, the Contractor is unable to extend a particular employee benefit to domestic partners, so long as the Contractor provides the employee with a cash equivalent.

B. Provided that a Contractor does not discriminate in the provision of benefits between employees with spouses and employees with domestic partners, a Contractor may:

1. Elect to provide benefits to individuals in addition to employees' spouses and employees' domestic partners;
2. Allow each employee to designate a legally domiciled member of the employee's household as being eligible for spousal equivalent benefits; or
3. Provide benefits neither to employees' spouses nor to employees' domestic partners.

C. A Contractor will not be deemed to be discriminating in the provision of benefits where the implementation of policies ending discrimination in benefits is delayed following the first award of a City contract to a Contractor after the effective date of this Chapter:

1. Until the first effective date after the first open enrollment process following the date the contract with the City is executed, provided that the Contractor submits evidence that it is making reasonable efforts to end discrimination in benefits. This delay may not exceed two (2) years from the date the contract with the City is executed and only applies to benefits for which an open enrollment process is applicable.

2. Until administrative steps can be taken to incorporate nondiscrimination in benefits in the Contractor's infrastructure. The time allotted for these administrative steps shall apply only to those benefits for which administrative steps are necessary and may not exceed three (3) months. An extension of this time may be granted at the discretion of the City Manager upon the written request of a Contractor, setting forth the reasons that additional time is required.

3. Until the expiration of a Contractor's current collective bargaining agreement(s) where all of the following conditions have been met:

a. The provision of benefits is governed by one or more collective bargaining agreement(s); and
b. The Contractor takes all reasonable measures to end discrimination in benefits by either requesting that the Union(s) involved agree to reopen the agreement(s) in order for the Contractor to take whatever steps are necessary to end discrimination in benefits or by ending discrimination in benefits without reopening the collective bargaining agreement(s); and

c. In the event that the Contractor cannot end discrimination in benefits despite taking all reasonable measures to do so, the Contractor provides a cash equivalent to eligible employees for whom benefits are not available. Unless otherwise authorized, in writing by the City Manager, this cash equivalent payment must begin at the time the Union(s) refuse to allow the collective bargaining agreement(s) to be reopened, or in any case no longer than three (3) months from the date the contract with the City was executed. This cash equivalent payment shall not be required where it is prohibited by federal labor law.

D. Employers subject to this Chapter pursuant to Section 13.29.030 shall give written notification to each current and new employee of his or her potential rights under this Chapter in a form specified by the City. Such notice shall also be posted prominently in areas where it may be seen by all employees.

13.29.050 Required Contract Provisions.

Every contract subject to this Chapter shall contain provisions requiring it to comply with the provisions of this Chapter as they exist on the date when the Contractor entered the contract with the City or when such contract is amended. Such contract provisions may include but need not be limited to the Contractor's duty to promptly provide to the City documents and information verifying its compliance with the requirements of this Chapter and sanctions for non-compliance.

13.29.060 Waivers and Exemptions.

A. The City may waive the requirements of this Chapter where the City Manager makes one or more of the following findings:

1. Award of a contract or amendment is necessary to respond to an emergency;
2. The Contractor is a sole source;
3. No compliant Contractors are capable of providing goods or services that respond to the City's requirements;
4. The Contractor is a public entity;
5. The requirements of this Chapter are inconsistent with a grant, subvention or agreement with a public agency;
6. The City is purchasing through a cooperative or joint purchasing agreement;
7. The contract involves specialized litigation requirements such that it would be in the best interests of the City to waive the requirements of this Chapter, as determined by the City Attorney;
8. The contract involves investment of trust moneys or agreements relating to the management of trust assets, City moneys invested in U.S. government securities or under pre-existing investment agreements, or the investment of City moneys where no person, entity or financial institution doing business with the City which is in compliance with this Chapter is capable of performing the desired transactions or the City will incur a financial loss if the requirements of this Chapter are enforced;

9. After taking all reasonable measures to find an entity that complies with this Chapter, the City may waive any or all requirements of this Chapter for any contract or bid package advertised and made available to the public, or any competitive or sealed bids received by the City as of the effective date of this Ordinance under the following circumstances:

a. There are no qualified responsive bidders or prospective contractors who comply with this Chapter and the contract is for goods, a service or a project that is essential to the City or City residents; or

b. The requirements of this Chapter would result in the City's entering into a contract with an entity that was set up, or is being used for the purpose of evading the intent of this Chapter.

B. The requirements of this Chapter shall not be applicable to contracts executed or amended prior to the effective date of this Chapter, or to bid packages advertised and made available to the public, or any competitive or sealed bids received by the City prior to the effective date of this Chapter, unless and until such contracts are amended after the effective date of this Chapter and would otherwise be subject to this Chapter.

13.29.070 Retaliation and Discrimination Prohibited.

A. No employer shall retaliate or discriminate against an employee in his or her terms and conditions of employment by reason of the person's status as an employee protected by the requirements of this Chapter.

B. No employer shall retaliate or discriminate against a person in his or her terms and conditions of employment by reason of the person reporting a violation of this Chapter or for prosecuting an action for enforcement of this Chapter.

13.29.080 Employee Complaints to City.

A. An employee who alleges violation of any provision of the requirements of this Chapter may report such acts to the City. The City Manager may establish a procedure for receiving and investigating such complaints and take appropriate enforcement action.

B. The City shall have the power to examine Contractors' benefit programs covered by this Chapter.

C. Any complaints received shall be treated as confidential matters, to the extent permitted by law. Any complaints received and all investigation documents related thereto shall be deemed exempt from disclosure pursuant to California Government Code Sections 6254 and 6255.

13.29.090 Remedies.

A. Upon a finding by the City Manager that a Contractor has violated the requirements of this Chapter, the City shall have the rights and remedies described in this Section, in addition to any rights and remedies provided at law or in equity.

1. The City Manager shall be authorized to terminate said contract and bar the Contractor from bidding on future contracts with the City for five (5) years from the effective date of the contract termination; and

2. In the City Manager's sole discretion, a Contractor found to have willfully violated the requirements of this Chapter may be required to pay liquidated damages.

3. Reasonable attorneys' fees and costs.

B. An employee claiming violation of this Chapter may bring an action in the appropriate division of the Superior Court of the State of California against an employer and obtain the following remedies:

1. Reinstatement, injunctive relief, compensatory damages and punitive damages.

2. Reasonable attorneys' fees and costs.

C. Notwithstanding any provision of this Ordinance or any other ordinance to the contrary, no criminal penalties shall attach for any violation of this Chapter.

D. No remedy set forth in this Chapter is intended to be exclusive or a prerequisite for asserting a cause of action to enforce any rights hereunder in a court of law. This Chapter shall not be construed to limit an employee's right to bring a common law cause of action for wrongful termination.

E. Nothing in this Chapter shall be interpreted to authorize a right of action against the City.

13.29.100 Effective Date.

The provisions of this Chapter shall apply to any contract awarded on or after July 1, 2001.

13.29.110 Severability.

In the event any court of competent jurisdiction holds any provision of this Ordinance invalid or unenforceable, such holding shall not invalidate or render unenforceable any other provisions hereof.

13.29.120 Reserved.

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

At a regular meeting of the Council of the City of Berkeley, held on April 17, 2001 this Bill was passed to print and ordered published by posting by the following vote:

Ayes: Councilmembers Armstrong, Breland, Hawley, Maio, Olds, Shirek, Spring, Worthington and Mayor Dean.

Noes: None.

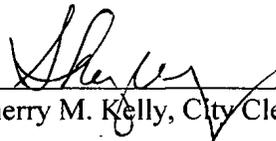
Absent: None.

At a regular meeting of the Council of the City of Berkeley held on April 24, 2001 this Ordinance was adopted by the following vote:

Ayes: Councilmembers Armstrong, Breland, Hawley, Maio, Olds, Shirek, Spring, Worthington and Mayor Dean.

Noes: None.

Absent: None.

ATTEST: 
Sherry M. Kelly, City Clerk


Shirley Dean, Mayor

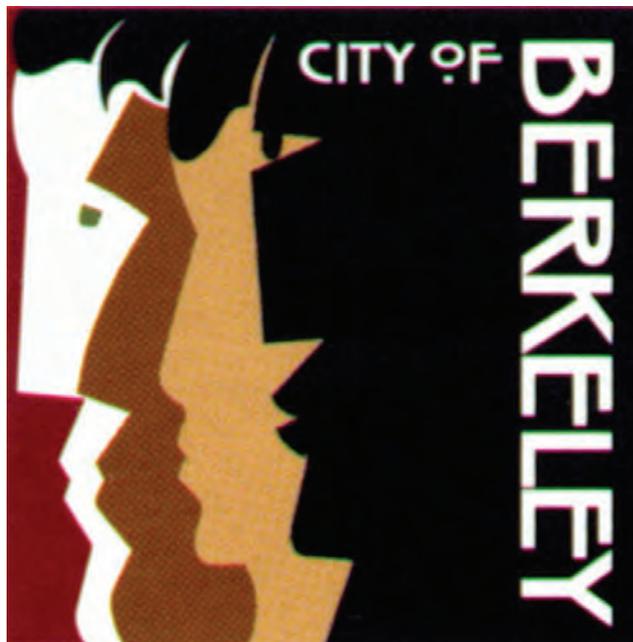
In effect: May 24, 2001

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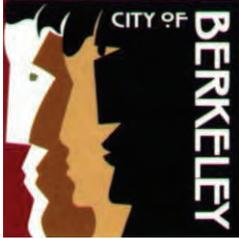
APPENDIX 4

CITY OF BERKELEY MONUMENT REFERENCING GUIDELINES

City of Berkeley Monument Reference Guidelines



**A guide to Monument Referencing in the City of Berkeley as required by
the Professional Land Surveyors' Act (Business and Professions Code)
Section 8771 et. seq.**



City of Berkeley Monument Reference Guidelines

May 13, 2019

GENERAL

City Monuments consist of many different kinds of physical objects but regardless of the specific description of the object deemed to be a City Monument, the actual physical location must be accurately preserved.

STANDARD PRACTICE

Standard Practices detailed below are to be followed when referencing a City of Berkeley Monument.

FIELD PRACTICES

Whenever a monument appears to be threatened with removal or disturbance, the monument must be referenced, both horizontally and vertically, by or under the direction of a licensed land surveyor or civil engineer legally authorized to practice land surveying in the State of California. For each monument referenced, a minimum of four (4) reference points must be set and tagged with the appropriate license number of the land surveyor or civil engineer. All reference points shall be durable and have a known location relative to the monument so that the monument can be accurately replaced from the references. When available, sound concrete is the best site for setting reference points. Brass or bronze disks, Mag Nails (or similar concrete nail) with washers, surveyor's nails & tags, etc., should be used in those cases where the reference can be set on sound concrete curb, gutter, sidewalk, wall, etc. In no case shall lead be used as any part of the reference point. The important criteria are that any concrete structure meets the following basic tests:

1. Good condition (not cracked, lowered or raised as compared to the adjacent concrete, or otherwise damaged);
2. Accessible for setup, not blocking traffic and preferably on public right of way. If a reference point must be set outside the public right of way, permission to do so must be acquired by the surveyor performing the referencing. The City of Berkeley, by promulgation of these standards, is not giving permission to perform any task on private property;
3. Positioned to survive the conditions that put the original monument at risk, such as a street rehabilitation

project, a sanitary sewer rehabilitation project, etc.;

4. Positioned to survive any foreseeable (as evidenced by a visual inspection of the site) construction such as curb ramp construction/replacement, curb replacement, sidewalk replacement, utility relocation, etc. The City of Berkeley has a strong commitment to insuring accessibility throughout the City. Existing curb ramps are frequently replaced with code compliant curb ramps with truncated domes. Damaged sidewalks and curbs are replaced as well. Additionally the City commonly installs curb ramps at crosswalks where none currently exist, therefore those locations shall be avoided when placing reference points;
5. The primary consideration in choosing the placement of a reference point shall be to assure its safety and stability in perpetuity. For example, no reference point should be set near any trees with roots likely to raise or damage the surface upon which the reference point has been set.

If no suitable concrete is available, a metal bar or pipe, with a tagged cap or plug, may be used provided that it is set flush in sound soil or pavement. Setting metal bars or pipes has the possibility of damaging subsurface infrastructure. It shall be the duty of the surveyor performing the referencing to assure that the site is properly evaluated for subsurface infrastructure. Sole responsibility for any resulting damage thereto shall be borne by the surveyor responsible for the damage. No reference point shall be set on private property without the surveyor performing the referencing first obtaining permission from the property owner.

DOCUMENTATION

Within two (2) weeks of the completion of any monument referencing, a Corner Record for each monument referenced shall be filed with Alameda County, and copies of the signed sealed submittals of the Corner Record(s) shall be provided to the City of Berkeley, Public Works Department, Engineering Division, Survey Section.

CORNER RECORD MONUMENT AND REFERENCE POINT CONDITIONS AND DESCRIPTIONS

Corner Records shall include a detailed description of the monument referenced and reference points set:

1. Description of monument character and setting (2" brass disc stamped CITY OF BERKELEY UNLAWFUL TO DEFACE in monument well, 3/4" brass pin in monument well, 1" square iron bar in monument well, 1-1/2" iron pipe in soil, etc.);
2. Description of monument reference point character and setting (1" brass disc stamped LS ##### in concrete, mag nail & washer stamped LS ##### in top of curb, nail & tag LS ##### in concrete walk, rebar & cap LS ##### in asphalt pavement, etc.);
3. Labeled with the official City of Berkeley monument designation (B#####);
4. North arrow and graphic scale;
5. Note pertaining to the method used for establishing the reference point elevations.

UNACCEPTABLE REFERENCE POINTS

In no case will lead, or any other material that may cause harm, be used in any portion of the referencing process. Sole responsibility for the removal of such products and any harm they cause will be borne by the surveyor responsible for using the product in the referencing process.

Cut crosses, scribed lines, permanent marker, paint, wood hubs, etc., due to their limited lifecycle, may not be used as a reference point.

No reference point may be set on any fire hydrant or similarly temporary fixture.

VERTICAL REFERENCE POINTS

When performing the vertical referencing of a monument, differential leveling practices shall be used. The Corner Record shall include a minimum of four (4) vertical reference points. It is preferable that the horizontal reference points also be used for the vertical referencing.

All vertical references shall be based on a value and datum provided by the City of Berkeley, Public Works Department, Engineering Division, Survey Section, at the time of the request for referencing. Note that the value associated with any control point in the City's vertical and horizontal network is subject to change as the City periodically recalculates its position.

APPENDIX 5

**RESOLUTION NO. 70,926 – N.S.
CONTRACT: COMMUNITY WORKFORCE AGREEMENT WITH
BUILDING TRADES COUNCIL ET. AL. FOR CONSTRUCTION
PROJECTS OVER \$500,000**

RESOLUTION NO. 70,926-N.S.

CONTRACT AMENDMENT: COMMUNITY WORKFORCE AGREEMENT EXTENSION WITH BUILDING AND CONSTRUCTION TRADES COUNCIL ET AL. FOR CONSTRUCTION PROJECT AT OR ABOVE \$500,000

WHEREAS, since its January 18, 2011 adoption, the Community Workforce Agreement (hereafter CWA) has incorporated community interests by providing Berkeley residents access to quality union jobs with better standards for pay and benefits; and

WHEREAS, by Resolution No. 65,157-N.S. on January 18, 2011, Council approved the CWA for a term of three years and authorized the City Manager to execute the Agreement with the Alameda County Building and Construction Trades Council, AFL-CIO and twenty-two labor organizations regarding the provision of union labor to City construction projects in excess of \$1 million dollars; and

WHEREAS, on May 15, 2012, City Council maintained the CWA's \$1 million dollar threshold for publicly-funded construction projects for an additional twelve months; and

WHEREAS, on June 23, 2015, Council approved Resolution No. 67,111-N.S. reducing the threshold from \$1 million to \$500,000, with that threshold continuing to be based on the engineer's estimate and authorizing the City Manager to extend the then-current CWA for three years; and

WHEREAS, on January 23, 2018, and December 15, 2020, City Council again authorized the City Manager to extend the CWA, the latter extension until June 30, 2023; and

WHEREAS, the CWA will support the efforts of the City to increase employment opportunities for Berkeley residents, including youth, through apprenticeship and pre-apprenticeship programs; and

WHEREAS, the CWA helps to provide for peaceful settlement of labor disputes and grievances without strikes or lockouts, thus promoting the public interest in assuring the timely and economical completion of the projects.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that the City Manager is authorized to execute a contract amendment with the Building Trades Council and twenty-two labor organizations regarding the provision of labor to construction projects in Berkeley with an estimated value in excess of \$500,000 for a three-year term that will expire June 30, 2026.

The foregoing Resolution was adopted by the Berkeley City Council on June 27, 2023 by the following vote:

Ayes: Bartlett, Hahn, Harrison, Humbert, Kesarwani, Robinson, Taplin, Wengraf, and Arreguin.

Noes: None.

Absent: None.



Jesse Arreguin, Mayor

Attest: 

Mark Numainville, City Clerk



- **Local Workforce Hiring Goals**

The City of Berkeley's local workforce-hiring goal is 20% of craft hours worked, on a craft by craft basis on locally funded projects. City Staff will provide a template to be used by the general contractor (GC) for reporting the summary of the total work hours and total number of Berkeley residents, this report is to be submitted with each certified payroll (CP), including CP for each subcontractor. GC can compile the report for the subcontractors or can require each sub to prepare their own report. Please include documentation detailing efforts to meet the local hire goals, i.e., dispatch requests to the unions. Please note the GC is responsible for the local hire component for the entire project. This report will be reviewed by the Joint Administrative Committee (JAC) to monitor compliance of the local workforce hiring goals. The JAC may periodically request contractors to attend a JAC meeting to describe and discuss their local hire efforts. GC and the subs are strongly encouraged to utilize the city-funded pre-apprenticeship program, Rising Sun Energy Center, for the hiring of Berkeley residents on the projects. Rising Sun staff will work closely with the trades and the contractor to facilitate the hiring of the program graduates for entry into the trades. City staff will conduct periodic interviews of workers throughout the project.

- **Certified Payrolls**

Contractors are required to submit certified payrolls (CP) on a monthly basis to the Public Works Project Manager. The monthly report described above shall reflect the information provided on the Certified Payrolls. Address & trade for each worker must be included in Certified Payroll and is subject to verification by City staff. Please redact Social Security Numbers from CP prior to sending to city staff. When submitting CP, please attach any documentation pertinent to your good faith efforts, such as dispatch requests & union hall responses to those requests.

- **Core (Regular, experienced) Employees**

A non-signatory contractor may use up to five (5) of its own "core" employees provided that the first worker hire comes from the union, second worker is "core", third worker from the union, fourth worker is "core", and so forth. The contractors' worker must comply with the Union Hall's registration process; the contractor and subcontractor may request by name, and the local will honor, referral of the core employee(s) who have applied to the local union hall for work on the project and who demonstrate the following qualifications: 1) possess any license required by state or federal law, 2) have worked at least 1,000 hours in the construction craft during the prior three years, 3) have been on the Contractor's active payroll for at least sixty (60) out of the one hundred and eighty (180) hours in the calendar year immediately prior to contract award, 4) must have the ability to safely perform the basic functions of the applicable trade, and 5) must reside in Berkeley.

- **Hiring Plan**

A hiring plan is to be submitted prior to the Notice to Proceed date, with the understanding that the workforce may change during the project. The hiring plan is used as baseline information, with the monthly workforce utilization reports, certified payroll and dispatch request documentation serving as confirmation of good faith efforts to hire locally.

- **Apprentices**

Consistent with the requirements of California Labor Code § 1776, 1777.5 and 1777.6, contractors and their subcontractors are required to hire at least one Berkeley resident as a First Period Apprentice for \$500,000 or more of total bid amount, thereafter, for every five million dollars of the total bid amount the Prime Contractor and their subcontractors are required to hire one additional first period apprentice. Berkeley residents that participate in local workforce development programs will be screened and referred for the apprenticeship opportunities, city staff, union halls & training programs will facilitate this process.



BIDDING & CONTRACTING UNDER THE COMMUNITY WORKFORCE AGREEMENT (CWA)

- **California Prevailing Wages**

All construction workers will be paid prevailing wages as determined by the State of California. Benefits are the established labor-management vacation, pension or other form of deferred compensation plan, apprenticeship and health benefit funds for each hour worked. Any local collectively bargained wage and/or fringe benefit increase shall be recognized on the date on which they become effective.

- **Agreement to be Bound**

All general contractors and all sub-contractors, including trucking, and regardless of tier, must sign an *Agreement to be Bound* to the CWA. This agreement binds the contractor to the terms of the CWA for the awarded project only. It does not bind any contractor to a union agreement for any other project.

- **Pre-Job Conference**

Prior to start of construction, the successful general contractor and all subcontractors are required to attend a pre-job conference with the affected Building & Construction Trades Council. The Pre-Job request form shall include subcontractor information including scopes of work. The Agreements to be Bound shall be submitted **prior** to the Pre-job Conference. General Contractor and subcontractors will make craft/trade work assignments at this meeting. Should any union disagree, it may follow the established jurisdictional dispute resolution process provided in the Community Workforce Agreement. The pre-job conference may be held via conference call arranged by the building trades, city staff will also participate in the pre-job conference.

- **Joint Administrative Committee**

This Committee shall be comprised of up to two (2) representative selected by the City; up to two (2) representatives of the signatory Unions and Alameda County Building and Construction Trades Council; and one (1) contractor representative, mutually selected by the City and the Alameda County Building and Construction Trades Council. Each representative shall designate an alternate who shall serve in his or her absence for any purpose contemplated by this Agreement. The Joint Administrative Committee shall meet regularly to review the implementation of the Agreement and the progress of the Projects including, but not limited to, compliance with Article 8, prevailing wage, safety, craft workforce levels and construction progress. The JAC may contact the Contractor and/or their subcontractors in writing to request their presence at a JAC meeting to describe good faith efforts throughout the project or at the end of a project.

CWA Administration

*Department of Health, Housing and
Community Services
2180 Milvia Street, 2nd floor
Berkeley, CA 94704
localhire@cityofberkeley.info*

CITY OF BERKELEY

COMMUNITY WORKFORCE AGREEMENT

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COMMUNITY WORKFORCE AGREEMENT
For the
City of Berkeley

This Agreement is made and entered into retroactively from July 1, 2020, by and between the City of Berkeley (“City”) together with other contractors and/or sub-contractors, who shall become parties to this Agreement by signing the “Agreement to be Bound” (Attachment A), and the Local Unions signatory hereto and the Alameda County Building & Construction Trades Council (“Council”) and its affiliated local unions who have executed this Agreement.

PURPOSE

The purpose of this Agreement is to support the efforts of the City to increase employment opportunities for workers who reside in Berkeley, to help increase training and employment opportunities for Berkeley residents in the construction trades through apprenticeship and pre-apprentice programs as the students graduate from the City's schools, to promote efficiency of construction operations performed for and within the City of Berkeley and to provide for peaceful settlement of labor disputes and grievances without strikes or lockouts, thereby promoting the public interest in assuring the timely and economical completion of the projects.

RECITALS

WHEREAS, the successful completion of the City's construction projects is of the utmost importance to the City of Berkeley; and

WHEREAS, the interests of the general public, the City, the Unions and Contractor(s) would be best served if the construction work proceeded in an orderly manner without disruption because of strikes, sympathy strikes, work stoppages, picketing, lockouts, slowdowns or other interferences with work; and

WHEREAS, the Contractor(s) and the Unions desire to mutually establish and stabilize wages, hours and calendar conditions for the workers employed on construction work for and within the City of Berkeley by the Contractor(s), and further, to encourage close cooperation among the Contractor(s) and the Union(s) to the end that a satisfactory, continuous and harmonious relationship will exist among the parties to this Agreement; and

WHEREAS, contracts for construction work within the City of Berkeley will be awarded in accordance with the applicable provisions of the Charter of the City of Berkeley, the California State Public Contract Code and the Labor Code, including but not limited to requiring competitive bidding and prevailing wages; and

WHEREAS, the City of Berkeley has the absolute right to select the lowest responsive and responsible bidder for the award of the construction contracts on the Projects; and

WHEREAS, the parties signatory to this Agreement pledge their full good faith and trust to work towards a mutually satisfactory completion of the Projects;

NOW, THEREFORE, IT IS AGREED BETWEEN AND AMONG THE PARTIES HERETO, AS FOLLOWS:

ARTICLE 1 **DEFINITIONS**

1.1 "Agreement" means this Community Workforce Agreement.

1.2 "Berkeley Resident" means any individual who is a current resident of Berkeley can certify through a utility bill, or other similar means acceptable to the parties to this Agreement that the individual resides within the boundaries of the Berkeley City Limits.

1.4 "City" means the City of Berkeley.

1.5 "Completion" means that point at which the City accepts a project at issue by filing a Notice of Completion, or as otherwise provided by applicable state law. "Punch list" items and any other work within the scope of this Agreement not completed prior to commencement of revenue service shall nonetheless be included within the scope of this Agreement. It is understood by the parties that portions of the Projects may be completed in phases and Completion of any such phase may occur prior to Completion of the Projects.

1.6 "Contractor(s)" and/or "Subcontractor(s)" means any individual, firm, partnership or corporation, or combination thereof, including joint ventures, which is an independent business enterprise and has entered into a contract with the City or any of its contractors or subcontractors of any tier, with respect to the construction work necessary for any part of the Projects. This shall include subcontractors not required to be listed in the bid documents. As applicable depending on its context, "Contractor" shall refer to Contractor or Contractor and Subcontractor.

1.7 "Construction Contract(s)" means all of the contract(s) for construction of any of the Projects.

1.8 "Council" means the Alameda County Building and Construction Trades Council, AFL-CIO.

1.9 "New Apprentice" is a Berkeley Resident who is enrolled in a State of California approved apprenticeship program that is a joint labor management apprentice program for no more than twenty-four months

1.11 "Projects" mean any construction project of the City whose value as estimated by the City meets or exceeds \$500,000 (Five hundred thousand) dollars.

1.12 "Union" or "Unions" means the Council and any other labor organization signatory to this Agreement, acting on their own behalf and on behalf of their respective affiliates and member organizations whose names are subscribed hereto and who have through their officers executed this Agreement.

1.13 "Project Manager" means the person or persons or business entity designated by the City to oversee all phases of construction on the Projects.

1.14 "Master Labor Agreement" or "MLA" shall mean the collective bargaining agreement of each craft Union that is Signatory to this Agreement

1.15 "Calendar Day" shall mean any day, relating to any day of the week including Saturday, Sunday and public holidays.

1.16 "Apprenticeship Program" -Recognizing the need to develop adequate numbers of competent workers in the construction industry, the Contractor(s)/Employer(s) shall employ apprentices of a California State-approved Joint Apprenticeship Program in the respective crafts to perform such work as is within their capabilities and which is customarily performed by the craft in which they are indentured.

The apprentice ratios will be in compliance with the applicable provisions of the applicable "Master Labor Agreement".

ARTICLE 2

SCOPE OF AGREEMENT

21 Parties: This Agreement shall apply and is limited to all Contractors and subcontractors performing Construction Contracts necessary for the Projects, the City, the Council and any other labor organization signatory to this Agreement, acting in their own behalf and behalf of their respective affiliates and member organizations whose names are subscribed hereto and who have through their officers executed this Agreement.

22 Project Description: This Agreement shall govern the award of all of the Construction Contracts identified by the City as part of the Projects. The City has the absolute right to combine, change, consolidate, suspend or cancel Construction Contract(s) or portions of Construction Contract(s) identified as part of the Projects. Should the City suspend or remove any contract from the Projects and thereafter authorize that construction work be commenced on such contract, then such contract shall be performed under the terms of this Agreement. Once a Construction Contract is completed it is no longer covered by this Agreement except when a Contractor is directed to engage in repairs, warranty work or modifications required by its

Construction Contract with the City. For the purposes of this Agreement, a Construction Contract shall be considered Completed as set forth in Section 1.5 of this Agreement.

23 Covered work:

2.3.1 This Agreement covers, without limitation, all on-site construction, demolition, alteration, painting or repair of buildings, structures, landscaping, temporary fencing and other works and related activities for the Projects that is within the craft jurisdiction of one of the Unions and that is part of the Projects, including, without limitation, pipelines, site preparation, survey work, demolition of existing structures and all construction, demolition or improvements required to be performed as a condition of approval by any public agency. This scope of work includes all soils and materials testing and inspection where such testing and inspection is a classification in which a prevailing wage determination has been published.

2.3.2 The Projects include work necessary for the Projects and/or in temporary yards or areas adjacent to and dedicated to the Projects, and at any on-site batch plant(s) constructed solely to supply materials to the Projects, when those sites are dedicated exclusively to the Projects. This Agreement covers all on-site fabrication work over which the City, Contractor(s) or subcontractor(s) possess the right of control (including work done for the Projects in any temporary yard or area established for the Projects.)

2.3.3 The furnishing of supplies, equipment or materials which are stockpiled for later use shall in no case be considered subcontracting. Construction trucking work, such as the delivery of ready-mix, asphalt, aggregate, sand or other fill material which are directly incorporated into the construction process as well as the off-hauling of debris and excess fill material and/or mud, shall be covered by the terms and conditions of this Agreement, to the fullest extent provided by law and by prevailing wage determinations of the California Department of Industrial Relations. Employers, including brokers, of persons providing construction trucking work shall provide certified payroll records to the City within ten (10) calendar days of written request or as required by bid specifications.

24 Exclusions: The following shall be excluded from the scope of this Agreement:

2.4.1 This Agreement is not intended to, and shall not affect or govern the award of public works contracts by the City which are outside the identified scope of work of the Projects.

2.4.2 This Agreement is not intended to, and shall not affect the current or anticipated operation, maintenance, access or use of any of the City's buildings or facilities, whether or not such facilities are identified in Section 1.7 above.

2.4.3 This Agreement shall not apply to a Contractor or subcontractor's executives, managerial employees, engineering employees, design employees, supervisors (except

those covered by existing building and construction trades collective bargaining agreements), office and clerical employees.

2.4.4 This Agreement shall not apply to any work performed on or near or leading to the site of work covered by this Agreement that is undertaken by state, county or other governmental bodies or their contractors; or by public or private utilities or their contractors; or by the City or its contractors for work not part of the scope of the Projects. Parties performing work shall notify in writing, The Council and The District of any work being performed near or leading to the site work that is not covered by this agreement. Further, this Agreement shall not be construed to prohibit or restrict the City or its employees from performing work on or around the Project construction sites or from entering the sites for any purposes deemed necessary or appropriate by the City.

2.4.5 This Agreement shall not apply to the off-site maintenance of leased equipment or the on-site supervision of such work.

2.4.6 This Agreement shall not apply to any start-up, calibration, performance testing, repair, maintenance, operational revisions to systems and/or subsystems performed after Completion.

2.5 Termination, Suspension and/or Delay of Work: It is understood and agreed that the City, at its sole option, may change, terminate, delay and/or suspend any and all portions of the covered work at any time. Further, the City may prohibit some or all work on certain days or during certain hours of the day to comply with applicable codes, laws or regulations, permits or to accommodate the ongoing operations of the City's facilities and/or to mitigate the effect of the ongoing Projects' work on the businesses and residents in the neighborhood of the Project sites; and/or require such other operational or schedule changes that it may be deemed necessary, in its sole judgment, to effectively maintain the primary purpose of the City's facilities and to remain a good neighbor to the residents and businesses in the area of any Projects. In order to permit the Contractors and Unions to make appropriate scheduling plans, the City will provide the affected Contractor and Union(s) with reasonable notice of any changes it requires pursuant to this Section.

2.6 Work covered by this Agreement within the following craft jurisdictions shall be performed under the terms of their National Agreements as follows: the NTL Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, and the National Agreement of Elevator Constructors, and any instrument calibration work and loop checking shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control Technicians, with the exception that Articles 4, 8, 12 and 13 of this Agreement shall apply to such work.

ARTICLE 3

EFFECT OF AGREEMENT/SUBCONTRACTORS

3.1 By executing this Agreement, the Unions and the City agree to be bound by each and every provision of this Agreement.

3.2 By accepting the award of a Construction Contract for the Projects, whether as contractor or subcontractor at any tier, the Contractor/Subcontractor agrees to be bound by each and every provision of this Agreement.

3.3 This Agreement shall only be binding on the signatory parties hereto and shall not apply to the parents, affiliates, subsidiaries, or other ventures of any other party.

3.4 It is understood that this Agreement, together with the referenced MLA , constitute an integrated, self-contained, stand-alone agreement, and that by virtue of having become bound to this Agreement, the Contractor will not be obligated to sign any other local, area, or national agreement as a condition of performing work within the scope of this Agreement. In addition, it is understood and agreed that all grievances and disputes involving the interpretation or application of this Agreement, including the MLA, shall be resolved according to the procedures set forth in Article 12 of this Agreement; provided, however, that should a dispute involve a single MLA and a Contractor signatory thereto, and not involve interpretation or application of this Agreement, then such dispute shall be processed and resolved pursuant to the grievance provisions of that MLA. Should there be a dispute in the first instance as to whether the provisions of Article 12 of this Agreement or the grievance procedures of a MLA apply, the dispute shall be presented initially to arbitrator Judge William Cahill or, if unavailable, arbitrator Earnest Brown, for resolution as to the applicable procedure. Such referral of a dispute as to the applicable procedures shall be done by an immediate conference call among the parties and the arbitrator, and heard and decided within three (3) calendar days. Should the arbitrator hold that Article 12 applies, the parties may, by mutual agreement, submit the issue to the same arbitrator pursuant to the provisions of Article 12, or, absent mutual agreement, commence processing the dispute at Step 1 of that Article.

3.5 Subcontractors. At the time that any Contractor enters into a subcontract with any subcontractor of any tier for the performance of construction or construction trucking work within the scope of this Agreement, the Contractor shall provide a copy of this Agreement, as it may from time to time be modified by the negotiating parties, to said subcontractor and shall require the subcontractor as a part of accepting an award of a construction subcontract to agree to be bound by each and every provision of the Agreement prior to the commencement of work.

3.5.1 Each Contractor and Subcontractor shall evidence their agreement to be bound to this Agreement by executing the Agreement To Be Bound form attached hereto as Appendix A. A copy of the Agreement To Be Bound executed by the Contractors and Subcontractors shall be submitted to the Union(s) prior to both the commencement of work and the Pre-Job Conference and will be a required submittal within the City's bid packages. If the Contractor or Subcontractor refuses to execute the Agreement To Be

Bound, then such Contractor or Subcontractor shall not be awarded a Construction Contract to perform work on the Projects. A Contractor or Subcontractor who executes the Agreement to Be Bound shall be considered a signatory party to this Agreement.

36 It is understood that the liability of each Contractor and Subcontractor and the liability of each Union under this Agreement shall be several and not joint. The Unions agree that this Agreement does not have the effect of creating any joint employment status between or among the City and/or any Contractor or Subcontractor.

37 With regard to any Contractor or subcontractor that is independently signed to any MLA, this Agreement shall in no way supersede or prevent the enforcement of any subcontracting clause contained in such MLA, except as specifically set forth in section 3.7.1 of this Agreement. Any such subcontracting clause in a MLA shall remain and be fully enforceable between each craft union and its signatory employers and no provision of this Agreement shall be interpreted and/or applied in any manner that would give this Agreement precedence over subcontracting obligations and restrictions that exist between craft Unions and their respective signatory employers under a MLA, except as specifically set forth in section 3.7.1 in this Agreement. To the extent that the provisions of this Agreement are inconsistent with any other provisions contained in a MLA, the provisions of this Agreement shall prevail

3.7.1 If a craft Union (“Aggrieved Union”) believes that an assignment of work on this Project has been made improperly by a Contractor or subcontractor, even if that assignment was as a result of another craft Union’s successful enforcement of the subcontracting clause in its MLA, as permitted by section 3.7 of this Agreement, the Aggrieved Union may submit a claim under the jurisdictional dispute resolution procedure contained in Article 13 of this Agreement and the decision rendered as part of that process shall be enforceable to require the Contractor or subcontractor that made the work assignment to assign that work prospectively to the Aggrieved Union. An award made to a craft Union under the subcontracting clause of its MLA, as permitted under section 3.7 of this Agreement, shall be valid and fully enforceable by that craft Union unless it conflicts with a jurisdictional award made pursuant to Article 12 of this Agreement. If the award made under MLA conflicts with the jurisdictional award, the award of any damages under the former shall be null and void *ab initio*.

ARTICLE 4

WORK STOPPAGES, STRIKES, SYMPATHY STRIKES, JURISDICTIONAL DISPUTES AND LOCKOUTS

4.1 The Unions, City and Contractor agree that for the duration of the Projects:

4.1.1 There shall be no strikes, sympathy strikes, work stoppages, picketing, hand-billing or otherwise advising the public that a labor dispute exists, or slowdowns of any kind, for any reason, by the Unions or construction persons employed on the Projects, at a job site of the Projects or at any other facility of the City because of a dispute on the Projects. Nor shall the Unions or construction persons employed on the Projects participate in any strikes, sympathy strikes, work stoppages, picketing, hand billing,

slowdowns, or otherwise advising the public that a labor dispute exists at a Project jobsite because of a dispute between Unions and Contractor(s) on any other project.

4.1.2 As to construction persons employed on the Projects, there shall be no lockout of any kind by a Contractor covered by this Agreement. It shall not be a violation of this Article if a Contractor or Subcontractor (1) suspends or terminates a portion of the Project work or (2) discharges an employee for just cause.

4.1.3 If a MLA between a Contractor and the Union expires before the Contractor completes the performance of a Construction Contract and the Union or Contractor gives notice of demand for a new or modified MLA, the Union agrees that it will not strike, picket, hand-bill, slowdown or engage in any other disruptive activity against the Contractor and the Contractor will not lockout construction persons of the Union on said Construction Contract for work covered under this Agreement and the Union and the Contractor agree that the expired MLA shall continue in full force and effect for work covered under this Agreement until a new or modified MLA is reached between the Union and Contractor. If the new or modified MLA reached between the Union and Contractor provides that any terms of the new MLA shall be retroactive, the Contractor agrees to comply with any retroactive terms of the new or modified MLA which are applicable to construction persons employed on the Projects within seven (7) calendar days.

4.2 A party to this Agreement shall institute the following procedure, prior to invoking any other action at law or equity when a breach of this Article 4 is alleged to have occurred:

4.2.1 A party invoking this procedure shall notify, by the most expeditious means available, with notice by facsimile, electronic mail or telephone to the City, to the party alleged to be in violation, to the Council and to the involved local Union if a Union is alleged to be in violation.

4.2.2 Upon receipt of said notice, the City will contact the designated permanent arbitrator, Judge William Cahill, or if unavailable, his alternate Ernest Brown, who shall attempt to convene a hearing within twenty-four (24) hours if it is contended that the violation still exists.

4.2.3 The Arbitrator shall notify the parties by facsimile, electronic mail or telephone of the place and time for the hearing. Said hearing shall be completed in one session, which, with appropriate recesses at the arbitrator's discretion, shall not exceed twenty-four (24) hours unless otherwise agreed upon by all parties. A failure of any party to attend said hearings shall not delay the hearing of evidence or the issuance of any award by the arbitrator.

4.2.4 The sole issue at the hearing shall be whether or not a violation of Article 4, Section 4.1 of this Agreement has occurred. The arbitrator shall have no authority to consider any matter of justification, explanation or mitigation of such violation or to

award damages, which issue is reserved for court proceedings, if any. The award shall be issued in writing within three (3) hours after the close of the hearing, and may be issued without a written opinion. If any party desires a written opinion, one shall be issued within fifteen (15) calendar days, but its issuance shall not delay compliance with or enforcement of the award. The arbitrator may order cessation of the violation of this Article 4 and other appropriate relief and such award shall be served on all parties by hand or registered mail upon issuance.

4.2.5 Such award may be enforced by any Court of competent jurisdiction upon the filing of this Agreement and all other relevant documents referred to above in the following manner. Written notice of the filing of such enforcement proceedings shall be given to the other party. In the proceeding to obtain a temporary order enforcing the arbitrator's award as issued under Section 4.2.4 of this Article 4, all parties waive the right to a hearing and agree that such proceedings may be ex parte. Such agreement does not waive any party's right to participate in a hearing for a final order or enforcement. The Court's order or orders enforcing the arbitrator's award shall be served on all parties by hand or delivered by certified mail.

4.2.6 Any rights created by statute or law governing arbitration proceedings inconsistent with the above procedure or which interfere with compliance are waived by the parties.

4.2.7 The fees and expenses of the arbitrator shall be divided equally between the party instituting the arbitration proceedings provided in this Article and the party alleged to be in breach of its obligations under this article.

4.3 Liquidated Damages. If the arbitrator determines that a violation of Section 4.1 has occurred, the breaching party shall, within eight (8) hours of the issuance of the decision take all steps necessary to immediately cease such activities and return to work. If the breaching party involved does not cease such activities by the beginning of the next regularly scheduled shift following the expiration of the eight (8) hour period after the arbitrator's issuance of the decision, then the breaching party shall pay the sum of ten thousand dollars (\$10,000) as liquidated damages to the City per shift until the breach is remedied. The arbitrator shall retain jurisdiction for the sole purpose of determining compliance with this obligation and determining the amount of liquidated damages, if any; but such retention shall not prevent the moving party from seeking judicial enforcement of the initial decision.

ARTICLE 5

PRE-JOB CONFERENCE

5.1 A mandatory pre-job conference shall be held prior to the commencement of each Construction Contract. Such conference shall be attended by a representative each from the participating Contractor(s) and Union(s) and the Project Manager. All efforts will be made to hold the pre-job conference in sufficient time to ensure all parties the ability to properly raise and resolve any issue that may arise out of such meeting, with a

goal that such conferences will be held at least 21 work days before the work commences.

ARTICLE 6

NO DISCRIMINATION

6.1 The Contractors and Unions agree not to engage in any form of discrimination on the ground of or because of race, color, creed, national origin, ancestry, age, religious or political affiliation, gender, sexual orientation or disability against any person, or applicant for employment on the Projects.

ARTICLE 7

UNION SECURITY

7.1 The Contractors recognize the Union(s) as the sole bargaining representative of all construction persons working within the scope of this Agreement.

7.2 All construction persons who are employed by the Contractor(s) shall, as a condition of employment, on or before the eighth (8th) day of consecutive or cumulative employment on the Projects, be responsible for the payment of the applicable monthly working dues and any associated fees uniformly required for union membership in the applicable local union which is signatory to this Agreement. Further, there is nothing in this Agreement that would prevent non-union construction persons from joining the local union.

ARTICLE 8

REFERRAL AND LOCAL HIRE PROGRAM

8.1 Referral

8.1.1 Contractor (s) performing construction work on the Projects described in the Agreement shall, in filling craft job requirements, utilize and be bound by the registration facilities and referral systems established or authorized by the Unions signatory hereto ("Job Referral System"). Such Job Referral System will be operated in a non-discriminatory manner and in full compliance with all federal, state, and local laws and regulations, including those which require equal employment opportunities and nondiscrimination.

8.1.2 The Contractor(s) shall have the right to reject any applicant referred by the Union(s), in accordance with the applicable Master Agreement.

8.1.3 The Contractor(s) shall have the unqualified right to select and hire directly all supervisors above general foreman it considers necessary and desirable, without such persons being referred by the Unions(s).

8.1.4 In the event that referral facilities maintained by the Union(s) are unable to fill the requisition of a Contractor(s) for employees within a seventy-two (72) hour period after

such requisition is made by the Contractor(s), the Contractor(s) shall be free to obtain employees from any source. Contractor(s) shall promptly notify the Union(s) of any applicants hired from other sources. This provision does NOT affect core employees as defined below.

8.15 Unions shall exert their utmost efforts to recruit sufficient numbers of skilled craft persons to fulfill the requirements of the Contractor(s).

8.16 Core Employees

All parties agree to make a good faith effort to refer on a priority basis, consistent with the non-discriminatory referral procedures of the hall, qualified and available, and bona-fide Berkeley Residents for Project work.

8.17 The parties also recognize and support the City's commitment to provide opportunities for participation on the Projects to Berkeley Residents who are regular, experienced employees ("Core" employees) of contractors and subcontractors awarded work on the Projects and who do not traditionally work under a local collective bargaining agreement(s). In furtherance of this commitment, the parties agree that such contractors and subcontractors awarded work on the Projects may request by name, and the local will honor, referral of persons who have applied to the local union for Project work and who demonstrate the following qualifications:

- (1) Possess any license required by state or federal law for the Project work to be performed;
- (2) Have worked a total of at least one thousand (1,000) hours in the construction craft during the prior three (3) years;
- (3) Were on the Contractor's active payroll for at least sixty (60) out of the one hundred and eighty (180) calendar days prior to the contract award;
- (4) Have the ability to perform safely the basic functions of the applicable trade, and
- (5) Are Berkeley residents.

The Union will refer to such Contractor one journeyman employee from the hiring hall out-of-work list for the affected trade or craft, and will then refer one of such Contractor's "core" employees as a journeyman and shall repeat the process, one and one, until such Contractor's crew requirements are met or until such Contractor has hired five (5) "core" employees, whichever occurs first. Thereafter, all additional employees in the affected trade or craft shall be hired exclusively from the hiring hall out-of-work list(s). For the duration of the Contractor's work the ratio shall be maintained and when the Contractor's workforce is reduced, employees shall be reduced in the same ratio of core employees to hiring hall referrals as was applied in the initial hiring.

8.1.8 The Contractor shall notify the appropriate Union of the name and social security number of each direct hire and each direct hire shall register with the Union's hiring hall before commencing Project work. If there is any question regarding an employee's eligibility under this Subsection 8.2.1, the City Representative, at a Union's request, shall obtain satisfactory proof of such from the Contractor.

8.2 Local Hire

8.2.1 To the extent allowed by law and consistent with the non-discriminatory referral procedures of the Union hiring halls, the Parties agree to a goal that Berkeley Residents will perform a minimum of 20% of the hours worked, on a craft by craft basis for the Projects. The Contractor(s) shall make good faith efforts to reach this goal through the utilization of the Unions' hiring hall procedures. The Unions shall exercise their best efforts in their recruiting and training of Berkeley Resident workers and in their hiring hall procedures to facilitate this 20% goal on the Projects. In the event that referral facilities maintained by the Union(s) are unable to fulfill the 20% local hire requirement, paragraph 8.2.2 of this Article shall not apply. Contractors shall document all efforts to hire locally and provide such documents to the City of Berkeley. The Council will provide an annual census of Berkeley residents, in each of the crafts party to this agreement, to the City of Berkeley. This report will be provided by August 1 of each year of this agreement.

8.2.2 Should any of the contractors performing work on the Projects fail to meet this 20% goal and fail to demonstrate efforts to do so, through a specific submittal process to be included in their contractual requirements and enforced by the grievance procedure. The contract's 10% retention will be held until such time that this failure is remedied, but not longer than sixty (60) calendar days after the date of substantial completion of the Projects or as required by law, in addition to the breach of contract remedies available to the parties for non-performance under this Agreement.

8.2.3 Apprenticeship & Workforce Development

A) Consistent with the requirements of California Labor Code §§ 1776, 1777.5 and 1777.6, Contractor(s) will be required to hire 1 New Apprentice Berkeley resident as for every \$500,000 dollars or more of total construction bid amount. The New Apprentice(s) must work a minimum of 10% of the projects work hours. The contractor may deploy the apprentice to work on another concurrent project in order to meet the minimum hours, and those hours will be counted towards the total hours of the craft on the Berkeley project. Certified Payroll must reflect the hours worked.

Contractor must fully document efforts to hire a New Apprentice, through the following steps: 1) requesting New Apprentices through the Union dispatch procedure, 2) contacting a minimum of three MC3-approved pre-apprenticeship training programs for referral of Berkeley residents. Unions shall provide written documentation to the contractor in response to dispatch requests to fulfill the New Apprentice requirement, the next tier of residents will come from the Green Corridor.

B) There can be no more than 1 entry-level New Apprentices for each craft, provided said crafts have apprenticeship openings and the general contractor will be able to include New Apprentices hired by their subcontractor to meet this requirement. Unions will agree to cooperate with Contractor(s) in furnishing apprentices as requested and the hiring of the apprentices will be in accordance to the Apprenticeship provisions listed in the Master Agreements and or the union agreements with the division of apprenticeship standards, and the apprentices shall be properly supervised and paid in accordance with provisions contained within the MLA'S. The Unions and Contractors will agree to cooperate with local pre-apprenticeship programs to ensure Berkeley residents have the opportunity to apply for and enter the into the apprenticeship programs.

C) The intent of this provision is to utilize Berkeley Resident New Apprentices to the fullest extent permissible by state law and the MLA. Failure of Contractor(s) and their subcontractors to maintain qualified apprentices on the job will be subject to further penalties as determined by the Grievance Committee as identified in Article 12.

8.11 Enforcement, Compliance & Reporting.

Contractors will be required to submit Certified Weekly Payrolls to the City along with monthly workforce utilization reports documenting the Contractor's compliance with the requirements described in this article. At a minimum the monthly reports must include 1) data on Berkeley Resident's work hour utilization on a craft by craft basis, 2) number of New Apprentices hired and the hours they have worked, 3) documentation showing any requests made to the union dispatchers for Berkeley Residents and the Union's response to the request. Enforcement of this article shall be according to the Grievance and Arbitration procedure outlined in Article 12.

ARTICLE 9 **HELMETS TO HARDHATS**

9.1 The parties recognize a desire to facilitate the entry into the Building and Construction Trade Union(s) of Veterans who are interested in careers in the building and construction industry. The parties agree to utilize the services of the Center for Military Recruitment, Assessment and Veteran's Employment ("Center") and the Center's "Helmets to Hardhats" program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs as identified by the parties.

9.2 The Union(s) and Contractor(s) agree to coordinate with the Center to participate in an integrated database of Veterans interested in working on this Project and of apprenticeship and employment opportunities for this Project. To the extent permitted by law, the Union(s) will give credit to such Veterans for bona fide, provable past experience.

ARTICLE 10
GRIEVANCE PROCEDURE

10.1 Any Contractor which is not otherwise bound through an agreement with a Union to a grievance procedure which confers jurisdiction to consider and resolve disputes over the imposition of discipline or dismissal of its construction persons working on this Project shall be bound to the arbitration procedure contained in the MLA of the craft representing the employee(s) involved in the dispute. For the purposes of this Article, such grievance procedure shall be limited to disputes regarding the imposition of discipline or dismissal arising from work covered by the Agreement. Such Contractor shall not impose discipline or dismissal on its construction persons covered by this Agreement without just cause.

ARTICLE 11
JOINT ADMINISTRATIVE COMMITTEE

11.1 The parties to this Agreement shall establish a five (5) person Joint Administrative Committee comprised of at least one and up to two (2) representatives representing the City; two (2) representatives of the signatory Unions and The Council; and one industry representative, mutually selected by the City and The Council. Each representative shall designate an alternate who shall serve in his or her absence for any purpose contemplated by this Agreement.

11.2 The Joint Administrative Committee shall meet at the request of either party, but not less than once each quarter, to review the implementation of the Agreement and the progress of the Projects including, but not limited to, compliance with Article 8, prevailing wage, safety, Workforce development and Industry trends. Requests for certified payroll made by a Joint Labor/Management Committee to which the Union(s) signatory to this Agreement are a party shall be provided as allowed by law.

ARTICLE 12
GRIEVANCE ARBITRATION PROCEDURE

12.1 The parties understand and agree that in the event any dispute arises out of the meaning, interpretation or application of the provisions of this Agreement, the same shall be settled by means of the procedures set out herein. No grievance shall be recognized unless the grieving party provides notice in writing to the signatory party with whom it has a dispute within seven (7) calendar days after becoming aware of the dispute, but in no event more than thirty (30) calendar days after it reasonably should have become aware of the event giving to the dispute. The time limits in this Article 12 may be extended by mutual written agreement of the parties.

12.2 Grievances shall be settled according to the following procedures:

Step 1: Within seven (7) calendar days after the receipt of the written notice of grievance, the Business Representative of the involved Local Union, the City's authorized representative, representative of the construction person, and the representative of the involved Contractor shall confer and attempt to resolve the grievance.

Step 2: In the event that the representatives are unable to resolve the dispute within seven (7) calendar days after its referral to Step 1, either involved party may submit it within three (3) calendar days to Grievance Committee. The Grievance Committee shall consist of one (1) person selected by the City and one (1) person selected by the Council, which shall meet within seven (7) calendar days after such referral (or such longer time as mutually agreed upon by all representatives of the subcommittee), to confer in an attempt to resolve the grievance. The decision of the Grievance Committee shall be legal, final and binding. If the dispute is not resolved within such time seven (7) calendar days after its referral or such longer time as mutually agreed upon) it may be referred within seven (7) calendar days by either party to Step 3.

Step 3: Within seven (7) seven calendar days after referral of a dispute to Step 3, the representatives shall submit the matter to the designated permanent Arbitrator, Judge William Cahill.

12.3 In the event that Judge Cahill is unavailable, the arbitrator shall be Earnest Brown.

12.4 The Arbitrator shall arrange for a hearing no later than fourteen days (14) calendar days after the matter has been submitted to arbitration. A decision shall be given to the parties within five (5) calendar days after completion of the hearing unless such time is extended by mutual agreement. A written opinion may be requested by a party from the Arbitrator. The time limits specified in any step of the Grievance Procedure set forth in Section 12.1 may be extended by mutual agreement of the parties initiated by the written request of one party to the other, at the appropriate step of the Grievance Procedure. However, failure to process a grievance, or failure to respond in writing within the time limits provided above, without the request for an extension of time, shall be deemed a waiver of such grievance without prejudice, or without precedent to the processing of and/or resolution of like or similar grievances or disputes.

12.5 The decision of the Arbitrator shall be binding by all parties. The Arbitrator shall not have authority to change, amend, add, or detract from any of the provisions of the Agreement. The expense of the Arbitrator shall be borne equally by both parties.

12.6 In order to encourage the resolution of disputes and grievances at Step 1 and 2 of this Grievance Procedure, the parties agree that such settlements shall not be precedent-setting.

ARTICLE 13 **JURISDICTIONAL DISPUTES**

131 The assignment of Covered Work will be solely the responsibility of the Contractor/Employer(s) performing the work involved; and such work assignments will be in accordance with the Plan for the Settlement of Jurisdictional Disputes in the Construction Industry (the "Plan") or any successor Plan.

132 All jurisdictional disputes on this Project between or among the Union(s) and the Contractor/Employer(s), parties to this Agreement, shall be settled and adjusted according to the present Plan established by the Building and Construction Trades Department, or any other plan or method of procedure that may be adopted in the future by the Building and Construction Trades Department. Decisions rendered shall be final, binding and conclusive on the Contractor/Employer(s) and Union(s) parties to this Agreement.

13.2.1 If a dispute arising under this Article involves the Northern California Carpenters Regional Council or any of its subordinate bodies, an Arbitrator shall be chosen by the procedures specified in Article V, Section 5, of the Plan from a list composed of John Kagel, Thomas Angelo, Robert Hirsch and Thomas Pagan and the Arbitrator's hearing on the dispute shall be held at the offices of the California State Building and Construction Trades Council in Sacramento, California, within fourteen (14) calendar days of the selection of the Arbitrator. All other procedures shall be as specified in the Plan.

133 All jurisdictional disputes shall be resolved without the occurrence of any strike, work stoppage, or slow-down of any nature, and the Contractor/Employer(s)' assignment shall be adhered to until the dispute is resolved. Individuals violating this Section shall be subject to immediate discharge.

134 Each Contractor/Employer(s) shall conduct a Pre-Job Conference with the Council prior to commencing Covered Work. The Primary Employer, Coordinator and the District will be advised in advance of all such conferences and may participate if they wish. Pre-job conferences for different Contractor(s) may be held together.

ARTICLE 14 **APPRENTICES**

14.1 Recognizing the need to maintain continuing support of programs designed to develop adequate numbers of competent workers in the construction industry, the Contractor (s) shall employ apprentices in the respective crafts to perform such work as is within their capabilities and which is customarily performed by the craft in which they are indentured.

14.2 The apprentice ratios will be in compliance with the applicable provisions of the California Labor Code and Prevailing Wage Rate Determination.

14.3 There shall be no restrictions on the utilization of apprentices in performing the work of their craft provided they are properly supervised.

14.4 All Apprentices will come from a State approved Labor Management Apprenticeship program.

ARTICLE 15 **MANAGEMENT RIGHTS**

15.1 The Contractor shall retain full and exclusive authority for the management of their operations, including the right to direct their work force in their sole discretion with regard to the following: the hiring, promotion, transfer, layoff, corrective action or discharge for just cause of its employees (in accordance with Article 9); the determination of the number of employees needed for the Project work; the selection/hiring of foremen and supervisors; the assignment and schedule of work; the requirement of overtime work, the determination of when it will be worked, and the number of employees engaged in such work, except as otherwise limited by the terms of this Agreement and/or the MLA. No rules, customs or practices shall be permitted or observed which limit or restrict production, or limit or restrict the working efforts of construction persons except that the lawful manning provisions of the MLA shall be recognized.

ARTICLE 16 **WAGES/BENEFITS**

16.1 **Wages.** All construction persons covered by this Agreement shall be classified in accordance with work performed and paid the hourly wage rates for those classifications in the applicable MLA for such craft work and in compliance with the applicable prevailing wage rate determination.

16.2 **Benefits.** Contractor agrees to pay contributions into established construction person benefit funds in the amounts designated in the appropriate MLA; provided, however, that each Contractor and Union agree that only such bona fide construction person benefits as included in the prevailing wage determination shall be included in this requirement and required to be paid by the Contractor under this Agreement; provided further, however, that this provision does not relieve Contractors signatory to a local collective bargaining agreement with a signatory Union which would be applicable to the Projects from making

any other fund contributions (including, but not limited to, those for contract administration), required by such local agreement. Contractor shall not be required to pay contributions to any other trust funds to satisfy their obligation under this Article. By signing this Agreement, the Contractors adopt and agree to be bound by the written terms of the legally established Trust Agreements, specifying the detailed basis on which the payments are to be made into, and the benefits paid out of, such Trust Funds.

16.3 Compliance. It shall be the responsibility of the Contractor(s) and Unions to investigate and monitor compliance with the provisions of the agreement contained in Article 15. Nothing in this agreement shall be construed to interfere with or supersede the usual and customary legal remedies available to the Unions and/or employee benefit Trust Funds to collect delinquent Trust Fund contributions from Contractors on the Project.

ARTICLE 17

MODIFIED MASTER LABOR AGREEMENTS

17.1 Certain Provisions Shall Not Apply. Provisions negotiated into the new or modified MLA which are less favorable to the Contractor than those uniformly required of employers for construction work normally covered by those agreements or which may be construed to apply exclusively or predominately to work covered by this Agreement shall not apply to work covered by this Agreement. Any disagreement between the parties regarding the application of the provisions of any new or modified collective bargaining agreement to work covered by this Agreement shall be resolved under the dispute and grievance arbitration procedures set forth in Article 12 hereof.

ARTICLE 18

DRUG and ALCOHOL TESTING

18.1 The use, sale, transfer, purchase and/or possession of a controlled substance, alcohol and/or firearms at any time during the work day is prohibited.

18.2 Employer shall be allowed to utilize employment drug screens. All personnel are subject to random alcohol and drug/alcohol testing at any time, except, the following changes will apply. Employer shall follow said Unions Master Labor Agreement drug polices, regulations and limits. Body fluid tests will utilize urine and saliva specimens. Employer may also selectively require an employee to undergo alcohol or drug/alcohol testing if Employer has reasonable cause to believe that an employee's ability to work safely may be impaired. All requirements and activities of the Employer with regard to drug/alcohol testing shall comply with the provisions of State law.

ARTICLE 19

SAVINGS CLAUSE

19.1 The parties agree that in the event any article, provision, clause, sentence or word of this Agreement is determined to be illegal or void as being in contravention of any applicable law, by a court of competent jurisdiction the remainder of the Agreement shall remain in full force and effect. The parties further agree that if any article, provision, clause, sentence or word of the Agreement is determined to be illegal or void, by the court of competent jurisdiction, the parties shall substitute, by mutual agreement, in its place and stead, an article, provision, clause, sentence or word which will meet the objections to its validity and which will be in accordance with the intent and purpose of the article, provision, clause, sentence or word in question.

19.2 The parties also agree that in the event that a decision of a court of competent jurisdiction materially alters the terms of this Agreement such that the intent of the parties is defeated, then the entire Agreement shall be null and void.

ARTICLE 20

ENTIRE AGREEMENT

20.1 This Agreement represents the complete understanding of the parties. The provisions of this Agreement, including the MLA, shall apply to the work covered by this Agreement. Where a subject covered by the provisions of this Agreement is also covered by a MLA, the provisions of this Agreement shall prevail. Where a subject is covered by the provisions of a MLA and is not covered by this Agreement, the provisions of the MLA shall prevail. Nothing contained in a MLA, working rule, by-laws, constitution or other similar document of the Unions shall in any way affect, modify or add to this Agreement unless otherwise specifically set forth in this Agreement or mutually agreed to in writing executed by the parties.

20.2 The parties agree that this Agreement covers all matters affecting wages, hours, and other terms and conditions of employment and that during the term of this Agreement the parties will not be required to negotiate on any further matters affecting these or any other subject not specifically set forth in this Agreement except by mutual agreement of the parties.

20.3 This Agreement may be executed in counterparts, such that original signatures may appear on separate pages and when bound together all necessary signatures shall constitute an original. Facsimile signature pages transmitted to other parties to this Agreement shall be deemed the equivalent to original signatures.

ARTICLE 21

TERM

21.1 The Agreement shall be included as a condition of the award of the Construction Contracts.

21.2 The Agreement shall continue in full force and effect for a term of three years from the Effective Date of June 30, 2020 through June 30, 2023 and shall be applicable to all Projects until completion that are advertised for bidding during the term.

21.3 This Agreement shall continue in full force and effect until Completion of the Project. The parties may mutually agree to extend and/or amend this Agreement.

SIGNATURES

City of Berkeley

By: Dee Williams-Ridley

Dee Williams-Ridley, City of Berkeley City Manager

Date: 2/10/21

Alameda County Building & Construction Trades Council, AFL-CIO

DocuSigned by:
Andreas Cluver
By: 5C9F6AE6571848E

Andreas Cluver, Secretary-Treasurer for the Building Trades Council of Alameda County on behalf of the Signatory Unions

Date: 1/26/2021

Signatory Unions

Asbestos Workers, Local 16 Boilermakers, Local 549

Bricklayers & Allied Craftsmen

Local 3 Cement Masons, Local 300

Electrical Workers, Local 595

Elevator Constructors, Local 8

Hod Carriers, Local 166

Iron Workers, Local 378

Laborers, Local 67

Laborers, Local 304

Operating Engineers,

Local 3 Plasterers, Local 66

Roofers, Local 81

Sheet Metal Workers, Local 104

Sign Display, Local 510

Sprinkler Fitters, Local 483

Teamsters, Local 853

**United Association of Journeymen and Apprentices Fitting Industry,
Underground Utility & Landscape, Local 355**

**United Association of Steamfitters, Ironworkers City and the RDA Council
of Pipefitters, Plumbers, & Gas California Fitters, Local 342**

Council No. 16 Northern California

International Union of Laborers

Painters & Allied Trades (On behalf
of Painters, Local 3; Carpet & Linoleum
Layers, Local 12; Glass Workers, Local
169; Auto & Marine Painters, Local 1176)

Northern California Carpenters

Regional Council (on behalf of Carpenters,
Local 713; Carpenters, Local 2236; Lathers,
Local 68L; Millwrights, Local 102; Pile
Drivers, Local 34)

AGREEMENT TO BE BOUND

The undersigned, as a Contractor or Subcontractor ("Contractor") on a City Project ("Project"), for and in consideration of the award to it of a contract to perform work on said Project, and in further consideration of the mutual promises made in the Project's Community Workforce Agreement ("Agreement"), a copy of which was received and is acknowledged, hereby:

1. Accepts and agrees to be bound by the terms and conditions of the Agreement, together with any and all amendments and supplements now existing or which are later made to said Agreement.
2. Certifies that it has no commitments or agreements which would preclude its full and complete compliance with the terms and conditions of said Agreement;
3. Agrees to secure from any Contractor (as defined in said Agreement) which is or becomes a subcontractor (of any tier) to it, and from any successors, a duly executed Agreement to be bound in form identical to this document.
4. Contractor agrees that it shall be bound by all applicable trust agreements and plans for the provision of such fringe benefits as accrue to the direct benefit of the construction persons, including Health and Welfare, Pension, Training, Vacation, and/or other direct benefits provided pursuant to the appropriate craft agreement contained in Schedule "A" of Agreement.

Date: _____

Company Name: _____

Name of Prime Contractor or Higher Level Subcontractor:

Name of Project: _____

Signature: _____

Print Name: _____

Title: _____

Contractor's License #: _____

Motor Carrier Permit (CA) #: _____

APPENDIX 6

**BAY AREA RAPID TRANSIT (BART) DISTRICT
PERMIT TO ENTER**

(NOT USED)

APPENDIX 7

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
(CALTRANS)

ENCROACHMENT PERMIT

(NOT USED)

APPENDIX 8

**CITY OF OAKLAND
ENROACHMENT PERMIT**

(NOT USED)

APPENDIX 9

CITY OF BERKELEY TYPICAL PROPERTY ACCESS AGREEMENT



Public Works Department
Engineering Division

Sanitary Sewer Rehabilitation Project
MLK Jr. Way, Cedar Street, et al.
Specification Number: 20-11412-C

PROPERTY ACCESS AGREEMENT

Property Address: _____

This agreement entered between the undersigned property owner and the City of Berkeley, does hereby grant temporary access to the City, its agents, employees, contractors, and assigns for the purpose of inspection, replacement, or the rehabilitation of the existing sanitary sewer line in the sewer easement in or adjacent to the above address or on private property.

The work to be performed will consist of inspection, replacement, or rehabilitation of the aged or damaged sanitary sewer line. No interruption of sanitary sewer services, water, gas, or telephone services is anticipated.

Upon completion of construction, the City of Berkeley will restore existing surface improvements, including fencing, retaining walls, concrete flatwork, asphalt concrete pavement and landscaping. Restoration will be to a condition and appearance as near as practicable to that existing prior to construction, except that plant materials may be replaced with commercially available plant materials acceptable to the property owner.

The rights of the undersigned property owner to make claims and/or bring actions for damage from the said entry or work with respect to the subject property are not waived by execution of this agreement. However, it is expressly understood and agreed that the City of Berkeley is not liable or responsible for any damaged property or appurtenances from any cause not resulting from performance of the sanitary sewer work by the City, its agents, employees, contractors and assigns.

This agreement will be in full force and effect for four months following the issuance of the Notice to Proceed.

Approved by:

City Engineer

Property Owner (print name)

Date

Signature and Date

APPENDIX 10

**CITY OF BERKELEY
CITY OF BERKELEY PEDESTRIAN, BYCYCLE, AND BUS FACILITY
ACCOMODATION IN CONSTRUCTION ZONES**

Supplemental Design Guidelines: Accommodating pedestrians, bicyclists, and bus facilities in construction zones

Every reasonable effort should be made to avoid and minimize construction impacts on pedestrian, bicycle, and bus facilities in Berkeley.

This document provides engineering and design guidance on temporary traffic control measures used to accommodate pedestrians, bicyclists, and bus facilities through construction zones in Berkeley. The guidance supplements the guidance in [Part 6 of the California Manual on Uniform Traffic Control Devices \(CA MUTCD\)](#)¹, which specifies that bicyclists and pedestrians must be safely accommodated through construction zones, and the City of Berkeley's "TRAFFIC CONTROL PLAN PREPARATION GUIDELINES". This supplemental guidance specifies when and where pedestrian, bicycle, and bus facilities may be relocated, detoured, modified, and closed in Berkeley. This guidance applies to all sidewalks and all roads on which bicyclists are legally allowed to travel, including designated bikeways. The guidance applies to any entity ("construction sponsor") performing construction work in the public right-of-way, including utility companies, private land use development, and the City of Berkeley.

Any construction sponsor submitting for any permit² for work in the public right-of-way to the City of Berkeley that will result in the blockage of a sidewalk, bicycle lane, vehicle travel lane, bus stop, or other public bicycle or pedestrian path must submit a Temporary Traffic Control Plan (TCP) to Public Works Traffic Engineering for review and approval. The guidance in this document is intended to direct the development of the construction sponsor's TCP.

The two major types of temporary traffic control (TTC) for pedestrians are adjacent sidewalk diversions and sidewalk detours (see Figure 1). To determine which temporary facility is appropriate, refer to Table 1.

Pedestrian Accommodation

All temporary pedestrian facilities and alternate paths must be ADA-compliant, and all pedestrian-related signage shall be as permanent as the other TTC signage. Any diversions, detours, or full closures must be approved as part of a Traffic Control Plan. Refer to the [CalTrans Temporary Pedestrian Access Routes Handbook](#)³, for guidelines on these standards.

- Sidewalk Diversion - A temporary, protected pedestrian route shall be provided adjacent to the sidewalk in a parking lane (if present), travel lane, or bicycle lane. It shall be protected from moving traffic by an approved barricade device that is detectable by people with visual disabilities. If the pedestrian diversion takes up a bike lane, bike accommodation must be maintained (see Bicyclist Accommodation below). All sidewalk diversion routes must keep and maintain minimum 5 feet clear width, but shall provide up to 6' where feasible for pedestrian access.
 - The preferred treatment for long-term pedestrian diversions in construction zones in downtown Berkeley and other areas with significant pedestrian activity is a covered pedestrian walkway. Covered walkways shall conform with Berkeley's Pedestrian Access During Construction Projects (see attachment), the [CalTrans Temporary Pedestrian Access Routes Handbook](#), ADA accessibility standards, and [OSHA structural specifications for](#)

¹ California Manual on Uniform Traffic Control Devices (CA MUTCD) 2009 Edition Part 6: <https://dot.ca.gov/-/media/dot-media/programs/safety-programs/documents/ca-mutcd/rev6/camutcd2014-part6-rev6.pdf>

² Permits include but are not limited to Concrete Permits for Sidewalk, Curb, Gutter and Driveway Approaches, Utility Excavation Permits, Miscellaneous Permits to Obstruct, Excavate and/or Construct in the right of way, Street and Sidewalk Use Permits, etc.

³ CalTrans Safety / Traffic Webpage: <https://dot.ca.gov/programs/construction/safety-traffic>

[scaffolding](#)⁴. Design of the walkway should ensure limited obstruction between the top of railing and walkway cover to allow passive surveillance into and from the walkway, and should have a maximum exit access travel distance of 100 feet. Construction sponsors are responsible for maintaining adequate lighting within the covered walkway at all times and for removal of graffiti and cleaning of debris.

- Construction sponsors may alternatively propose uncovered diversions using longitudinal channelizing devices, such as concrete k-rails, if permitted under the requirements listed by Berkeley's Pedestrian Access During Construction Projects. Channelizing devices used to separate a pedestrian diversion from moving traffic must fully protect pedestrians from motor vehicle impacts. Bases of temporary cyclone fences shall not extend over any adjacent traffic, bicycle lane, or pedestrian path of travel.
- Pedestrian diversions shall always be clearly identified, wheelchair usable, shielded from motor vehicle traffic, and free of pedestrian hazards such as holes, debris, gravel, mud, etc.
- **Sidewalk detours are not acceptable in downtown Berkeley, nor in areas where significant pedestrian activity occurs, such as near BART stations, near the University of California, Berkeley campus and in neighborhood commercial areas and are up to the discretion of the City's Traffic Engineer, or their designee.** All detours should ensure accessible conditions. Sponsor may be required to make appropriate repairs to the detour route. Signage shall be provided at closest intersections to alert pedestrians of the sidewalk closure and direct them to the detour. Advance notification to pedestrians of any sidewalk detours or diversions shall be provided at the nearest crosswalk that meets minimum safety requirements on either side of the detour or diversion.
 - In areas where long-term sidewalk detours are not acceptable, sidewalk detours may be approved for limited duration when full closure of a sidewalk is required for intermittent and unavoidable construction activity. Refer to Table 1 for the maximum acceptable duration and conditions per project location.
- In areas where sidewalk diversions or detours impact access to AC Transit, Berkeley Lab, or Bear Transit bus and shuttle stops the Contractor must receive written confirmation from affected parties regarding stop relocations. See "Bus Stop Relocation or Closure" subsection below.

⁴ OSHA Standard 1910-28: Duty to have fall protection and falling object protection:
<https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.28>

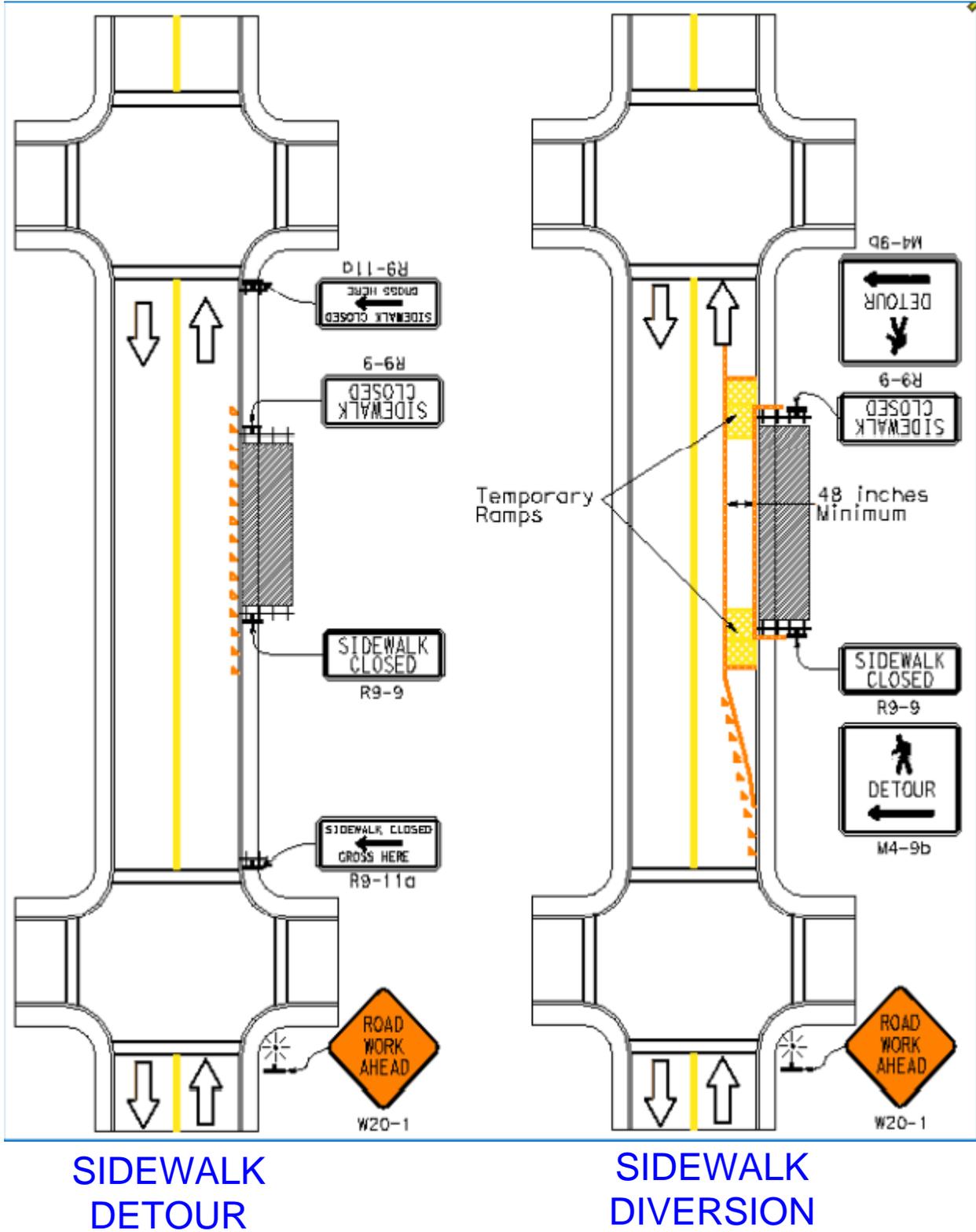
Table 1: Reasonable Accommodation for Pedestrians

Treatment*	Construction Project Location		
	Downtown & within 0.25 miles of a BART station or UC Berkeley campus	Neighborhood commercial areas and major transit corridors	All other areas
Sidewalk diversion (temporary ADA walkway provided)*	Acceptable†	Acceptable†	Acceptable†
Sidewalk detour (no walkway provided)*	Prohibited	Prohibited	Acceptable†
Maximum duration of temporary sidewalk detour	4 hours Flagger required throughout duration of closure.	24 hours Flagger required throughout duration of closure.	One week Flagger required during peak traffic hours only.

* "Sidewalk diversion" and "Sidewalk detour" are defined in Figure 1.

† Acceptable only if TCP is deemed sufficient and approved by the City's Traffic Engineer, or their designee.

Figure 1: Sidewalk Detour and Sidewalk Diversion⁵



⁵ Caltrans Pedestrian Temporary Access Routes Handbook (2020): <https://dot.ca.gov/-/media/dot-media/programs/construction/documents/policies-procedures-publications/temp-ped-access-routes-handbook-2020-a11y.pdf>

Bicyclist Accommodation

As with pedestrian facilities, bike lane closures should be avoided. Existing bike lanes must remain clear (minimum 5') unless the bike lane closure is specifically approved as part of a Temporary Traffic Control Plan (TCP) and a reasonable accommodation for an alternate bicycle path of travel is implemented, defined and prioritized below:

1. Closing a parking lane and keeping the adjacent bicycle lane open;
2. Shifting the bicycle lane to a location on the same roadway to bypass the work zone or obstruction, and if necessary, shifting and narrowing the adjacent motor vehicle traffic lanes; provided the adjacent motor vehicle travel lanes shall be maintained at no less than ten feet (10 ft.) wide;
3. Closing the adjacent motor vehicle travel lane to provide space for a bicycle lane, provided that a minimum of one (1) motor vehicle travel lane shall remain in the same direction of travel;
4. Merging the bicycle lane and the adjacent motor vehicle travel lane into a shared travel lane adjacent to the work zone or other obstruction, installing shared travel lane markings (sharrows) in the shared travel lane and installing signage directing bicyclists to merge into the shared travel lane; provided the shared travel lane shall be maintained at no less than fourteen feet (14 ft.) wide; and
5. As a last resort, detouring bicyclists onto an adjacent roadway, in which case the detour route shall be adequately signed and replicate, as closely as practicable, the level of safety found on the bicycle route being blocked.

Note: if a bike lane closure is needed, the alternate path of travel must be implemented at the same level of protection as the existing facility. For example, if an existing protected bike lane must be closed, then a temporary protected bike lane shall be provided.

Any TCP that identifies bike lane closures, detours, or other bike facility changes is subject to approval and shall address the following guidance:

1. Active bike lanes must remain clear (5' minimum). Signage, channelizing devices, barriers, and other equipment shall not be placed in active bike lanes or in locations that would block bicyclists' path of travel.
2. Bike lanes shall not be closed for construction activities unless the closure is documented and approved in a TCP.
3. TCPs shall indicate the length and duration of all bike lane closures.
4. Where bike lanes must be closed, advance notification and tapers shall be provided with sufficient length to allow bicyclists to merge into the adjoining travel lane in advance of the bike lane closure.
5. TCPs that include bike lane closures shall post construction zone speed limits of 25 mph or less.
6. All bicycle-related signage shall be as permanent as the other TTC signage in the construction zone.
7. If the TCP includes roadway striping, temporary bike lanes and/or sharrows shall be installed.
8. The City's Traffic Engineer, or their designee, shall review TCPs that include bikeway detours or bike lane closures of longer than one week.

Refer to temporary traffic control details for Multi-lane Roadway with Travel Lane Closure, Temporary Bike Lane, and Parking Lane Closure and Single-lane Roadway with Bike Lane Closure and Parking Lane Closure (attachments).

Bus Stop Relocation or Closure

Temporary relocation of a bus or shuttle stop for construction activity requires written approval from AC Transit, Berkeley Lab, and/or Bear Transit, submitted at the time of a TCP submission. Temporary bus stops must also be approved by Public Works Traffic Engineering and must be noted on the TCP. Any parking obstruction, sidewalk obstruction, travel lane obstruction, or other accommodation required for the temporary bus stop shall be proposed through an Engineering Permit application at the sponsors' expense.

Lane Closures

On multi-lane roadways, traffic lanes may be converted to a bike lane or pedestrian diversion, as specified in an approved TCP. Below is a set of guidance related to lane closures:

- As a general rule, no more than one lane fewer than the total lanes per direction may be closed. For example, a four-lane roadway with two lanes in each direction shall provide a minimum of one lane in each direction.
- Different guidance applies to lane closures on multi-lane one-way streets in downtown Berkeley. So long as a minimum of one travel lane remains open, the closure of two or more travel lanes may be approved upon request.
- The minimum width of a temporarily narrowed traffic lane is 10' (12' for streets serving AC Transit bus routes), clear of any obstructions, including traffic cones or delineators. Fire Department may have additional clear width requirements for emergency vehicle access.
- Existing left turn lanes shall be maintained. Left turn lanes should not be used for temporary through travel lanes.
- Completely closing any direction of traffic is generally not allowed. This includes any plan which allows one lane to be used for two directions of traffic ("Two-Way Flag Control"). An approved TCP is required to use "Two-Way Flag Control."
- When any movement is reduced to a single lane that includes left and through movements at an intersection, the TCP may need to prohibit the left turn movement to facilitate efficient traffic flow. The TCP should include a recommended detour of the left turn.

Developing a Traffic Control Plan

Reflecting the above guidance in addition to the "Traffic Control Plan Preparation Guidelines", Traffic Control Plans shall be prepared by a certified traffic engineer. The proposed design and placement of the temporary traffic control signs, devices, and roadway markings shall be in compliance with the most recent edition of the CA MUTCD.

Subject to the conditions in Table 1, periodic full closures of streets and sidewalks may be approved. Note: the safe and reasonable flow of pedestrian and bicycle traffic is to be maintained in preference to construction activities and the flow of construction vehicles. If periodic full closures are necessary and anticipated, the construction sponsor shall indicate the following within the TCP, subject to approval:

1. The proposed location of flaggers or spotters to be posted at each end of the closed pedestrian or cycle route for the entire duration of time the intermittent closure is in place; and
2. The times of day when intermittent closure may occur; and
3. Acknowledgement that advance notice to Public Works Traffic Engineering, Berkeley Police Department, and emergency services is required for each full closure, subject to fine and/or revocation of the Engineering Permit.

Display of Permitted Temporary Traffic Control Plan

After an obstruction permit and TCP is approved and before commencing any activities that result in the blockage of a pedestrian or bicycle facility, construction sponsors must display a copy of the Engineering Permit at a prominent, publicly accessible location near the construction site entrance. Additionally, the following information must be simultaneously displayed:

1. The range of dates during which the permit is valid;
2. The name and contact information of the party requesting the permit;
3. A clear description of the approved temporary traffic control plan
4. A Berkeley Public Works Traffic Engineering phone number and email address to direct questions, comments, and concerns regarding the blockage.

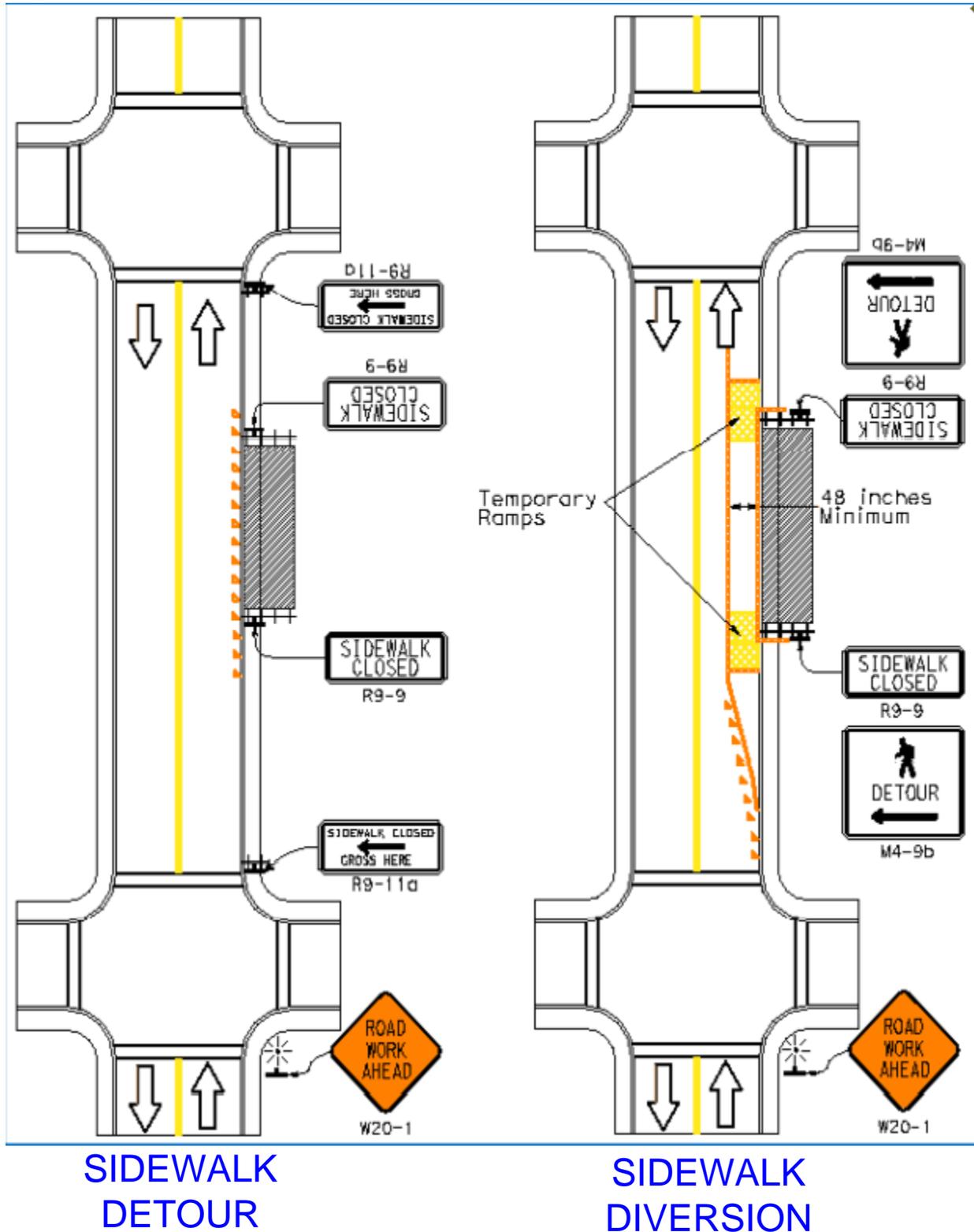
Planning Appropriately for Temporary Traffic Control Plan Review

Every reasonable effort should be made to avoid and minimize construction impacts on pedestrian, bicycle, and bus facilities in Berkeley. As such, construction sponsors for land use development projects may elect to propose and receive feedback on preliminary plans for temporary traffic control within a land use development planning application. At minimum, construction sponsors should submit TCP proposals 60 days before desired construction start date.

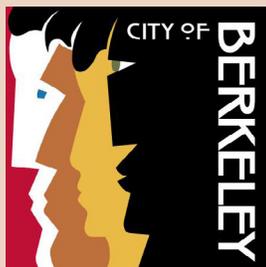
Attachments

- *Figure 1: Sidewalk Detour and Sidewalk Diversion*
- *Pedestrian Access During Construction Projects*
- *Detail TTC-1: Multi-lane Roadway with Travel Lane Closure, Temporary Bike Lane, and Parking Lane Closure*
- *Detail TTC-2: Single-lane Roadway with Bike Lane Closure and Parking Lane Closure*
- *Signs: Temporary Traffic Control Sign Details for Bikeway Detours and Long-Term Bike Lane Closures*

Figure 1: [Sidewalk Detour and Sidewalk Diversion](#)⁶



⁶ Caltrans Pedestrian Temporary Access Routes Handbook (2022): <https://dot.ca.gov/-/media/dot-media/programs/construction/documents/policies-procedures-publications/temp-ped-access-routes-handbook-2020-a11y.pdf>



Public Works Engineering

The purpose of these standards for construction in the public right-of-way is to ensure pedestrian safety and access.

Standards apply to City of Berkeley crews, Contractors with the City, and all others working in the right-of-way.

Each project is unique and requires thorough review to ensure complete, safe, usable, and accessible paths of travel.

Please note: City of Berkeley Engineers may stop work when any hazardous conditions are present.

Permit Service Center
1947 Center St. 3rd floor
Berkeley, CA 94704
510-981-7500 TTY 6903
permits@cityofberkeley.info

PEDESTRIAN ACCESS DURING CONSTRUCTION PROJECTS

MAINTENANCE OF A CLEAR AND ACCESSIBLE PEDESTRIAN CORRIDOR

The Contractor or permittee shall maintain an accessible corridor that provides at least one safe path of travel for all pedestrians at all times for the duration of the project.

- Pedestrian corridor shall be a nominal width of 6' whenever feasible, and shall conform to ADAAG guidelines. It shall not be less than 48" wide at single point of contact or obstruction.
- Accessible pedestrian corridor shall connect with facilities within the project area.
- Equipment, debris, construction materials or vehicles shall not obstruct the corridor.
- No parked vehicles can obstruct blue curb parking spaces unless permitted.
- Temporary closure of designated pedestrian routes and crossings shall be allowed only when flaggers are present and safely directing pedestrians around hazards.

TEMPORARY RAMPS CONFORMING TO ACCESSIBILITY STANDARDS

The Contractor or permittee shall install and maintain temporary concrete, asphalt or wood ramps to provide a safe path of travel for mobility-impaired pedestrians at all locations where ramps have been temporarily removed OR needed to route pedestrians.

- Temporary ramps shall be constructed so installation and removal will not damage existing pavement, curb and/or gutter.
- Ramps shall have a minimum 4' wide walking surface and a maximum slope of 8%.
- Ramps shall snugly meet existing surfaces without gaps for drainage as required.
- Schedule 40 PVC pipe minimum 2" diameter shall be installed through ramp.
- Transitions between ramps and the street surface shall be smooth such that no lip exists at the base of the ramp.
- Sides of a ramp shall be protected where there is any drop-off.

CONSTRUCTION OF SIGNPOSTS, BARRICADES AND FENCING

Barricades that are impenetrable shall be used to separate pedestrians from hazards on all sides of excavations that may be exposed to pedestrians. Use materials and methods suitable to site conditions. Signs and fencing material shall not protrude into the clear pathway.

- A-frames used for defining path of travel (not barricading trenches) shall be placed end-to-end without spacing, shall be connected and maintained to ensure stability to help a person who is blind negotiate a safe path while using a cane.

- Caution Tape shall NOT be used by itself to delineate the path of travel or create a barricade.
- Fencing material requires a minimum 3" height, solid, uninterrupted toe-board.
- Signposts, scaffolding and fencing supports shall be placed entirely outside the pedestrian path of travel, minimum 4' wide and 80" high without obstruction.
- Construction barriers shall be maintained in a sound, neat and clean condition.

IDENTIFICATION OF SAFE PATH OF TRAVEL

If a portion of the pedestrian way is rerouted due to construction, the path of travel shall be clearly defined. Traffic Engineer shall review any pedestrian access limitations and notification requirements for pedestrians with mobility or vision impairments.

- Paths of travel that DO NOT continue to the next corner or to a safe crosswalk shall be closed to pedestrian traffic. Signs a minimum of 36" x 36" must be posted stating the sidewalk is closed and detour pedestrians to accessible sidewalk.
- Pedestrian access corridors shall be clearly delineated with cones or barricades, as approved by the Engineer.
- If a crosswalk is closed, curb ramps leading into that crosswalk must be barricaded in such a manner that walkways that are not closed remain accessible to use.
- Caution Tape shall NOT be used by itself to delineate the path of travel or create a barricade.

SURFACING OF PEDESTRIAN CORRIDORS

During construction, tripping hazards and barriers for people with mobility impairments must be removed to maintain an accessible pedestrian corridor.

- Any change of level, which exceeds 1/4" height, must be beveled at 45°.
- Closed trenches, temporary paving surfaces, walking surfaces, steel plates; etc. shall have a smoothly finished, firm walking surface made even w/surrounding walkways.
- Aisle or loading area adjacent to a parking space is part of the pedestrian corridor.

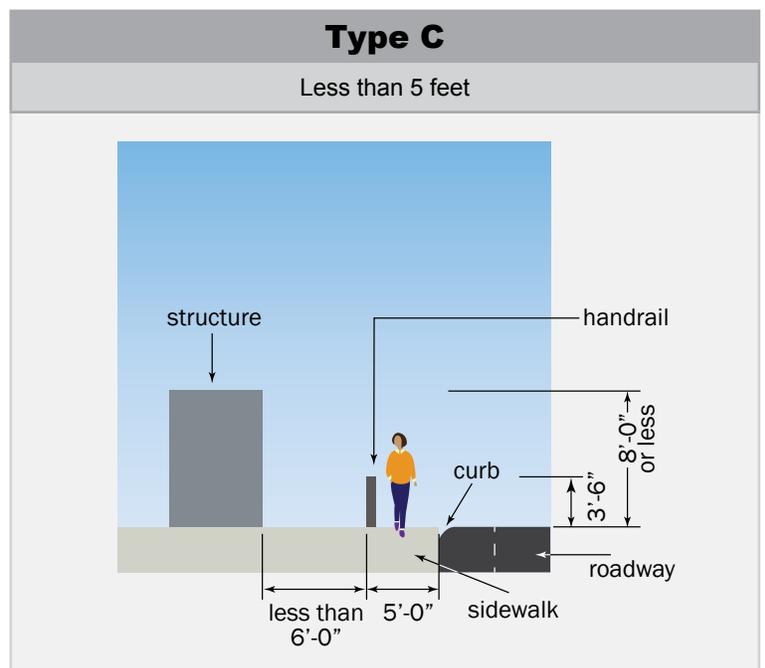
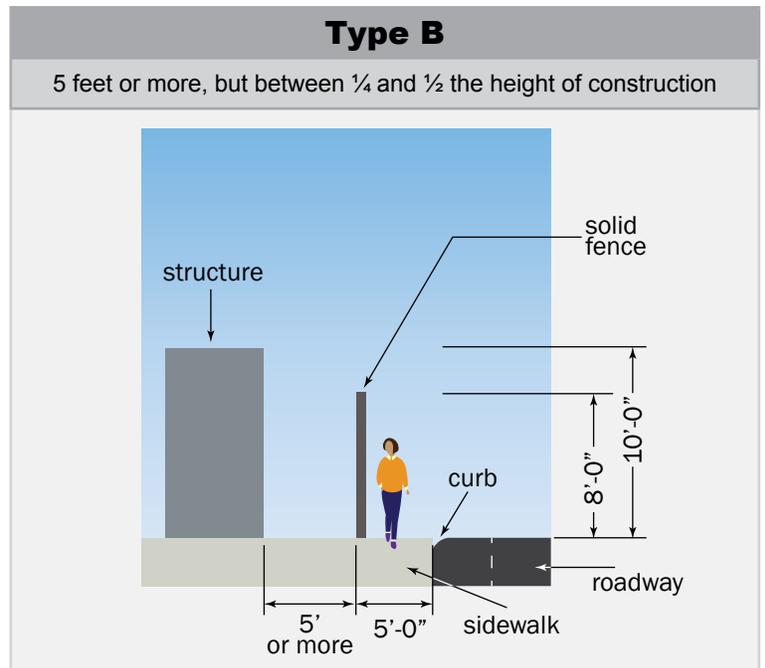
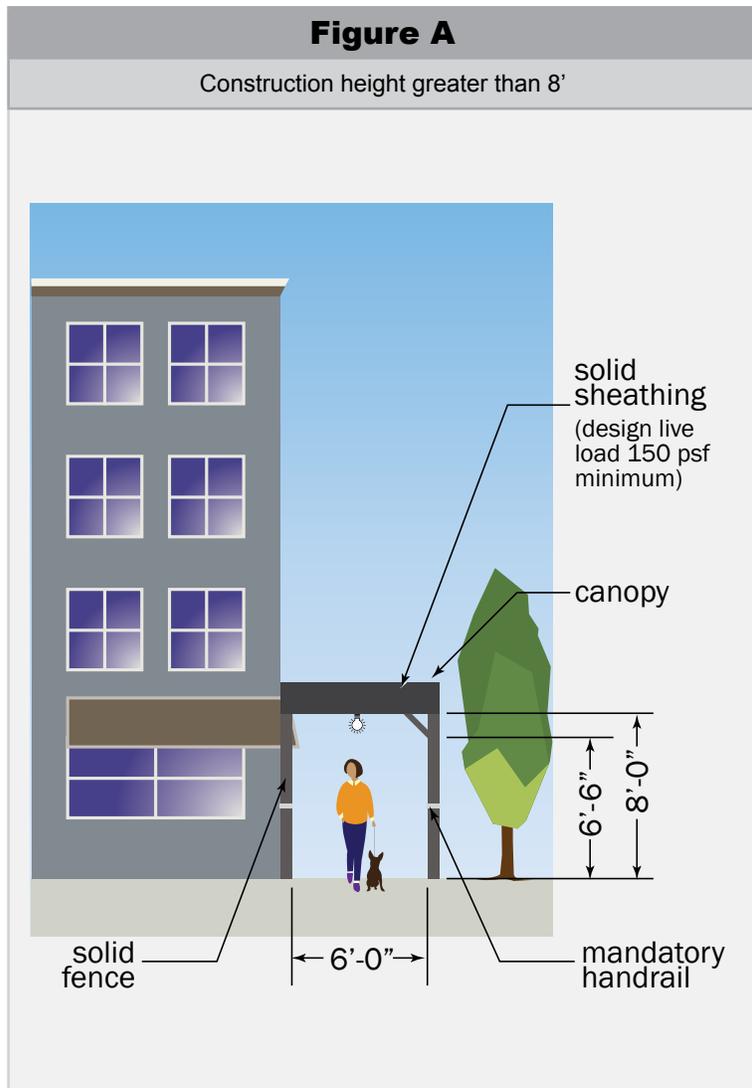
RESTORATION OF PEDESTRIAN ROUTES

After construction, the site shall be returned to its former condition, or new condition as required.

- Temporary ramps shall be removed as soon as construction and approval of permanent ramp is completed.
- After work is completed, surface of the pedestrian path shall be restored free from all ridges, gaps, bumps and rough edges.
- Construction that affects existing curb ramp shall include replacement or repair of the curb ramp to meet current City standards.

TABLE 3306.1 PROTECTION OF PEDESTRIANS

Height of Construction	Distance from Construction to Lot Line	Type of Protection Required
8 feet or less	Less than 5 feet	Construction Railings (see Figure C)
	5 feet or more	None
More than 8 feet	Less than 5 feet (see Figure A)	Barrier and covered walkway
	5 feet or more, but not more than ¼ the height of construction	Barrier and covered walkway
	5 feet or more, but between ¼ and ½ the height of construction	Barrier (see Figure B)
	5 feet or more, but exceeding ½ the height of construction	None



3306.2 WALKWAYS

A walkway shall be provided for pedestrian travel in front of every construction and demolition site unless the applicable governing authority authorizes the sidewalk to be fenced or closed. Walkways shall be of sufficient width to accomodate the pedestrian traffic, but in no case shall they be less than 4 feet (1219 mm) in width. Walkways shall be provided with a durable walking surface. Walkways shall be accessible in accordance with Chapter 11 and shall be designed to support all imposed loads and in no case shall the design live load be less than 150 pounds per square foot (psf) (7.2 kN/m²).

3306.3 DIRECTIONAL BARRICADES

Pedestrian traffic shall be protected by a directional barricade where the walkway extends into the street. The directional barricade shall be of sufficient size and construction to direct vehicular traffic away from the pedestrian path.

3306.4 CONSTRUCTION RAILINGS

Construction railings shall be not less than 42 inches (1067 mm) in height and shall be sufficient to direct pedestrians around construction areas.

3306.5 BARRIERS

Barriers shall be not less than 8 feet (2438 mm) in height and shall be placed on the side of the walkway nearest the construction. Barriers shall extend the entire length of the construction site. Openings in such barriers shall be protected by doors that are normally kept closed.

3306.6 BARRIER DESIGN

Barriers shall be designed to resist loads required in Chapter 16 unless constructed as follows:

- Barriers shall be provided with 2-inch by 4-inch (51 mm by 102 mm) top and bottom plates.
- The barrier material shall be boards not less than 3/4-inch (19.1 mm) thick or wood structural panels not less than 1/4-inch (6.4 mm) thick.
- Wood structural use panels shall be bonded with an adhesive identical to that for exterior wood structural use panels.
- Wood structural use panels 1/4 inch (6.4 mm) or 5/16-inch (23.8 mm) in thickness shall have studs spaced not more than 2 feet (610 mm) on center.
- Wood structural use panels 3/8 inch (9.5 mm) or 1/2 inch (12.7 mm) in thickness shall have studs spaced not more than 4 feet (1219 mm) on center provided a 2-inch by 4-inch (51 mm by 102 mm) stiffener is placed horizontally at mid-height where the stud spacing is greater than 2 feet (610 mm) on center.
- Wood structural use panels 5/8 inch (15.9 mm) or thicker shall not span over 8 feet (2438 mm).

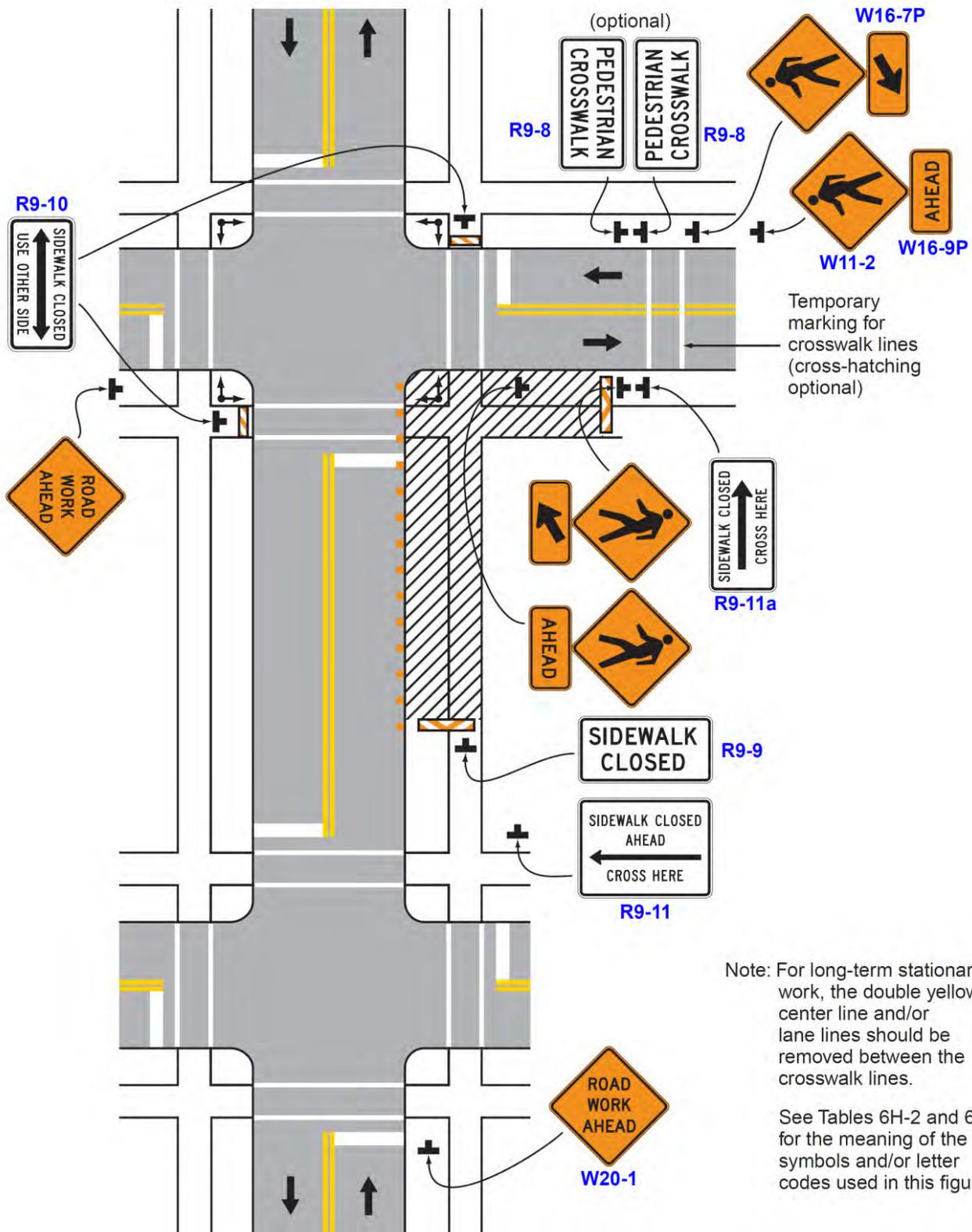
Check One: Contractor Owner Owner's Agent

Name

Signature

Date

Figure 6H-29. Crosswalk Closures and Pedestrian Detours (TA-29)

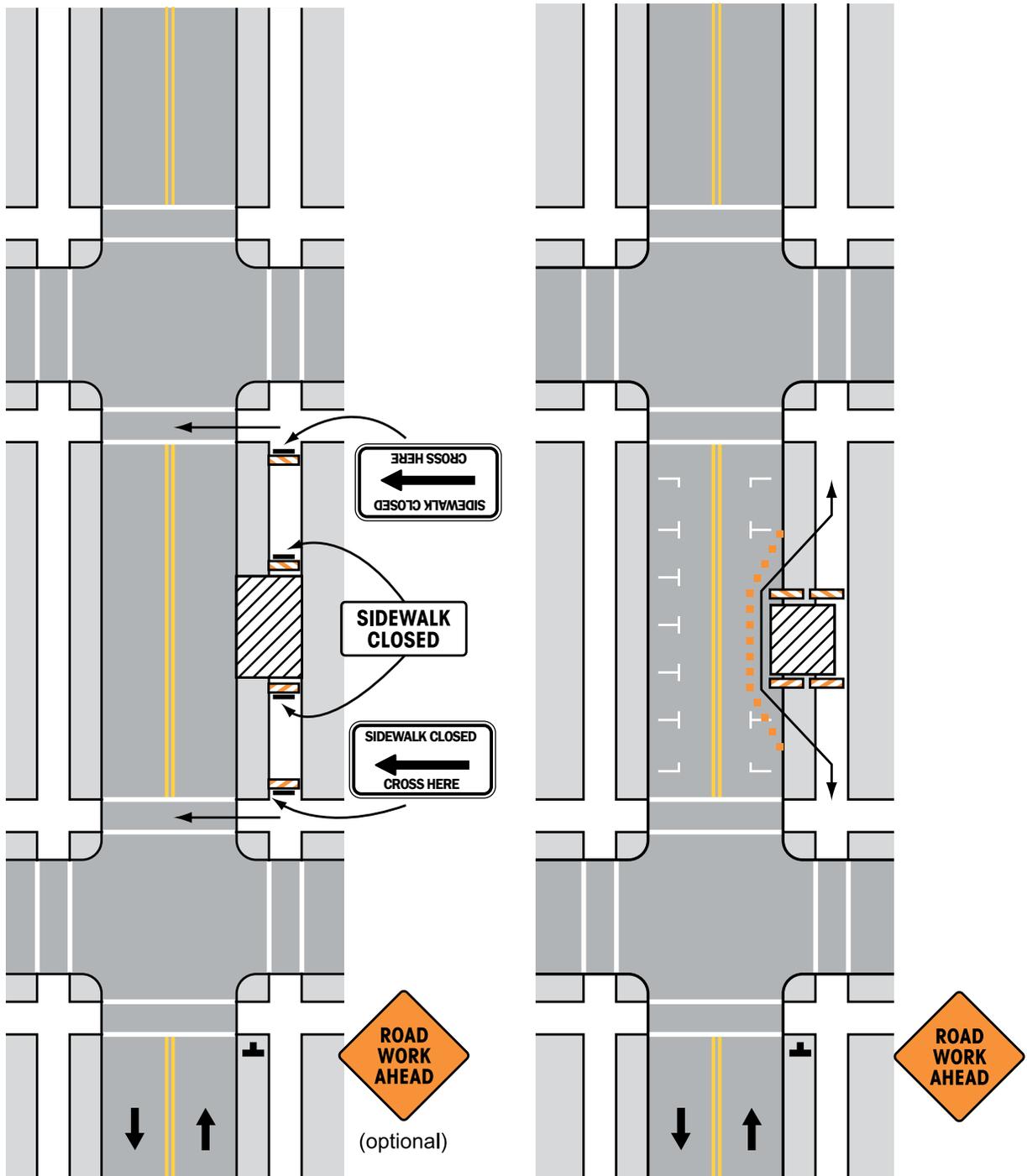


Note: For long-term stationary work, the double yellow center line and/or lane lines should be removed between the crosswalk lines.

See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

Typical Application 29

Figure 6H-28. Sidewalk Detour or Diversion (TA-28)

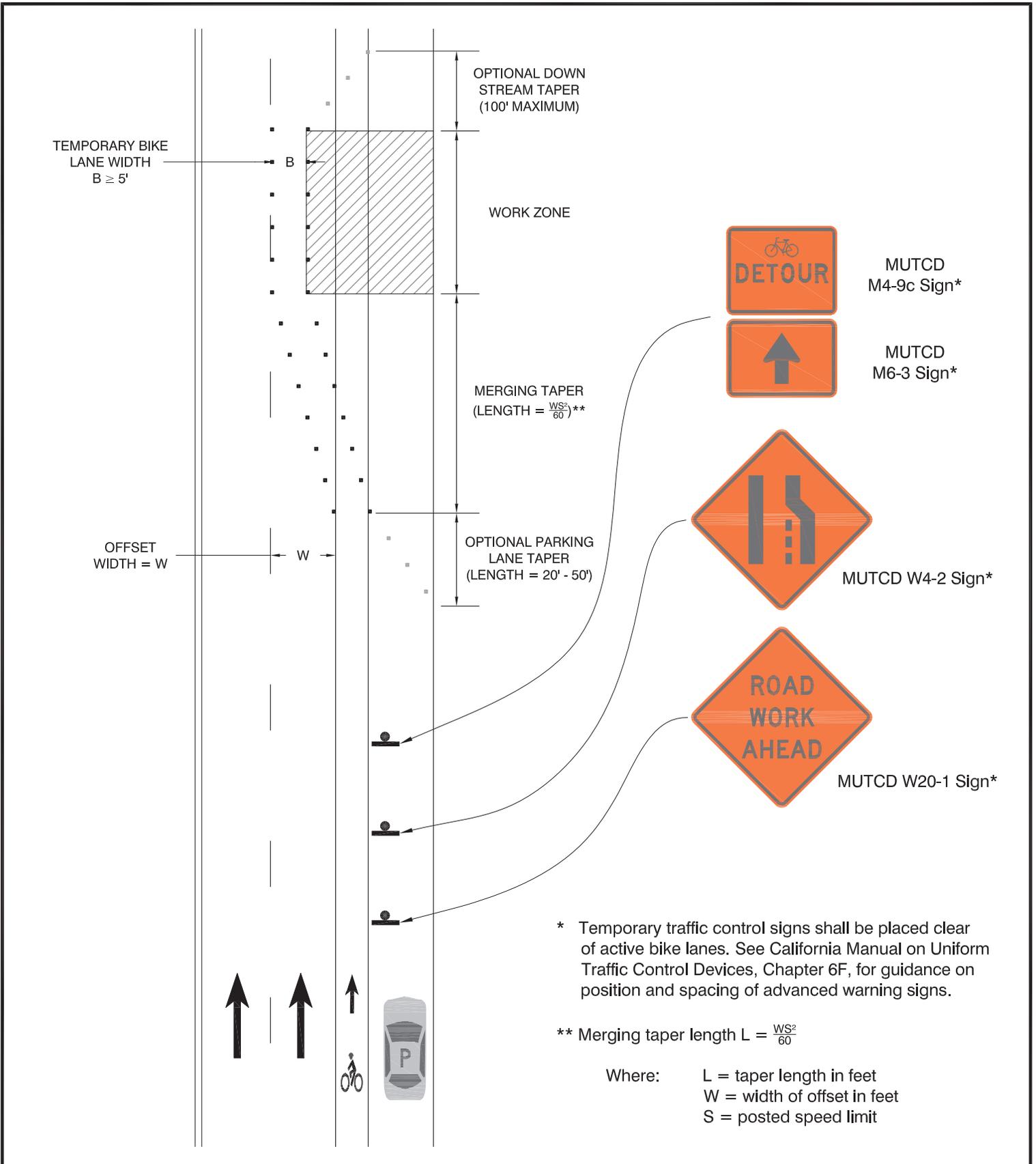


SIDEWALK DETOUR

SIDEWALK DIVERSION

Typical Application 28

Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.



CITY OF OAKLAND

BUREAU OF ENGINEERING AND CONSTRUCTION
BICYCLE FACILITIES PROGRAM
250 FRANK H. OGAWA PLAZA, SUITE 4344 * OAKLAND CA, 94612
(510) 238-3466 * FAX (510) 238-7415

MULTI-LANE ROADWAY WITH TRAVEL LANE CLOSURE, TEMPORARY BIKE LANE, AND PARKING LANE CLOSURE

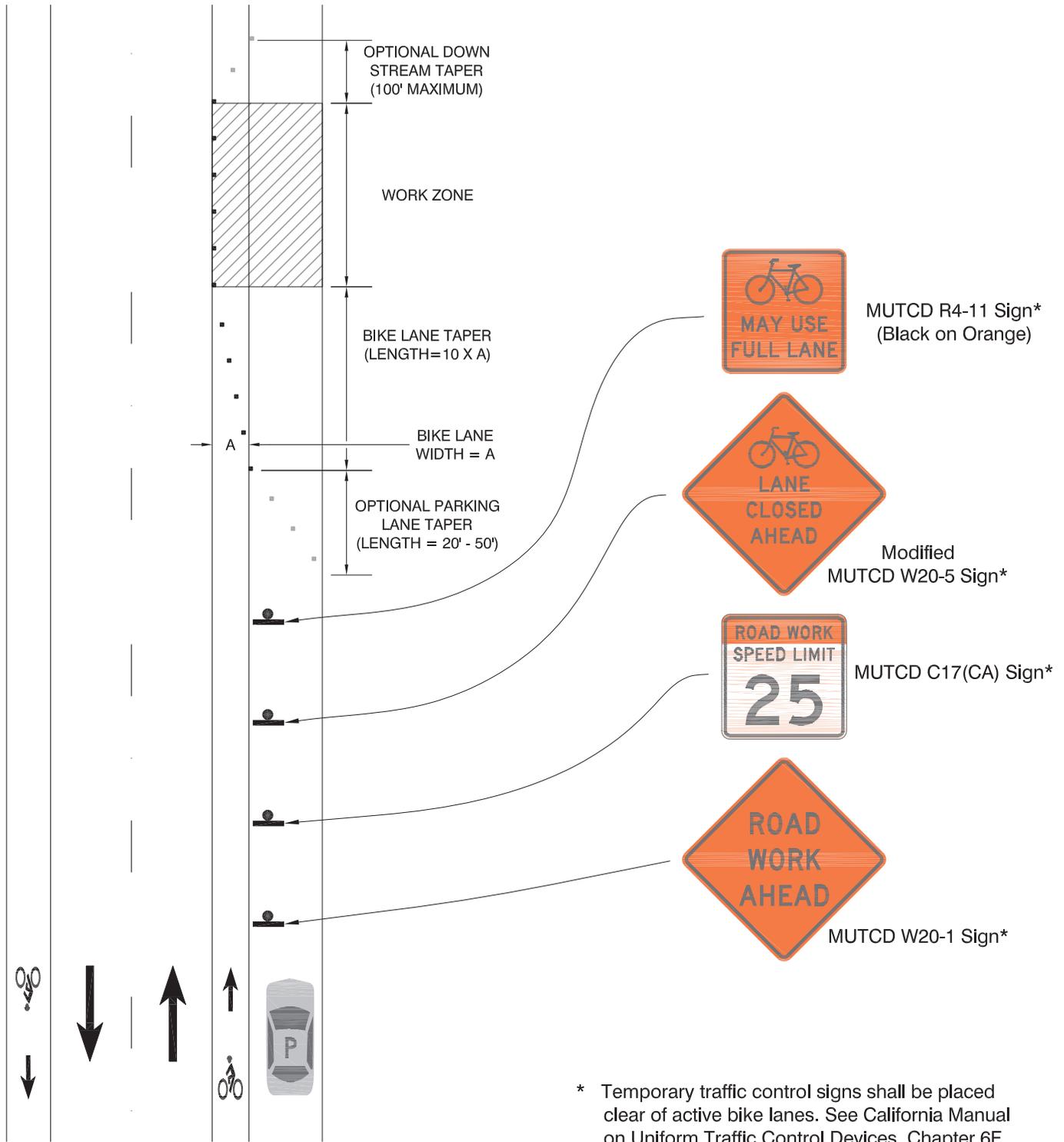
TEMPORARY TRAFFIC CONTROL DETAILS

SCALE: NOT TO SCALE

DWG. NO.

TTC-1

DATE: OCT 2016



* Temporary traffic control signs shall be placed clear of active bike lanes. See California Manual on Uniform Traffic Control Devices, Chapter 6F, for guidance on position and spacing of advanced warning signs.



CITY OF OAKLAND

BUREAU OF ENGINEERING AND CONSTRUCTION
 BICYCLE FACILITIES PROGRAM
 250 FRANK H. OGAWA PLAZA, SUITE 4344 * OAKLAND CA, 94612
 (510) 238-3466 * FAX (510) 238-7415

**SINGLE-LANE ROADWAY WITH
 BIKE LANE CLOSURE AND
 PARKING LANE CLOSURE**

**TEMPORARY TRAFFIC
 CONTROL DETAILS**

SCALE: NOT TO
 SCALE

DWG. NO.

TTC-2

DATE: OCT 2016

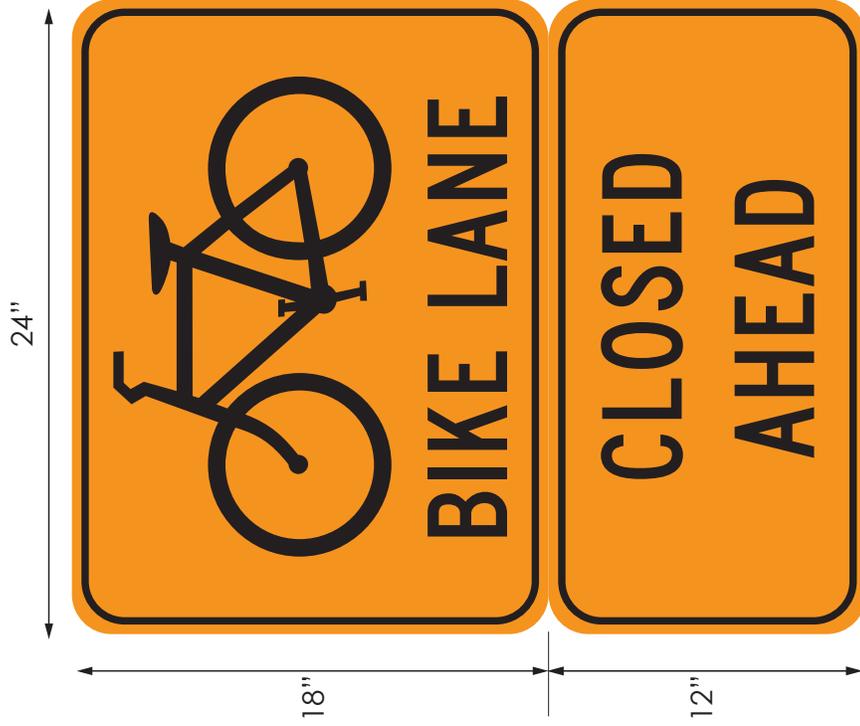


Assemblies for Long-Term Bike Lane Closures

Sign blades/assemblies based on those in the MUTCD (sign numbers indicated, except where noted), modified for traffic control use. All signs shall have a black legend and border on an orange background and use FHWA Series C typeface.

R81/Custom Supplemental "CLOSED AHEAD" Plaque

- 3" letter height, all CAPS



R81/Custom Supplemental "CLOSED" Plaque

- 3" letter height, all CAPS



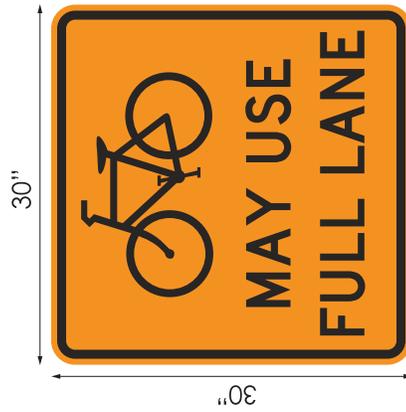
City of Oakland, Temporary Traffic Control Sign Details for Bikeway Detours and Long-Term Bike Lane Closures

Assemblies for Streets Without Bike Lanes

Sign blades/assemblies based on those in the MUTCD (sign numbers indicated, except where noted), modified for traffic control use. All signs shall have a black legend and border on an orange background and use FHWA Series C typeface.

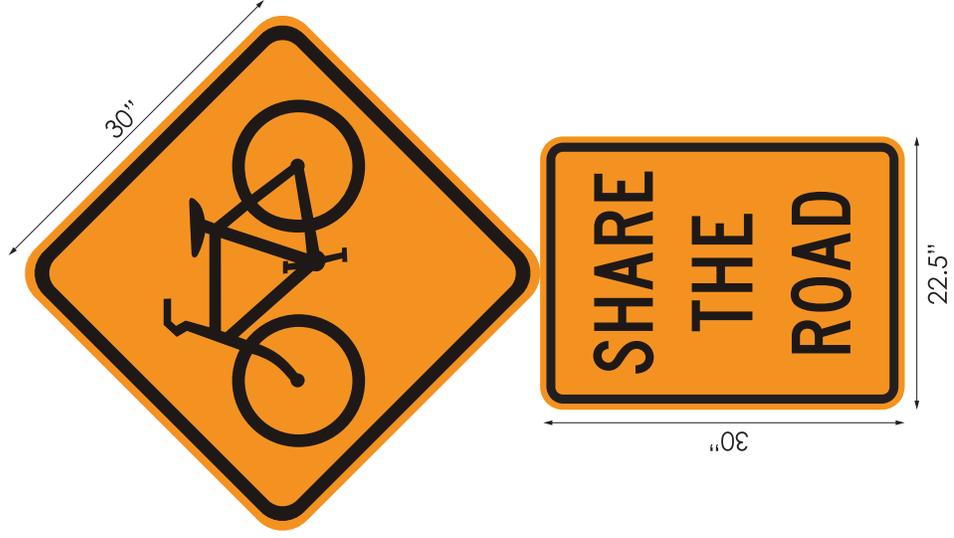
R4-11 (BIKES MAY USE FULL LANE)

- Use: roads with two or more lanes per direction
- 4" letter height, all CAPS



W11-1 (bike warning) / W16-1 (SHARE THE ROAD) assembly

- Use: roads with one lane per direction
- W16-1: 5" letter height, all CAPS



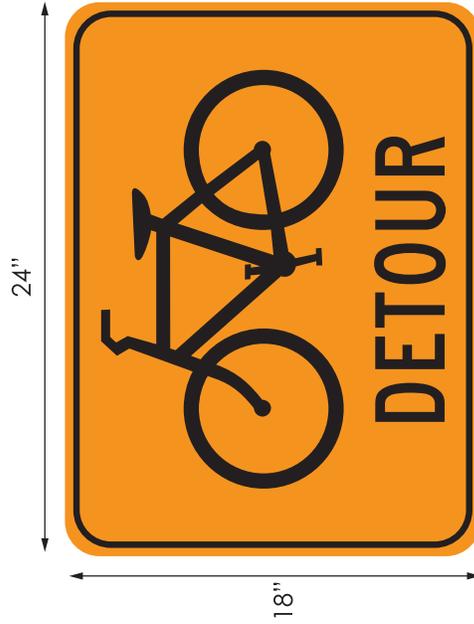


Blade Layout Details

Sign blades/assemblies based on those in the MUTCD (sign numbers indicated, except where noted), modified for traffic control use. All signs shall have a black legend and border on an orange background and use FHWA Series C typeface.

D11-1

- 3" letter height, CAPS



S17 (CA)

- 2.5" letter height, CAPS
(example route name shown)



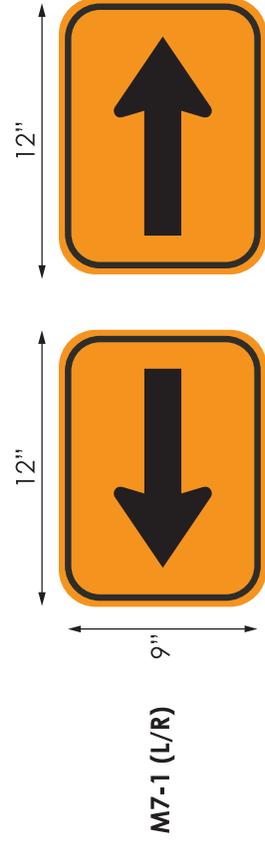
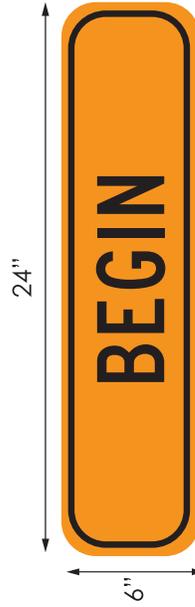
D1-1b

- 24" wide, 6" high (one-line);
10" high (two-line, not shown)
- 2" letter height, Title Case
(example text shown)



M4 series

- 3" letter height, CAPS

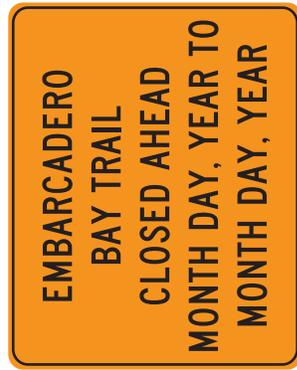




City of Oakland, Temporary Traffic Control Sign Details for Bikeway Detours and Long-Term Bike Lane Closures

Example Assemblies for Bikeway Detours *

Sign blades/assemblies based on those in the MUTCD (sign numbers indicated, except where noted); modified for traffic control use. All signs shall have a black legend and border on an orange background and use FHWA Series C typeface.



- 30" wide; height varies based on content
- Min 2.5 letter height, all CAPS



- 24" wide x 36" high



- 24" wide x 33" high



- 24" wide x 30" high



- 24" wide x 30" high

* Example assemblies shown above are from a project-specific detour. Assemblies will vary by project.

Chapter 6 Appendices

Appendix 6-A Contact Information for Neighboring Agencies

Agency	Name	Phone Number	Email Address
City of Albany	Mark Hurley 8am to 4:30	510-559-7255	mhurley@albanyca.org
	Police Department Non-Business Hours	510-525-7300	
East Bay Regional Parks District	Park Supervisor- Tilden Park	510-544-2711	shuerta@ebparks.org
	Matt Norton, Sanitation Supervisor	510-690-6680	MNorton@ebparks.org
	Eric Bowman, Maintenance Superintendent	510-690-6641	EBowman@ebparks.org
	Kelly Barrington, Chief of Maintenance	510-544-2561	kbarrington@ebparks.org
	Police Dispatch	(510) 881-1833	
City of El Cerrito	Stege Call Center	510-524-4667	Staff@StegeSan.org
City of Emeryville	Call Center M-F 9:00 to 5:00PM	510-596-4330	public_works@ci.emeryville.ca.us
	After-Hours	510-596-3700	
Kensington	Stege Call Center	510-524-4667	Staff@StegeSan.org
Lawrence Berkeley National Lab	Ron Pauer	Office 510-486-7614 Cell 510-289-9324	
	Ned Borglin Cell	510-486-4332	
	Dean Sedlachek – Environmental Health and Safety	510-486-4216 Cell 510-289-7569	
Stege Sanitary District	Stege Call Center	510-524-4667	Staff@StegeSD.dst.ca.us
	Dennis Wright (Superintendent)		Dennis@StegeSan.org
City of Oakland	Public Works Call Center	510-615-5566	pwacallcenter@oaklandnet.com
	Tyree Jackson		tajackson@oaklandca.gov
University of California	Greg Haet Environmental Protection	Office 510-642-4848 Cell 510-812-1541	
	Bernadette Santos Environmental Specialist, Office of Environment, Health & Safety	Office 510-642-6568 Cell 510-385-4757	bsantos@berkeley.edu

City of Berkeley Sewer System Management Plan

Agency	Name	Phone Number	Email Address
	Office of Environment, Health & Safety	510-642-3073	
	UC Police Department	510-642-3333	

Appendix 6-B Sewer Field Crew Report

- Settings
- New
- Open
- Hold
- Cancel
- Complete
- Close

Comments

Spill Summary

SSO Event ID	Spill Date	Estimated Start Time of Spill
<input type="text"/>	<input type="text"/>	<input type="text"/>
Start Time Explanation	Time Crew Received Call	Estimated Time of Crew Arrival
<input type="text"/>	<input type="text"/>	<input type="text"/>
Spill Response Completion Time		
<input type="text"/>		

Spill Details

Spill Appearance Point Explanation	Spill Discharge to Drainage Channel/Surface Water?	Spill Discharge to Storm Drain & Was Not Captured?
<input type="text"/>	<input type="text"/>	<input type="text"/>
Private Lateral Spill?	Name of Resp. Party for Private Lateral Spill	Final Spill Destination
<input type="text"/>	<input type="text"/>	<input type="text"/>
Explanation of Final Spill Destination	Estimated Spill Volume (Gallons)	Estimated Volume of Spill Recovered (Gallons)
<input type="text"/>	<input type="text"/>	<input type="text"/>

Appendix 6-C Methods for Estimating Spill Volume

A variety of approaches exist for estimating the volume of a sanitary sewer spill. This appendix documents the three methods that are most often employed. The person preparing the estimate should use the method most appropriate to the sewer overflow in question and use the best information available.

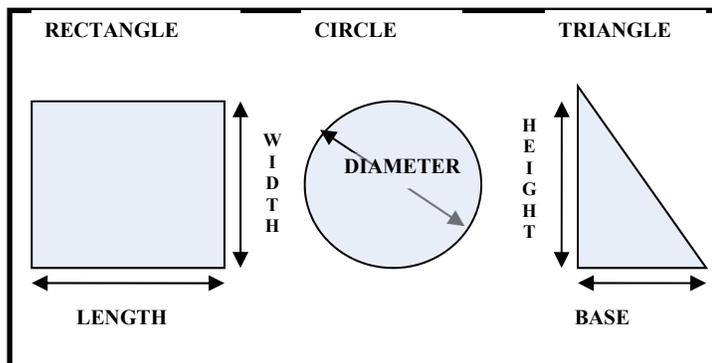
Method 1 Eyeball Estimate

The volume of small spills can be estimated using an “eyeball estimate”. To use this method imagine the amount of water that would spill from a bucket or a barrel. A bucket contains 5 gallons and a barrel contains 50 gallons. If the spill is larger than 50 gallons, try to break the standing water into barrels and then multiply by 50 gallons. This method is useful for contained spills up to approximately 200 gallons.

Method 2 Measured Volume

The volume of most small spills that have been contained can be estimated using this method. The shape, dimensions, and the depth of the contained wastewater are needed. The shape and dimensions are used to calculate the area of the spills and the depth is used to calculate the volume.

Common Shapes and Dimensions



- Step 1 Sketch the shape of the contained sewage (see figure above).
- Step 2 Measure or pace off the dimensions.
- Step 3 Measure the depth at several locations and select an average.
- Step 4 Convert the dimensions, including depth, to feet.
- Step 5 Calculate the area in square feet using the following formulas:
 Rectangle: $\text{Area} = \text{length (feet)} \times \text{width (feet)}$
 Circle: $\text{Area} = \text{diameter (feet)} \times \text{diameter (feet)} \times 0.79$
 Triangle: $\text{Area} = \text{base (feet)} \times \text{height (feet)} \times 0.5$
- Step 6 Multiply the area (square feet) times the depth (in feet) to obtain the volume in cubic feet.
- Step 7 Multiply the volume in cubic feet by 7.5 to convert it to gallons

Method 3 Duration and Flowrate

Calculating the volume of larger spills, where it is difficult or impossible to measure the area and depth, requires a different approach. In this method, separate estimates are made of the duration of the spill and the flowrate. The methods of estimating duration and flowrate are:

Duration: The duration is the elapsed time from the time the spill started to the time that the flow was restored.

Start time: The start time is sometimes difficult to establish. Here are some approaches:

Local residents can be used to establish start time. Inquire as to their observations. Spills that occur in rights-of-way are usually observed and reported promptly. Spills that occur out of the public view can go on longer. Sometimes observations like odors or sounds (e.g. water running in a normally dry creek bed) can be used to estimate the start time.

Changes in flow on a downstream flowmeter can be used to establish the start time. Typically the daily flow peaks are “cut off” or flattened by the loss of flow. This can be identified by comparing hourly flow data during the spill event with flow data from prior days.

Conditions at the spill site change over time. Initially there will be limited deposits of toilet paper and other sewage solids. After a few days to a week, the sewage solids form a light-colored residue. After a few weeks to a month, the sewage solids turn dark. The quantity of toilet paper and other materials of sewage origin increase over time. These observations can be used to estimate the start time in the absence of other information. Taking photographs to document the observations can be helpful if questions arise later in the process.

It is important to remember that spills may not be continuous. Blockages are not usually complete (some flow continues). In this case the spill would occur during the peak flow periods (typically 10:00 to 12:00 and 13:00 to 16:00 each day). Spills that occur due to peak flows in excess of capacity will occur only during, and for a short period after, heavy rainfall.

End time: The end time is usually much easier to establish. Field crews on-site observe the “blow down” that occurs when the blockage has been removed. The “blow down” can also be observed in downstream flowmeters.

Flow Rate: The flowrate is the average flow that left the sewer system during the time of the spill.

There are three common ways to estimate the flowrate:

The San Diego Manhole Flowrate Chart: This chart, shown in Figure 6-F-1, shows sewage flowing from manhole covers at a variety of flowrates. The observations of the field crew can be used to select the appropriate flowrate from the chart. If possible, photographs are useful in documenting basis for the flowrate estimate.

Flowmeter: Changes in flows in downstream flowmeters can be used to estimate the flowrate during the spill.

Counting Connections: Once the location of the spill is known, the number of upstream connections can be determined from the sewer maps. Multiply the number of connections by 200 to 250 gallons per day per connection or 8 to 10 gallons per hour per connection.

For example: 22 upstream connections x 9 gallons per hour per connection
= 198 gallons per hour / 60 minutes per hour
= 3.3 gallons per minute

Spill Volume: Once duration and flowrate have been estimated, the volume of the spill is the product of the duration in hours or days and the flowrate in gallons per hour or gallons per day.

For example:

Spill start time = 11:00

Spill end time = 14:00

Spill duration = 3 hours

3.3 gallons per minute x 3 hours x 60 minutes per hour
= 594 gallons

Figure 6-D-1: Manhole Overflow Flowrate Guide

City of San Diego
Metropolitan Wastewater Department

Reference Sheet for Estimating Sewer Spills
from Overflowing Sewer Manholes
All estimates are calculated in gallons per minute (gpm)

Wastewater Collection Division
(619) 654-4160

5 gpm

25 gpm

50 gpm

100 gpm

150 gpm

200 gpm

225 gpm

250 gpm

275 gpm

All photos were taken during a demonstration using metered water from a hydrant in cooperation with the City of San Diego's Water Department.

rev. 4/99

Appendix 6-D Sample Warning Sign



Chapter 7 Appendices

Appendix 7-A EBMUD Regional FOG Program

*EAST BAY REGIONAL FATS, OILS AND GREASE (FOG) CONTROL PROGRAM
SCOPE OF SERVICES*

Scope of Services

The purpose of this Scope of Services is to continue ongoing FOG control activities to help reduce FOG related SSOs in the agencies' community sewer system. This Scope of Services clarifies the roles and responsibilities of EBMUD and the agencies in this collaborative effort and identifies the tasks to be conducted by each party.

The agencies authorize EBMUD to implement a regional FOG control program as described in this Scope of Services. To facilitate implementation of FOG control activities outlined in the scope of services, agencies will continue to provide EBMUD with the following information:

- a) Completed grease SSO and blockage reporting forms for areas in which the agency wants EBMUD to conduct hotspot investigations;
- b) Electronic and/or hard copies of community sewer maps that include manhole identification numbers and their locations, sewer pipes size, and flow direction.
- c) Residential addresses, including apartment numbers, for hotspot areas in which the agency wishes FOG information to be delivered.

Each agency is responsible for the costs of implementing the FOG control program in its service area as established in the attached FOG Control Program Budget which is approved as part of the CSTAC annual budgeting process.

Termination

Any of the Parties may terminate its obligations under this Scope of Services by giving all other parties at least ninety (90) days written notice.

EBMUD's Scope of Services

EBMUD is the technical service provider for the agencies' FOG program requirements. EBMUD also leads inter-agency coordination for the regional FOG control program to maximize consistency and efficiency. EBMUD is responsible for the following activities:

1. FOG HOTSPOT INVESTIGATIONS

EBMUD will initiate an investigation after receiving a completed grease SSO and blockage reporting form from agency. The investigation will:

- d)
- e) Identify the sewer drainage basin contributing to the location of the blockage, SSO, or increased sewer maintenance (FOG hotspot area).
- f) Determine if the FOG hotspot area is in a residential, commercial, or combined residential/commercial drainage basin.
- g) Identify commercial FSEs that discharge in the sewer drainage basin.
 - If FSEs are identified in the sewer drainage basin, the following field activities may be performed to identify FSEs that caused or contributed to the SSO, blockage, or increased sewer maintenance:
 - Field inspection of the FSEs
 - Grease interceptor inspection

• Rectangular Snip

2. GRAVITY GREASE INTERCEPTOR INSPECTIONS (a) EBMUD will perform periodic gravity grease interceptor inspections for FSEs in hotspots as well as for FSEs that are not in hotspots. EBMUD will also inspect newly installed grease interceptors upon notification from Satellite agencies.
3. RESIDENTIAL HOTSPOT RESPONSE (a) EBMUD will provide targeted outreach in identified residential FOG hotspots. Residential outreach information will be distributed based on the residential addresses, including apartment numbers, in identified hot spot areas based on agency's requests.
4. COMMUNICATIONS TO FSE and ENFORCEMENT SUPPORT
 - a) EBMUD will send grease interceptor maintenance and grease control device installation requirement letters to FSEs where a correction is identified after completion of an EBMUD inspection.
 - b) EBMUD will send other notifications to FSEs based on agency-specific requirements. These notifications may include requirement letters, notices of non-compliance and other follow-up documents.
 - c) EBMUD will support agencies in any enforcement actions and proceedings taken by agencies (e.g. if agency initiates hearing, EBMUD will present findings of hotspot investigation).
6. REPORTING
 - a) EBMUD will submit to agencies quarterly FOG hotspot investigation summary reports. These reports include:
 - i. A summary of all FOG hotspots that were investigated during the quarter describing the activities performed and the FOG hotspot status at the end of the quarter.
 - ii. The number of inspections performed, FSEs identified to cause or contribute FOG related blockages/SSOs, GCDs confirmed to have been installed, and a summary of residential outreach materials distributed during the quarter.
7. FOG CONTROL DATABASE
 - a) EBMUD will develop and maintain a FOG control database that includes:
 - i. FOG Hotspots identified by the agencies
 - ii. FSEs identified in each FOG hotspot and grease control device/ gravity grease interceptor information for each FSE in the FOG hotspots
 - iii. FSE, gravity grease interceptor inspections performed at FSEs and FOG hotspots
8. RESIDENTIAL AND COMMERCIAL OUTREACH
EBMUD will maintain commercial and residential outreach and public education program activities, which may include bill inserts, billboards, outreach events, website development, and periodic direct communication with FSEs.

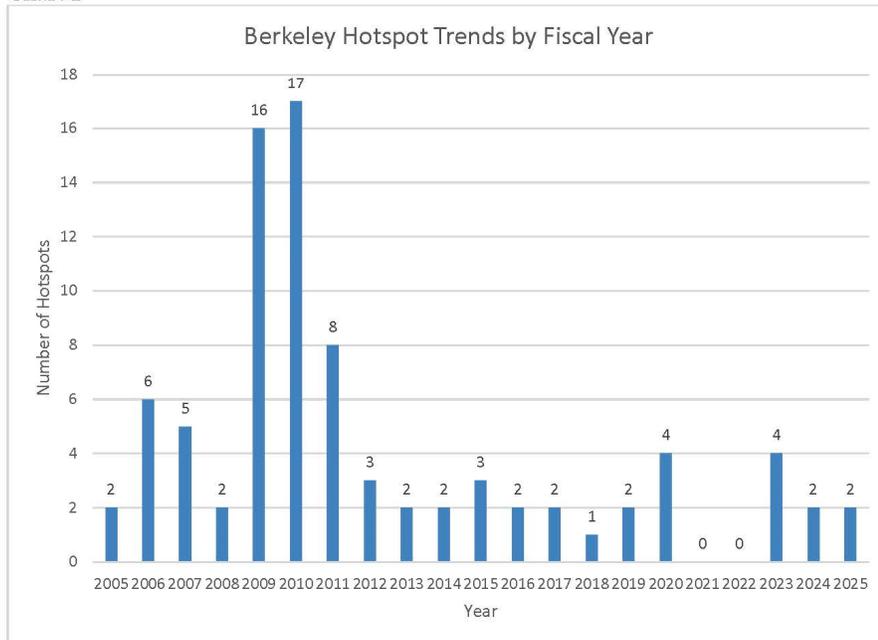
Appendix 7-B Example FOG Control Program Quarterly Summary Report

FOG CONTROL PROGRAM QUARTERLY SUMMARY FY2025 QUARTER 3 (JANUARY – MARCH 2025) CITY OF BERKELEY

Reported Hotspots

Chart 1 demonstrates hotspot trends by fiscal year for the City of Berkeley. Two hotspots were reported during this quarter.

Chart 1



Hotspot Summary

Hotspot No.	Incident Type	Date of Incident	Address	Upstream	Downstream
Berkeley – 86	SSO	03/10/2025	1500 Shattuck	17-014-29	17-014-27
Berkeley – 87	Increased Maintenance	3/24/2025	1446 University Ave	NA	NA

Berkeley 86: EBMUD performed an inspection of the Chez Panisse, Jotmahal Palace of Indian Cuisine and Dara Thai / Lao Cuisine as part of the Hotspot Response.

Berkeley 87: EBMUD performed an inspection of Monte Cristo Taqueria as part of the Hotspot Response.

**FOG CONTROL PROGRAM QUARTERLY SUMMARY
FY2025 QUARTER 3 (JANUARY – MARCH 2025)
CITY OF BERKELEY**

Inspections Completed for Current and Previous Quarters

	Quarterly Inspection Totals
This Quarter (Jan - Mar 2025)	4
Previous Quarter (Oct - Dec 2024)	4

Inspections Summary

FSE Name	FSE Address	Date of Inspection	Inspection Type
Great China	2190 Bancroft Way	2/19/2025	Grease Interceptor
Imperial Tea Court	1511-F Shattuck Ave	2/19/2025	Grease Interceptor
Jack-In-The-Box	2197 San Pablo Ave	3/4/2025	Grease Interceptor
Framani Handcrafted Foods	1311 8th St	3/18/2025	Grease Interceptor

Inspection Summary

The grease interceptors at Great China was in need of servicing. EBMUD followed up with a letter to the facility owners requesting grease interceptor service.

Residential Outreach Summary

None this quarter.

Appendix 7-C City of Berkeley FOG Brochure

FOG (Fats, Oils, Grease!)

All food service establishments, residential housing and other buildings are connected to the City of Berkeley's sewer pipes.

FOG can build up and clog sewer pipes and cause costly overflows and backups. It's bad for residents and business owners.

When fats, oils or grease (FOG) enter the sewer lines, it cools and solidifies. The congealed FOG sticks to the insides of pipes and trap food particles and other debris. Over time, the mass will continue to grow. The result will be sewage backups or overflows.

Residents are asked to store fats and grease in a disposable container and put in trash when full.

Food debris should be scraped into the trash or composted.

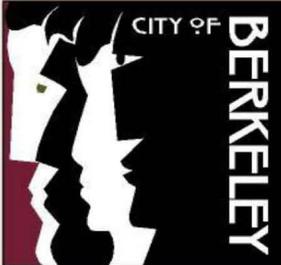


Residents are asked to store fats and grease in a disposable container and put in trash when full.

Food debris should be scraped into the trash or composted.

Commercial and Institutional kitchens should comply with use of traps, interceptors or other devices to keep fats, oils, grease and food debris out of sewer pipes.

CITY OF BERKELEY
PUBLIC WORKS DEPARTMENT
STREETS & UTILITIES DIVISION



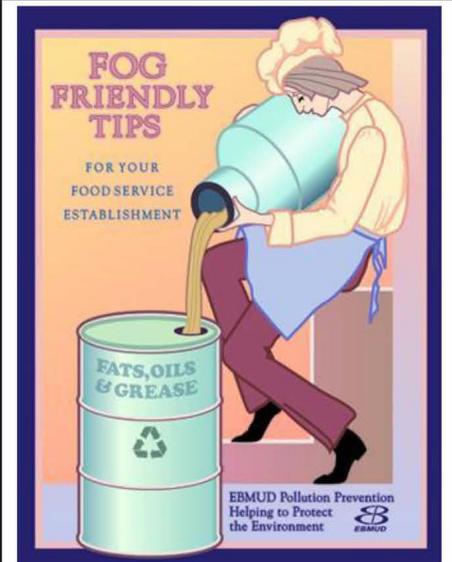
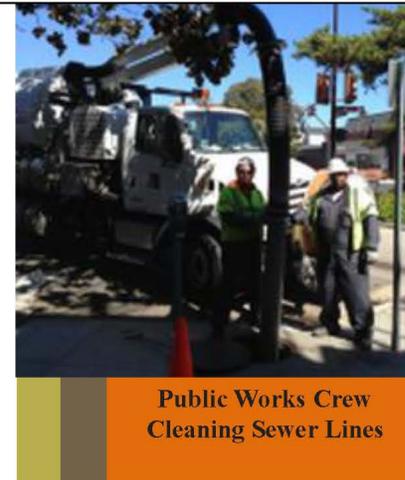

IT'S THE LAW – BMC 17.16.020

Depositing of refuse in sanitary sewers prohibited

FOG: FATS, OILS & GREASE
PROMOTING CLEAN, GREEN DRAINS





Appendix 7-D EBMUD Approved Grease Haulers

Name	Contact	Phone Number	Email	City
A-1 Septic Tank Service	Jack or Sarah Shane	510-886-4455	sarahcortez1111@gmail.com	Hayward
Able Septic	Glen Gilbert	408-398-4990	Glen@ableseptic.com	San Jose
Burr Plumbing & Pumping Inc.	Eric Burr, President	408-287-2877	burr@bp2inc.com	San Jose
Clean World Grease Trap Service	Bairon Cruz	510-517-4104	cleanworldgreasetrap@gmail.com	Richmond
Golden Valley Pumping	Jose Luis Trinidad	559-598-2855	goldenvalleypumpingco@gmail.com	Kerman
Grease Lightning 2	Jack Gonzales, President	408-592-4020	jackgonzales08@comcast.net	Modesto
Grease Trap Clnrs & Oil Collectors	Hugo E. Arteaga	209-855-1276	sosgreasetrap@gmail.com	Tracy
Green Drive Biodiesel LLC	Behruz Bonshahi, Owner	209-808-1641	greendrivebiodiesel@gmail.com	Tracy
Liquid Environmental Solutions	Kevin Newman	510-266-5719	kevin.newman@liquidenviro.com	Hayward
Grease Trap Cleaners	Gabriel Martelino, Owner	510-375-2622	gabriel@trapcleaners.com	Hayward
MBR Plumbing LLC dba Flowing Water	Markelle Rodriguez	925-270-3195	markelle@flowingwater.net	Concord
Magic Plumbing	Paul Rowe, President	415-559-6256	paul@magicplumbing.com	San Francisco
Roto Rooter Services Co - Livermore	Aaron Sanchez, Driver	510-871-1660	510-7013@rrsc.com	Livermore
West Coast Trap Recycling	Raul Alfonso Rivas Gonzalez, Owner	510-586-9793	westcoasttrap1@gmail.com	San Pablo

Appendix 7-E Grease SSO and Blockage Reporting Form

City of Berkeley Sewer System Management Plan

Record ID: SWR-2019-000440

Save Reset Help

LAGAN CASE INFORMATION:

Lagan Case ID
121000682645

311Agent
Rodriguez, Jacqueline

After Hours Call
 Yes No

Unknown Water Reported

Sinkhole Reported

Surface Type Reported
Street

PROBLEM DETAILS:

City Problem
 Yes No

Upper Lateral
 Yes No

Backup Building

Backup Yard

Manhole Overflow

Cleanout Overflow

Odor

Slow Drain

Unknown Water

Holding Water

Other Problem

OTHER PARTIES:

EBMUD

PGE

Cable

Other Party

BLOCKAGE INFORMATION:

Roots

Grease

Debris

Structural

Construction Debris

Unknown Blockage

No Blockage

Other Blockage

FOLLOW UP:

Jet Flush

Handrod

CCTV

Root Foam

Engineering

Dig and Repair

Other Follow Up

City of Berkeley Sewer System Management Plan

SPILL SUMMARY:

SSO EVENT ID

SPILL DATE

ESTIMATED START TIME OF SPILL

 AM

START TIME EXPLANATION

TIME CREW RECEIVED CALL

 AM

ESTIMATED TIME OF CREW ARRIVAL

 AM

SPILL RESPONSE COMPLETION TIME

 AM

SPILL DETAILS:

SPILL APPEARANCE POINT EXPLANATION

DID THE SPILL DISCHARGE TO A DRAINAGE CHANNEL AND / OR SURFACE WATER?

Yes No

DID THE SPILL DISCHARGE TO A STORM DRAIN THAT WAS NOT FULLY CAPTURED AND RETURNED TO SEWER SYSTE

Yes No

PRIVATE LATERAL SPILL?

Yes No

NAME OF RESONSIBLE PARTY FOR PRIVATE LATERAL SPILL (ONLY IF KNOWN)

FINAL SPILL DESTINATION

EXPLANATION OF FINAL SPILL DESTINATION

ESTIMATED SPILL VOLUME IN GALLONS

ESTIMATED VOLUME IN GALLONS OF SPILL RECOVERED

SPILL VOLUME CALCULATIONS / DESCRIPTION

ESTIMATED VOLUME IN GALLONS OF SPILL NOT RECOVERED FROM A STORM DRAIN/SURFACE WATERS

OES CALLED? (>1000 Gal) (800) 852-7550

Yes No

COB ENVIRONMENTAL HEALTH CALLED? 981-5310

OVERALL SPILL DESCRIPTION

[check spelling](#)

WORKORDER STATUS:

Chapter 8 Appendices

Appendix 8-A Design Flow, Hydraulic, and Capacity Criteria

Excerpted from Sewer System Hydraulic Modeling and Capacity Assessment Report (October 2012)

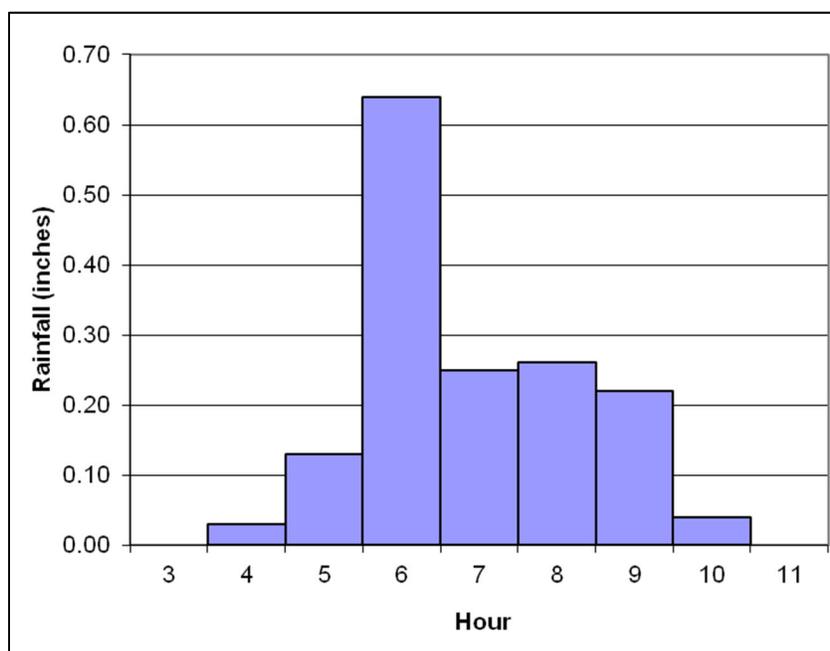
Design Flow Criteria

The model calibration determined dry and wet weather flow parameters that represent existing flow conditions. These parameters were reviewed to determine their applicability for use in identifying future capacity deficiencies and for sizing future sewers. Based on this review, the following design criteria were adopted for use in the capacity analysis:

- Flow from future growth was added to the calibrated existing flows. This assumes that there will be no significant reductions (e.g., from water conservation) or increases (e.g., from more intense water use) in existing usage rates in the future.
- Flow for future residential development was added at a rate of 280 gpd per single family house and 200 gpd per multi-family dwelling unit. These rates are somewhat conservative based on existing usage rates, but are consistent with the City’s sewer design criteria.
- Flow for future non-residential development was added at a rate of 0.15 gpd per developed square foot. Future hotel rooms were added at a rate of 150 gpd per room.
- The same calibrated wet weather flow rates were applied to generate flows throughout the system under both existing and future conditions. This assumes that any parcels that are currently vacant but developed in the future will contribute similar rates of RDI/I as surrounding developed parcels. This also assumes that there will be no significant reductions (e.g., from rehabilitation or replacement of older sewers), or increases (e.g., from sewer deterioration) in I/I in the future. Note that the assumption of no change in I/I is made for purposes of identify potential capacity deficiencies. However, it is recognized that the City intends to continue its ongoing program of rehabilitating and replacing older sewers throughout the system. Therefore, it is expected that I/I will continue to be reduced. The impact of I/I reduction on required capacity improvement projects is discussed in Chapter 7.
- A design rainfall event must be applied in the model to the calibrated wet weather parameters to determine design peak wet weather flows. The design storm for this study was based on the EBMUD I/I Study design storm developed in the 1980s for the Sewer System Evaluation Survey. This storm is a 7-hour storm based on an actual historical event, with a 5-year return period over durations of 1 to 5 hours.
- The timing of the design storm also affects the resulting peak wastewater flows. If the design storm is timed to cause peak RDI/I at the same time as peak base wastewater flow (“peak-on-peak”), the total peak wet weather flow will be higher than if the design storm occurs during the minimum base wastewater flow. Timing the storm to produce peak-on-peak results is generally thought to create a return period in the peak wastewater flow that is greater than the return period of the design rainfall event itself (a 5-year storm event occurring at the same time as peak base wastewater flow would occur less often than a 5-year storm occurring at any other time during the day). The design storm for this capacity analysis was timed to produce approximately a peak-on-peak response in most areas of the City.

- Since rainfall intensities vary across the City, the design storm must also vary in order to provide a consistent 5-year return period in various areas of the City. The original EBMUD I/I Study used multipliers based on mean annual precipitation areas to effectively create a larger design storm in areas with higher mean annual precipitation (but with a 5-year return period for the area). The same approach was used for this study, but the mean annual precipitation areas and values were updated based on a more recent Alameda County Hydrology Manual (2003).

The figure below shows the base EBMUD I/I Study design storm used for this study. This storm has total rainfall of 1.57 inches, with peak hour rainfall of 0.64 inches (as measured at the Oakland Airport). By using multipliers for the various mean annual precipitation, this storm gradually varies across the City and its service area (including the Oakland hills area that drains to the City's sewer system) to reach a maximum total rainfall of 2.2 inches, with peak hour rainfall of 0.9 inches.



East Bay I/I Study 5-Year Design Storm

Hydraulic Criteria

The capacity of existing sewers was evaluated based on the pipe parameters in the model (diameter, slope, and roughness factor). A Manning's 'n' value of 0.013 was generally used for all sewers except for high density polyethylene (HDPE) pipe installed over the past years. For these pipes, an 'n' value of 0.011 was used, based on pipe manufacturer's specifications. For HDPE pipe, capacity calculations were based on the pipe inside diameter.

Capacity Analysis Criteria

Capacity deficiencies requiring relief were identified based on model-predicted surcharge conditions. Specifically, capacity restrictions causing surcharging to within 5 feet of the manhole rim during design storm peak wet weather flow (PWWF) were identified as needing potential capacity relief. Under peak

dry weather flow (PDWF) conditions, however, no surcharging would be allowed. Note that surcharging does not necessarily indicate a capacity restriction at that particular location, as flows can back up due to a capacity deficient area and cause surcharging due to backwater.

Appendix 8-B Status of Capacity Improvement Projects (May 2025)

Project ID	Project Location	Exist. Pipe Dia. (in.)	Project Length(ft.)	Estimated Capital Cost	Project Status (May 2025)
Adeline St, Shattuck Ave, et al.	Adeline, Shattuck, Oxford	8 to 45	7,562	\$8.1M	Construction
Sewer CIP REHAB YEAR 2026 - Project #2	Adeline, Benvenue, Woolsey	4 to 22	7,976	\$4.0M	In planning (FY26)
Sewer CIP REHAB YEAR 2026 - Project #3	9th, Grayson, and University	4 to 36	10,042	\$4.2M	In planning (FY26)
Sewer CIP REHAB YEAR 2027 - Project #1	Hopkins, Shattuck, Virginia,	6 to 30	13,395	\$5.3M	In planning (FY27)
Sewer CIP REHAB YEAR 2027 - Project #2	Marin, Yosemite, and various backlines in the Berkeley hills	4 to 42	9,220	\$7.0M	In planning (FY27)

Chapter 9 Appendices

Chapter 10 Appendices

Appendix 10-A 2025 SSMP Audit Report

SSMP Audit 2025

City of Berkeley Sewer System Management Plan
2025 SSMP Audit

The SSMP audit was conducted March 2025. Auditors: Francisco Alonso, Junior Public Works Engineer; John Hurtado, PW Maintenance Superintendent; Jesus Sandoval, Senior PW Supervisor;

	Element 1 – Goals	Yes	No
1	Are the goals stated in the SSMP still appropriate?	X	

Element 1 recommendations

None.

	Element 2 – Organization	Yes	No
1	Is the key staff contact information in Appendix 2-A current?		X
2	Is the SSO responder telephone list current?		X
3	Is the figure 2-2 of the SSMP entitled “Chain of Communications for Reporting SSOs” current?	X	
4	Are the position descriptions and accurate portrayal of staff responsibilities?	X	
5	Is the chain of communication for reporting and responding to SSO’s accurate and up-to-date?	X	

Element 2 recommendations

Update Appendix 2-A.

	Element 3 – Legal Authority	Yes	No
Does the SSMP contain excerpts from the current City of Berkeley Municipal Code documenting the City’s legal authority to:			
1	Prevent illicit discharges?	X	
2	Require proper design and construction of sewers and connections?	X	
3	Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the City?	X	
4	Limit discharges of fats, oil and grease?	X	
5	Enforce any violation of its sewer ordinances?	X	

Element 3 recommendations

None.

	Element 4 – Operations and Maintenance	Yes	No
1	Maintain up to date maps of the sewer system	X	
2	Describes routine and preventative maintenance programs	X	
3	Document completed preventative maintenance using system such as work orders	X	
4	Rehabilitation and replacement plan that identifies and prioritizes sanitary sewer system defects	X	
5	Program of regular visual and CCTV inspections of manholes and pipes	X	
6	Short term and long-term CIP schedule and budget	X	
7	Provide regular technical training for sanitary sewer system staff	X	

SSMP Audit 2025

8	Require contractors to provide training for their workers who work in the City sanitary sewer system facilities	X	
9	Maintain Equipment inventory	X	
10	Maintain critical spare part inventory.	X	
11	Is the chain of communication for reporting and responding to SSO's accurate and up-to-date?	X	

Element 4 recommendations

None.

Element 5 – Design and Performance Provisions		Yes	No
Does the SSMP contain:			
1	Design and construction standards for new sanitary sewer system facilities	X	
2	Design and construction standards for the repair and rehabilitation of existing sanitary sewer system facilities	X	
3	Procedures for the inspection and acceptance of new sanitary sewer system facilities	X	
4	Procedures for the inspection and acceptance of repaired and rehabilitated sanitary sewer system facilities	X	

Element 5 recommendations

None

Element 6 – OERP		Yes	No
1	Procedures for the notification of primary responders	X	
2	Procedures for the notification of regulatory agencies	X	
3	Program to ensure appropriate response to all SSO's	X	
4	Proper reporting of All SSO's	X	
5	Procedure to ensure City staff are aware of and follow OERP	X	
6	Procedure to ensure City staff are trained in the OERP procedure	X	
7	Procedure to ensure contractor personnel are aware of and follow OERP	X	
8	Procedure to ensure contractor personnel are trained in the OERP procedures	X	
9	Procedure to address emergency operations such as traffic and crowd control	X	
10	Program to prevent the discharge of sewage to surface waters	X	
11	Program to minimize or correct the impacts of any SSO's that occur	X	
12	Program of accelerated monitoring to determine the impacts of any SSO's that occur	X	
13	Water Quality Monitoring Program	X	

Element 6 recommendations

None

Element 7 – Fats Oils and Grease (FOG)		Yes	No
1	Public Outreach Program that promotes the proper disposal of FOG	X	
2	Plan for disposal of FOG generated within the City's service area	X	
3	Legal Authority to prohibit FOG discharges	X	
4	Authority to inspect FSE's and enforce FOG ordinance	X	
5	Demonstrate that the City has allocated adequate resources for FOG control	X	
6	Identification of Sanitary Sewer System facilities that have FOG – related problems	X	
7	Program of preventative maintenance for sanitary sewer system facilities that have FOG- related problems	X	

Element 7 recommendations

SSMP Audit 2025

None.

Element 8 – System Evaluation and Capacity Assurance Plan		Yes	No
1	Does the City of Berkeley Sanitary Sewer Master Plan evaluate hydraulic deficiencies in the system, establish sufficient design criteria and recommend both short-term and long-term capacity enhancement and improvement projects?		X
2	Does the City’s capital improvement program (CIP) establish a schedule of approximate completion dates for both short-term and long-term improvements and is the schedule reviewed and updated to reflect current budgetary capabilities and activity accomplishment?		X

Element 8 recommendations

Provide update on current and future CIP projects

Element 9 – Monitoring, Measurement and Program Modifications		Yes	No
Maintain relevant information to establish, evaluate, and prioritize SSMP activities			
1	Monitor Implementation of the SSMP	X	
2	Measure, where appropriate, performance of the elements of the SSMP.	X	
3	Assess success of the preventative maintenance program	X	
4	Update SSMP program elements based upon monitoring or performance	X	
5	Identify and illustrate SSO trends	X	

Element 9 recommendations

None.

Element 10– SSMP Program Audits		Yes	No
1	Conduct period audits (every two years) to evaluate effectiveness of and compliance with the SSMP, identify deficiencies & steps to correct them.		X
2	Record the results of the audit	X	
3	Record the changes made and/or corrective actions taken	X	

Element 10 recommendations

The City conducted an audit that was not formally recorded

Element 11 – Communication Program		Yes	No
1	Does the City effectively communicate with the public and other agencies about the development and implementation of the SSMP and continue to address any feedback?	X	

Element 11 recommendations

None.

Chapter 11 Appendices

None

City of Berkeley Sewer System Management Plan Record of Changes to the SSMP

Section E1 4.1 of the Monitoring and Reporting Program for the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (SWRCB Order No. WQ 2022-0103-WDQ) requires the City to maintain a record of changes to the SSMP for a minimum of five years, and the record of changes must be available for review by the State Water Resources Control Board during onsite inspection or through information request. The following is an excerpt of the new requirement:

The Enrollee shall maintain records documenting the Enrollee's implementation of its Sewer System Management Plan, including documents supporting its Sewer System Management Plan audits, corrections, modifications, and updates to the Sewer System Management Plan. .

The City's SSMP was last certified on May, 2019. The following table summarizes the changes to the SSMP since its last certification.

SSMP Element	Description of Change or Update	Authorized by	Date
All	Removed references to RWQCB SSMP requirements Moved appendices to separate document	Andrew Clough	Mar. 2014
Introduction	Added additional description of WDR prohibitions and provisions; updated system overview and historical perspective	Andrew Clough	Mar. 2014
1 - Goal	No changes	Andrew Clough	Mar. 2014
2 - Organization	Updated organization chart and added additional description of positions responsible for SSMP implementation Updated chart showing chain of communications for reporting SSOs Updated key staff contact information	Andrew Clough	Mar. 2014
3 - Legal Authority	Updated table of legal authority BMC references Noted that City is planning to develop formal agreements with tributary agencies	Andrew Clough	Mar. 2014
4 - Operations and Maintenance Program	Updated description of sewer maintenance and rehabilitation programs to reflect plans developed for EPA Administrative and Stipulated Orders Updated major equipment and critical replacement parts lists Removed table of staff resources (not required for SSMP) Replaced appendix on Standard Operating Procedure for Sewer Cleaning with section on Sanitary Sewer Maintenance from Pubic Works Utilities & Streets Division Field Manual	Phil Harrington	Mar. 2014
5 – Design and Performance	Updated appendix on Standards for Sanitary Sewers	Kenneth Emeziem	Mar. 2014

SSMP Element	Description of Change or Update	Authorized by	Date
Provisions			
6 – Overflow Emergency Response Plan	Reorganized and updated this chapter to reflect 2013 changes to the SWRCB Monitoring and Reporting Program requirements, including SSO categories; notification, documentation, and reporting requirements; and water quality sampling and monitoring plan Updated reporting forms used by City staff	Phil Harrington	Mar. 2014
7 – FOG Control Program	Updated description of EBMUD Regional FOG control program, including example FOG reporting form and quarterly report Updated list of approved grease haulers Added copy of City's FOG brochure	Phil Harrington	Mar. 2014
8 – System Evaluation and Capacity Assurance Plan	Added summary of Sewer System Hydraulic Modeling and Capacity Assessment study completed in 2012, including discussion of design flow, hydraulic, and capacity criteria Added table listing potential capacity improvement projects Added discussion of I/I reduction efforts being conducted by City	Kenneth Emeziem	Mar. 2014
9 – Monitoring, Measurement, and Program Modifications	Added table of performance metrics to be used to monitor and measure SSMP performance Added description of annual reporting required by EPA and State Added SSMP Change Log for documenting changes to the SSMP	Phil Harrington	Mar. 2014
10 – SSMP Program Audits	Included copy of 2013 SSMP Audit	Phil Harrington	Mar. 2014
11- Communication Program	Added table describing strategies for communication with the public on the SSMP Added table describing plan for communication with tributary or satellite agencies Added copy of City's Sanitary Sewer Program webpage	Andrew Clough	Mar. 2014
6 – Overflow Emergency Response Plan	Made corrections to Fig. 6-2, Fig. 6-3, and text on pg. 6-14 to show that Final Certification for Category 1 and 2 SSOs must be submitted within 15 calendar days <u>after SSO end date</u>	Kem Loong	May 2014
2 - Organization	Corrected Table 2-1 (Public Works Director and Deputy PW Director were incorrectly identified as LROs)		May 2014
6 – Overflow Emergency Response Plan	Added procedures for overflow emergency response to ensure SSO is timely certified in CIWQS.	Jesus Sandoval	Jan 2019
Introduction	Detached the AMIP document from the SSMP. The AMIP will be a stand-alone document and updated as deemed necessary.	Tiffany Pham	May 2019
Introduction	Updated to include the execution of the Consent Decree on September 2014	Tiffany Pham	May 2019

SSMP Element	Description of Change or Update	Authorized by	Date
2 - Organization	Updated Figure 2-1: SSMP Organization Lines of Authority and Table 2 1: Narrative Explanation of Responsibilities of SSMP Organization Positions.	Tiffany Pham	May 2019
2 - Organization	Updated Table 2-2: Positions Responsible for SSMP Implementation	Tiffany Pham	May 2019
2 - Organization	Updated Figure 2-2: Chain of Communication for Reporting SSOs to include customer service telephone numbers.	Tiffany Pham	May 2019
4 – Operations and Maintenance Program	Updated the frequency of the wet-well cleaning	Jesus Sandoval	May 2019
4 – Operations and Maintenance Program	Updated which trainings and certifications classes that are given to staff.	Jesus Sandoval	May 2019
5 – Design and Performance Provisions.	Updated to include the Regional Standards for Sanitary Sewer Installation, Rehabilitation and Repair that was adopted on June 30, 2016 by EBMUD and seven satellites.	Tiffany Pham	May 2019
6 – Overflow Emergency Response Plan	Added the City’s customer service call number “311” for reporting sewer problems. Added hours for Corp Yard phone number.	Jesus Sandoval	May 2019
6 – Overflow Emergency Response Plan	Updated the list of cleaning equipment	Jesus Sandoval	May 2019
9 – Monitoring, Measurement, and Program Modifications	Updated to include the date for the second update of the SSMP.	Tiffany Pham	May 2019
10 – SSMP Program Audits	Updated to include the last audit date of May 21, 2019	Tiffany Pham	May 2019
11 – Communication Program	Updated the contact people and information for public communication	Tiffany Pham	May 2019
Appendices	Updated Appendix C to remove the AMIP.	Tiffany Pham	May 2019
1-Goal and Introduction	Added audit schedule and update schedule.	Daniel Akagi	May 2025
3-Legal Authority	Updated Table 3-1: EBMUD Wastewater Control Ordinance.	Daniel Akagi	May 2025
5-Design and Performance	Added language to explain the City’s standards pertaining to the inspection and testing of the sewer system.	Daniel Akagi	May 2025
6-Spill Emergency Response Plan	Changed section name and removed references to overflow emergency response plan (OERP).	Daniel Akagi	May 2025
6-Spill Emergency Response Plan	Updated Table 6-1: Spill Category definitions.	Daniel Akagi	May 2025
6-Spill Emergency Response Plan	Updated Table 6-2: Notification, Reporting, Monitoring and Record Keeping Requirements.	Daniel Akagi	May 2025
6-Spill Emergency Response Plan	Updated Figure 6-2: External Notification and Reporting Requirement Flow Chart.	Daniel Akagi	May 2025
8-System Evaluation and Capacity Assurance Plan	Updated status of system evaluation and CIP projects	Daniel Akagi	May 2025

SSMP Element	Description of Change or Update	Authorized by	Date
11 – Communication Program	Updated the contact people and information for public communication	Daniel Akagi	May 2025
11 – Communication Program	Updated table 11-1: Strategies for communication with Public on SSMP Development, Implementation, and Performance.	Daniel Akagi	May 2025
11 – Communication Program	Updated Table 11-2: Plan for Communication with Tributary and/or Satellite Agencies.	Daniel Akagi	May 2025
Appendix A	Added Order WQ 2022-0103-DWQ	Daniel Akagi	May 2025
Appendix 2-A	Updated key staff contact information	Daniel Akagi	May 2025
Appendix 4-B	Updated Hot Spot Sewer Cleaning list	Daniel Akagi	May 2025
Appendix 4-G	Updated Critical Sewer Replacement Parts.	Daniel Akagi	May 2025
Appendix 5-B	Added City of Berkeley Standard details and Detail Specifications.	Daniel Akagi	May 2025
Appendix 8-B	Updated the Status of Capacity Improvement Projects	Daniel Akagi	May 2025
Appendix 10-A	Added 2025 SSMP Audit	Daniel Akagi	May 2025

