



Sewer System Management Plan

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List of Abbreviations

BACWA.....	Bay Area Clean Water Agencies
Cal-OSHA	California Office of Occupational Safety and Health Administration
CIP	Capital Improvement Project
CIWQS	California Integrated Water Quality System
FOG	Fats, Oil and Grease
LRO	Legally Responsible Official
MGD	Million gallons per day
OERP	Overflow Emergency Response Plan
OES	State Office of Emergency Services
RWQCB	Regional Water Quality Control Board, San Francisco Bay Region II
SVCW	Silicon Valley Clean Water
SMCEHD	San Mateo County Environmental Health Department
SSMP	Sewer System Management Plan
SSO	Sanitary Sewer Overflow
SSO WDR	Sanitary Sewer Overflow Waste Discharge Requirements
SWRCB	State Water Resources Control Board
WBSD, District	West Bay Sanitary District
WDR	General Waste Discharge Requirements
WWTP	Waste Water Treatment Plant



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Introduction

This Sewer System Management Plan (SSMP) has been prepared in compliance with requirements of the San Francisco Bay Regional Water Quality Control Board (RWQCB) pursuant to Section 13267 of the California Water Code, as described in the letter from the RWQCB to West Bay Sanitary District (WBSD, District) dated July 7, 2005. The RWQCB letter mandated that the District prepare an SSMP following the guidelines in the SSMP Development Guide prepared by the RWQCB in cooperation with the Bay Area Clean Water Agencies (BACWA). The District must also comply with RWQCB Sanitary Sewer Overflow (SSO) electronic reporting requirements issued in November 2004.

The State Water Resources Control Board (SWRCB) also issued an order on May 2, 2006 to require all public wastewater collection system agencies in California with greater than one mile of sewers to be regulated under General SSO Waste Discharge Requirements (SSO WDR). The SWRCB action also mandated the development of an SSMP and the reporting of SSOs using an electronic reporting system. The SWRCB SSMP requirements are similar to those of the RWQCB but differ in organization and some details.

The intent of this SSMP is to meet the requirements of both the RWQCB and the Statewide SSO WDR.

Organization of the District's SSMP

The organization of this document is consistent with the RWQCB guidelines, but the contents address both the RWQCB and SWRCB requirements. The SSMP includes eleven sections, as follows:

- I. Goals
- II. Organization
- III. Legal Authority
- IV. Operation & Maintenance Program
- V. Design & Performance Provisions
- VI. Overflow Emergency Response Plan
- VII. Fats, Oils & Grease (FOG) Control Program
- VIII. System Evaluation & Capacity Assurance Plan
- IX. Monitoring, Measurement and Program Modifications



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- X. SSMP Audits
- XI. Communication Plan

System Overview

The District owns, operates and maintains the wastewater collection system that serves areas in Menlo Park, Atherton, Portola Valley, East Palo Alto, Woodside, and portions of Unincorporated San Mateo and Santa Clara Counties. The service area, shown on Figure 1, lies west of the San Francisco Bay in the southeastern corner of San Mateo County adjoining the northern boundary of Santa Clara. It lies within the northeasterly or bay ward slope of Kings Mountain and of the connecting ridges, which form the northeasterly extension of the Santa Cruz Mountains. These ridges, which are part of the Coast Range, lie along an axis approximately 40 degrees west and divide the San Francisco Peninsula between the watersheds of San Francisco Bay on the east and the Pacific Ocean on the west.

The system is divided into three major drainage basins. Basin A consists of nine sub-basins covering approximately 2,730 acres in the central district of the City of Menlo Park and portions of Redwood City, Atherton and Woodside. Basin B consists of eight sub-basins covering approximately 3,787 acres east of the central district and extending west into the Portola Valley area and unincorporated portions of San Mateo County. Basin C consists of five sub-basins covering approximately 1,806 acres north of the central district and including a portion of the city of East Palo Alto.

The District is currently responsible for the operation and maintenance of approximately 10 miles of force main and approximately 220 miles of public sewer mains ranging in size from 2 to 54 inches in diameter. In addition, there are about 150 miles of private lateral sewers and approximately 20,074 service connections (609- Commercial & 19,465 Residential connections). The system includes a 0.5MGD Recycled Water Treatment Plant at the Sharon Heights Golf and Country Club, 12 raw sewage pumping stations (and a 1-10 MG Flow Equalization Facility with a Return Flow Pumping Station), and operates by gravity flow that conveys residential, commercial, and industrial wastewater via main line trunk sewers to the Menlo Park Pumping Station located at the entrance to Bayfront Park.

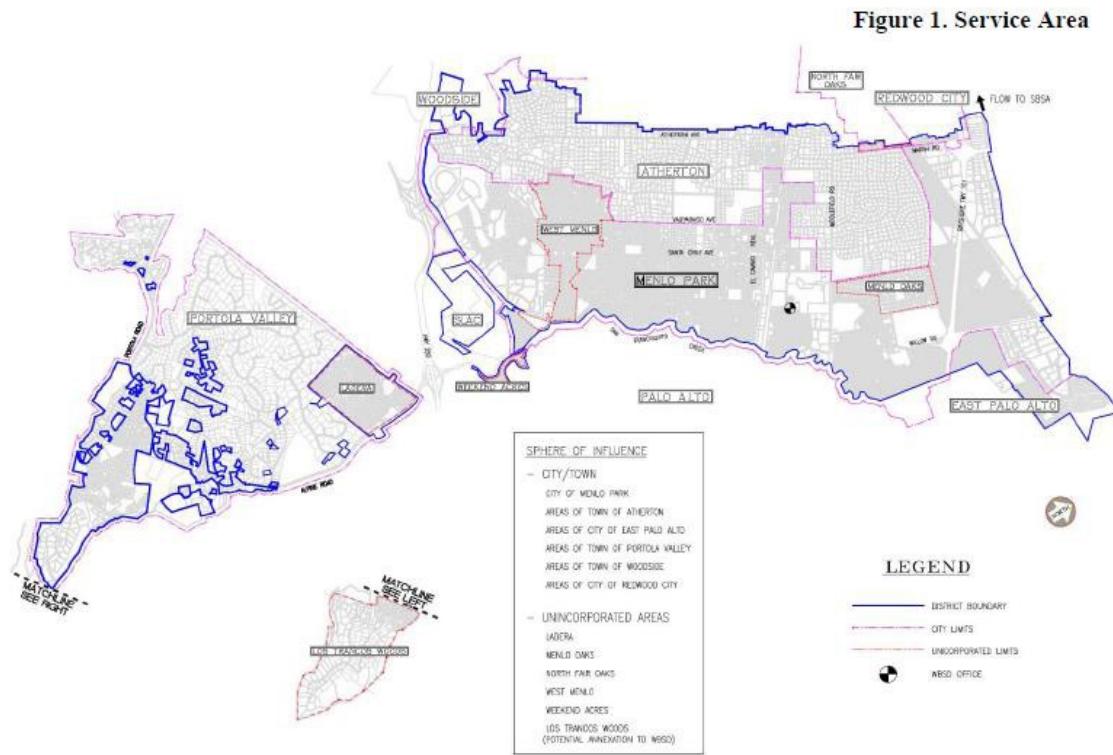
The Menlo Park Pumping Station and all downstream facilities, including the publicly owned treatment works (POTW), are operated by Silicon Valley Clean Water (SVCW). SVCW is a joint



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power authority of which the District is a member. Flow is conveyed north to the SVCW Regional Wastewater Treatment Plant (WWTP) in Redwood City for treatment and disposal of treated wastewater through a deep-water outfall into the San Francisco Bay. The average age of the District’s collection system is 50 years, with a current expected life span of approximately 90 years. The District has an average dry weather flow (ADWF) of 2.62 million gallons per day (MGD) with Peak Wet Weather Flows (PWWF) of 13.81 MGD as measured by the SVCW in 2020. However, as part of the JPA the Districts contractual flows for ADW is 7.95 MGD with a PWWF of 16.4 MDG, In the event the District flows exceed hydraulic capacity of the SVCW pump station the flows can diverted to the Districts Flow Equalization Facility.

Figure 1-1 - Service Area





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1.0 DISTRICT GOALS

1.1 Introduction

This section identifies the goals that the District has established for its SSMP. These goals are intended to provide focus for District staff to continue high quality work and to implement improvements in the management and operation of the District's wastewater collection system.

The District continues to meet or exceed regulatory compliance requirements within the Collection System. Significant changes and additions, in 2010, 2011, 2014, 2019, and again in 2022 to the Preventative Maintenance program have produced excellent results. The establishment of productivity goals, root foaming, basin to basin cleaning, scheduling of High Frequency cleaning including placing all small pipes on a 12–15-month schedule as well as patching and repairing of pipe defects have resulted in a great reduction of Sanitary Sewer Overflows. The District had zero sanitary sewer overflows (SSO's) in 2020, and four in 2021. Two of the SSO's were caused by outside influence and contractors. Both the number and volume of spills are significantly below the State and Regional average, as noted in the 2022 SSMP Audit Report by Fischer Compliance.

In 2023, the District will embark on a new 10-year Master Plan, which will include (but not limited to), flow studies, hydraulic modeling of District flows, Capital Improvement Projects and High Frequency line repairs, Recycled water efforts, and pump station designs. The District's annual Performance Measures Report enhances the metrics used for the SSMP update as well as documentation for compliance with the State Water Resources Control Board Order NO, 2006-0003-DWQ, and all subsequent and current updates to the Order.

1.2 Regulatory Requirements for Goals Element

The summarized requirements for the goals element of the SSMP:

1.2.1 RWQCB Requirement

The collection system agency must develop goals to manage, operate, and maintain all parts of its collection system. The goals should address the provision of adequate capacity to convey all flows, including peak wet weather flows, as well as the reduction in the frequency of sanitary sewer overflows (SSOs) and the mitigation of SSO impacts.



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1.2.2 SWRCB Requirement

The collection system agency must develop goals to properly manage, operate, and maintain all parts of its wastewater collection system in order to reduce and prevent SSOs, as well as to mitigate any SSOs that occur.

1.3 District SSMP Goals

West Bay Sanitary District commits to *(annual review of District Measurement Report/Sustainability Plan goals to ensure goals are being met)*.

The goals of the WBSD SSMP are to:

GOAL 1: Reduce, prevent, and mitigate the impacts of SSOs.

Measured by annual review of District Measurement Report/Sustainability Plan goals to ensure being met

Key Performance Indicators (KPIs)		
KPI 1.1	Annual review of gallons sewage spilled vs. gallons sewage conveyed	<i>Measured by annual review of District Measurement Report/Sustainability Plan goals to ensure being met</i>
KPI 1.2	Annual review of gallons sewage spilled vs. gallons sewage recovered	<i>Measured by periodic review of gallons sewage spilled vs. gallons sewage recovered</i>
KPI 1.3	Annual review of # spills prevented	<i>Measured by periodic review of work orders for # spills prevented</i>
KPI 1.4	Annual review of State Water Board/San Francisco Bay Regional Board Collection System Questionnaires to ensure compliance with all SSS WDRs elements.	<i>Measured by annual review of District Measurement Report/Sustainability Plan goals to ensure being met.</i>



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Key Performance Indicators (KPIs)

KPI 1.5	Annual review work plan for effectiveness.	<i>Measured by annual review of District Measurement Report/Sustainability Plan goals to ensure being met.</i>
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GOAL 2: Provide adequate capacity to convey all flows, including peak flows.

Key Performance Indicators (KPIs)

KPI 1.6	Annual review of system performance (wet weather spill/surcharge events).	<i>Measured by annual review of District Measurement Report/Sustainability Plan goals to ensure being met.</i>
KPI 1.7	Annual review of hydraulic model/interval, up to date.	<i>Measured by annual review of District Measurement Report/Sustainability Plan goals to ensure being met.</i>

GOAL 3: Be available and responsive to the needs of the public, and work cooperatively with local, state, and federal agencies to reduce, mitigate the impacts of, and properly report SSOs.



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Key Performance Indicators (KPIs)		
KPI 1.8	Review of spill response time goals.	<i>Measured by annual review of District Measurement Report/Sustainability Plan goals to ensure being met.</i>
KPI 1.9	Post most recent SSMP/SSMP Audits on District website.	<i>Measured by annual review of District Measurement Report/Sustainability Plan goals to ensure being met.</i>

GOAL 4: Identify, prioritize, and continuously renew and replace sewer system facilities to maintain reliability.

Key Performance Indicators (KPIs)		
KPI 1.10	Review of R/R plan for evaluating implementation and effectiveness.	<i>Measured by annual review of District Measurement Report/Sustainability Plan goals to ensure being met.</i>
KPI 1.11	Review of CIP for evaluating implementation and effectiveness.	<i>Measured by annual review of District Measurement Report/Sustainability Plan goals to ensure being met.</i>

GOAL 5: Implement regular, proactive maintenance of the system to remove roots, debris, and fats, oils, and grease (FOG) in areas prone to blockages that may cause sewer backups or SSOs.

Key Performance Indicators (KPIs)		
KPI 1.12	Annual review work plans for effectiveness.	<i>Measured by annual review of District Measurement Report/Sustainability Plan goals to ensure being met.</i>



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Key Performance Indicators (KPIs)

KPI 1.13	Annual review completed work orders for completeness.	<i>Measured by annual review of District Measurement Report/Sustainability Plan goals to ensure being met.</i>
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GOAL 6: Uphold the District’s high standards and specifications on newly constructed public and private sewers.

Key Performance Indicators (KPIs)

KPI 14.1	Have all spill reports been checked for accuracy?	<i>Measured by annual review of all spill report files and CIWQS map to ensure no outside agencies report spills in District service area.</i>
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2.0 ORGANIZATION

2.1 Introduction

This section of the SSMP identifies District staff responsible for implementing this SSMP, responding to SSO events, and meeting the SSO reporting requirements. This section also includes the designation of the Legally Responsible Officials (LRO) or Authorized Representatives to meet RWQCB and Statewide SSO WDR requirements for completing and certifying spill reports.

2.2 Regulatory Requirements for Organization Element

The requirements for the Organization element of the SSMP are:

2.2.1 RWQCB Requirement

The collection system agency's SSMP must identify staff (names and phone numbers) responsible for implementing measures outlined in the SSMP, including management, administration, and maintenance positions. The SSMP must identify the chain of communication for reporting and responding to SSOs.

2.2.2 SWRCB Requirement

The collection system agency's SSMP must identify:

- The name of the legally responsible or authorized representative(s);
- The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program. Include lines of authority as shown in an organization chart or similar document with a narrative explanation; and
- The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the SWRCB and RWQCB and other agencies if applicable (such as County Health Officer, County Environmental Health Agency, and/or California Emergency Management Agency (CALEMA formerly OES)).



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2.3 Organization

2.3.1 Background

The District was originally formed in December 1902, as the Menlo Park Sanitary District under the Sanitary Sewer Act of 1891. The District operated as the Menlo Park Sanitary District for 79 years until 1981 when its name was changed to the “West Bay Sanitary District” to more accurately describe the service area. The District is governed by an elected five-member Board of Directors. The General Manager and current staff of 31 employees carry out the policies and functions of the District.

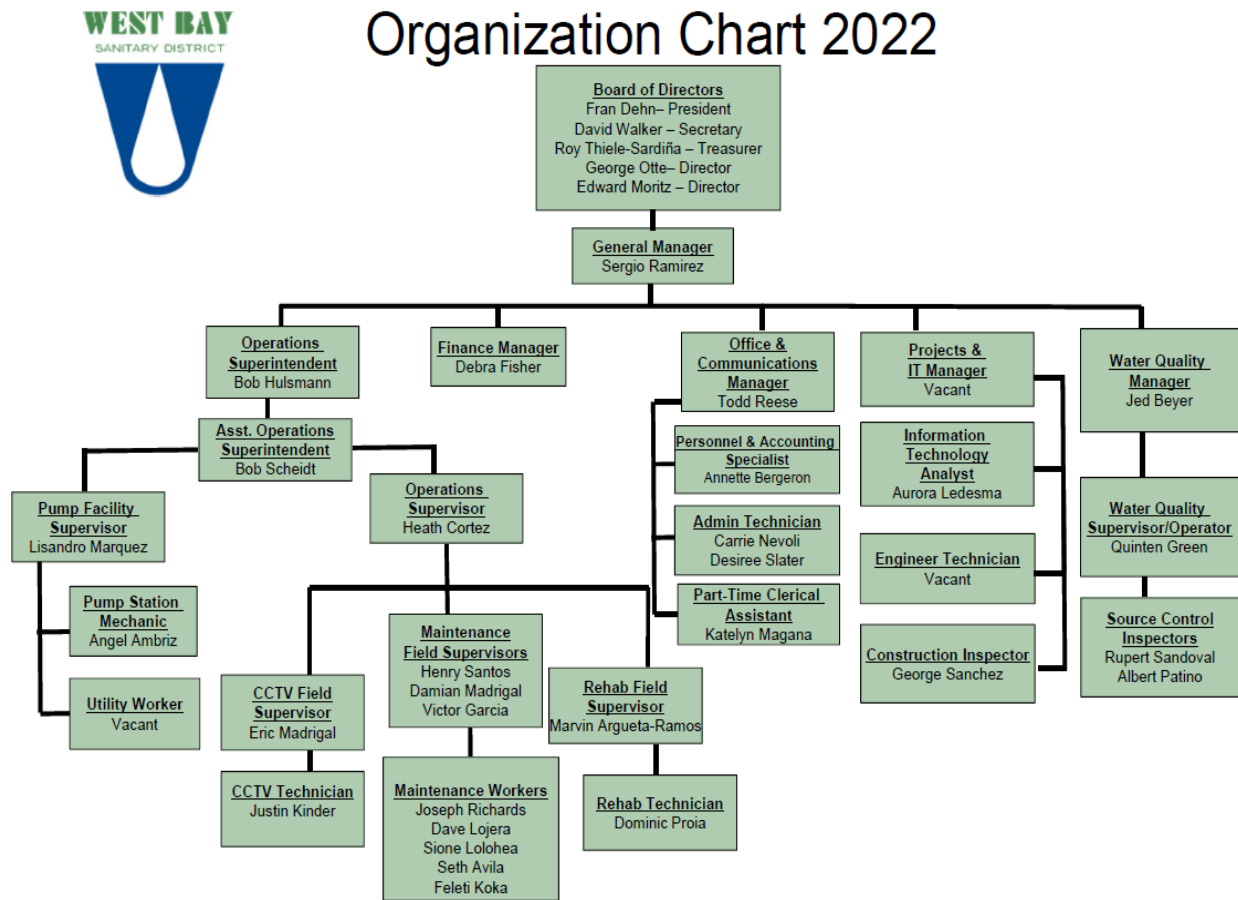
2.3.2 Organization Chart

The organization chart for the management, operation and maintenance of the District’s wastewater collection system is shown on Figure 2-1.



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Figure 2-1 - Organization Chart





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2.3.3 Organizational Roles

Board of Directors: The West Bay Sanitary District is an independent and autonomous political entity that has no legal affiliation with any municipalities located within its service area boundaries. The powers of the District are established by the State of California Government Code and are vested in a five-member Board, elected at large, to staggered four-year terms. The District Board meets at the District Offices the second and fourth Wednesdays of the month. The regular meetings commence at 7:00 p.m. From time to time, the District Board may hold special meetings, which are noticed in accordance with Government Code requirements.

District Staff (Name, Title, and Duties):

Sergio Ramirez, General Manager: Designated as a LRO. Establishes policy, plans strategy, leads staff, allocates resources, delegates responsibility, authorizes outside contractors to perform services, and may serve as a public information officer.

Robert Hulsmann, Operations Superintendent: Designated as a LRO, and reports to the General Manager. Manages field operations and maintenance activities, provides relevant information to District management, prepares and implements contingency plans, and leads emergency response.

Bob Scheldt, Assistant Operations Superintendent: Reports to the Operations Superintendent, and designated as a LRO. Coordinates required field activities with the Operations Supervisor and schedules rehabilitation and special projects as required.

Heath Cortez, Operations Supervisor: Under general direction of the Operations Superintendent and/or the Assistant Operations Superintendent, the Operations Supervisor plans, coordinates, supervises, and performs maintenance and construction on the District's collection system and collection system appurtenances. The position also assists in the planning and implementation of the preventive maintenance program and repairs for the collection system and appurtenances to include CCTV inspection, cleaning, and repair of assets.

Lisandro Marquez, Pump Station Supervisor: Reports to the Operations Superintendent. Primary on-call person for pump station issues. Maintains and operates raw sewage pumping stations, Septic Tank Effluent Pump (STEP) systems, grinder pump systems, and performs by-pass pumping equipment support. Phone: (650) 269-0283.



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Victor Garcia, Pump Station Mechanic: Reports to the Pump Station Supervisor. Performs field inspections and maintenance of raw sewage pump stations, Septic Tank Effluent Pump (STEP) systems, grinder pump systems, and performs by-pass pumping equipment support and related equipment. Phone: (650) 477-6415.

Field Crews: Report to the Operations Supervisor. Perform preventative maintenance activities, mobilize and respond to notification of stoppages and SSOs, and also perform CCTV inspection, operations, and reporting. The on-call contact and First Responder is a member of the field crew, assigned on a rotating basis. On-call cell phone numbers: A) (650) 477-6381, B) (650) 477-6382.

Currently Vacant, Projects Manager & I.T. Manager: Reports to the General Manager. Prepares wastewater collection system planning documents, manages Capital Improvement Program, documents new and rehabilitated assets, and coordinates development and implementation of the District's Sanitary Sewer Master Plan, maintains Server Network.

George Sanchez, Construction Inspector: Reports to the Projects Manager. Ensures that new and rehabilitated assets meet District standards, updates District maps, works with field crews to handle emergencies when contractors are involved, and provides verbal and written reports to the Project Manager.

Currently Vacant, Associate Engineering Technician: Reports to the Project Manager, performs plan review on new assets and ensures District Standards are met, assists with updating District Maps, may work with field crews to handle emergencies when contractors are involved, provides verbal and written reports to the Project Manager and maintains the CMMS.

Aurora Ledesma, Information Technology Analyst: Program Management Analyst reports to the Projects Manager. Provides overall responsibility for Lucity (GBA) database & ESRI mapping maintenance, and supports administrative staff in completion of secretarial, receptionist, and administrative tasks and Microsoft Office software training to staff.



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Jed Beyer, Water Quality Manager: Reports to the General Manager and designated by the General Manager as the Authorized Representative or LRO for reporting & Certifying SSOs to the SWQCB, RWQCB, Cal-EMA and other outside agencies. The Water Quality Manager Schedules and trains field crews on Cal-OSHA requirements, is the Districts Safety Officer, writes and revises compliance program plans, schedules facility inspections for source control, facilitates regulatory requirements, and coordinates development and implementation of the District's Sewer System Management Plan. Phone: (650) 477-6428.

Quinten Green, Water Quality Supervisor/Chief Plant Operator: Certified Grade III Wastewater Operator, reports to the Water Quality Manager and is responsible for operating the 0.5 MGD recycled water plant located at Sharon Heights Golf and Country Club. The Water Quality Supervisor is also responsible for the supervision of the Source Control Inspectors.

Source Control Inspector(s): These inspectors report to the Water Quality Supervisor and are responsible for inspecting facilities for compliance with the District's general regulations, performing sampling and monitoring, flow monitoring, and responding to and mitigating SSOs and residential back-ups. Both Inspectors investigate and routinely report SSO's as Data Submitters.

- Jed Beyer, SSO-LRO: Phone: (650) 321-0384 (C: (650) 477-6428).
- Rupert Sandoval, SSO Data Submitter: Phone: (650) 321-0384 (C: (650) 477-6427)
- Albert Patino, SSO Data Submitter: Phone: (650) 321-0384 (C: (650) 422-1447)

Todd Reese, Office & Communication Manager: Reports to the General Manager. Acts as initial point of customer contact, including forwarding of reports of SSOs to Field Crews, provides overall responsibility for preparation of Board agenda packages, annual connection fee statements, performs secretarial, receptionist and administrative tasks, some of which are complex and confidential in nature, and provides technical assistance to the general public and public agencies regarding Outreach & implementing District procedures for development review and permit issuance.

Administrative Technicians: Report to the Office Manager. Act as an initial point of customer contact, including forward of reports of SSOs to Field Crews. Works under the supervision and general direction of the Office Manager to provide varied clerical support for the administration and collections staff and for the administrative needs of the District's customers.



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Debra Fisher, Finance Manager: Reports to the General Manager. Responsible for all general accounting duties to be administered in accordance with the “Governmental Accounting Standards Board,” and provides the District Board and staff with necessary historical and comparative financial data.

2.4 Responsibility for SSMP Implementation

The General Manager is responsible for overseeing the overall implementation of the SSMP. Various individuals within the District’s organization are responsible for implementing one or more of the SSMP elements. The names, positions, and contact information for each of the District staff responsible for implementing specific measures of this SSMP are summarized in Table 2.1 on the following page.

Table 2-1: Implementation Responsibility

SSMP Element	Responsible Person	Name	Telephone
1.0 Goals	General Manager	Sergio Ramirez	W 650-321-0384 C 650-477-9985
2.0 Organization	General Manager	Sergio Ramirez	W 650-321-0384 C 650-477-9985
3.0 Legal Authority	General Manager	Sergio Ramirez	W 650-321-0384 C 650-477-9985
4.0 Operations & Maintenance Program	General Manager	Sergio Ramirez	C 650-477-9985
	Operations Superintendent	Robert Hulsmann	C 650-477-6413
	Water Quality Manager	Jed Beyer	C 650-477-6428
	Project Manager	Vacant	C 650-477-6424
5.0 Design & Performance Standards	Project Manager	Vacant	C 650-477-6424



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SSMP Element	Responsible Person	Name	Telephone
	Engineering Technician	Vacant	C 650-477-4649
	Construction Inspector	George Sanchez	C 650-477-6425
6.0 Overflow Emergency Response Plan	Operations Superintendent	Robert Hulsmann	C 650-477-6413
	Water Quality Manager	Jed Beyer	C 650-477-6428
7.0 FOG Control	Operations Superintendent	Robert Hulsmann	C 650-477-6413
	Water Quality Manager	Jed Beyer	C 650-477-6428
8.0 System Evaluation & Capacity Assurance	Project Manager	Vacant	C 650-477-6424
9.0 Monitoring, Measurement & Program Modification	General Manager	Sergio Ramirez	C 650-477-9985
	Project Manager	Vacant	C 650-477-6424
10.0 SSMP Audits	Water Quality Manager	Jed Beyer	C 650-477-6428
11.0 Communication Plan	General Manager	Sergio Ramirez	C 650-477-9985

2.4.1 Responsibility for Element 1 - Goals

The General Manager is responsible for leading staff in the implementation of the District's goals.

2.4.2 Responsibility for Element 2 – Organization

The General Manager is responsible for updating the organizational structure, SSMP implementation assignments, SSO response, and reporting chains of communication, as needed.



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2.4.3 Responsibility for Element 3 – Legal Authority

The General Manager is responsible for upholding the District's Code of General Regulations and drafting new ordinances, as needed.

2.4.4 Responsibility for Element 4 – Operation & Maintenance Program

The General Manager is responsible for Resources and Budget, and Outreach to Plumbers and Building Contractors. The Operations Superintendent is responsible for Prioritized Preventive Maintenance, and Contingency Equipment and Replacement Inventories. The Water Quality Manager (or his designee) is responsible for scheduling and monitoring Training of Maintenance Workers. The Project Manager is responsible for the Collection System Map, and Scheduled Inspections and Condition Assessment.

2.4.5 Responsibility for Element 5 – Design & Performance Standards

The Projects Manager is responsible for reviewing design and construction documents to ensure that each construction project meets the District's standards. The Project Manager is also responsible for updating standards for installation, rehabilitation, and repair, as needed. The Construction Inspector is responsible for inspecting all construction projects to ensure the District's construction standards have been followed. The Construction Inspector is also responsible for updating standards for inspections and testing of new and rehabilitated facilities, as needed.

2.4.6 Responsibility for Element 6 – Overflow Emergency Response Plan

The Operations Superintendent is responsible for implementation of the Overflow Emergency Response Plan (OERP). The Water Quality Manager is responsible for revisions to the OERP and annual trainings for maintenance crew members.

2.4.7 Responsibility for Element 7 – FOG Control

The Operations Superintendent is responsible for identifying grease high frequencies and maintaining an effective cleaning program for sewers experiencing grease problems. The District's Source Control Inspectors are responsible for inspecting grease interceptor/traps that have been installed at non-residential locations at the Water Quality Manager's direction, and for enforcing discharge regulations, as needed.



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2.4.8 Responsibility for Element 8 – System Evaluation & Capacity Assurance Plan

The Projects Manager is responsible for establishing and assessing capacity requirements for the District's collection system and for preparation and implementation of the District's System Evaluation and Capacity Assurance Plan (SECAP). The Project Manager is responsible for development and implementation of the District's long-term Capital Improvement Plan (CIP), including updating budgets and schedules.

2.4.9 Responsibility for Element 9 – Monitoring, Measurement and Program Modifications

The General Manager is responsible for monitoring implementation and assessing success of the overall SSMP program elements, with the assistance of staff. The Water Quality Manager is responsible for identifying trends in SSO occurrences and providing recommendations to the General Manager.

2.4.10 Responsibility for Element 10 – SSMP Audits

The Water Quality Manager is responsible for overseeing annual SSMP Audits.

2.4.11 Responsibility for Element 11 – Communication Plan

The General Manager is responsible for communicating with the public and nearby agencies regarding the status of the District's SSMP.



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Key Performance Indicators (KPIs)

KPI 2.1	Are names and telephone numbers for management and staff responsible for implementing measures in the SSMP current and accurate?	<i>Measured by annual review of organizational chart and staffing descriptions for accuracy/update as necessary</i>
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2.4.12 SSO Reporting Chain of Communication

The SSO detection, notification, response, and reporting processes are described in detail in Section 3 – Overflow Emergency Response Plan (OERP). The communication chain for responding to an SSO is shown on [Figure 2.2](#). The communication chain for reporting an SSO is shown on [Figure 2.3](#). More detailed flowcharts are included in the District’s stand-alone OERP, discussed further in Section 3.

Figure 2-2: Chain of Communication for Responding to SSOs

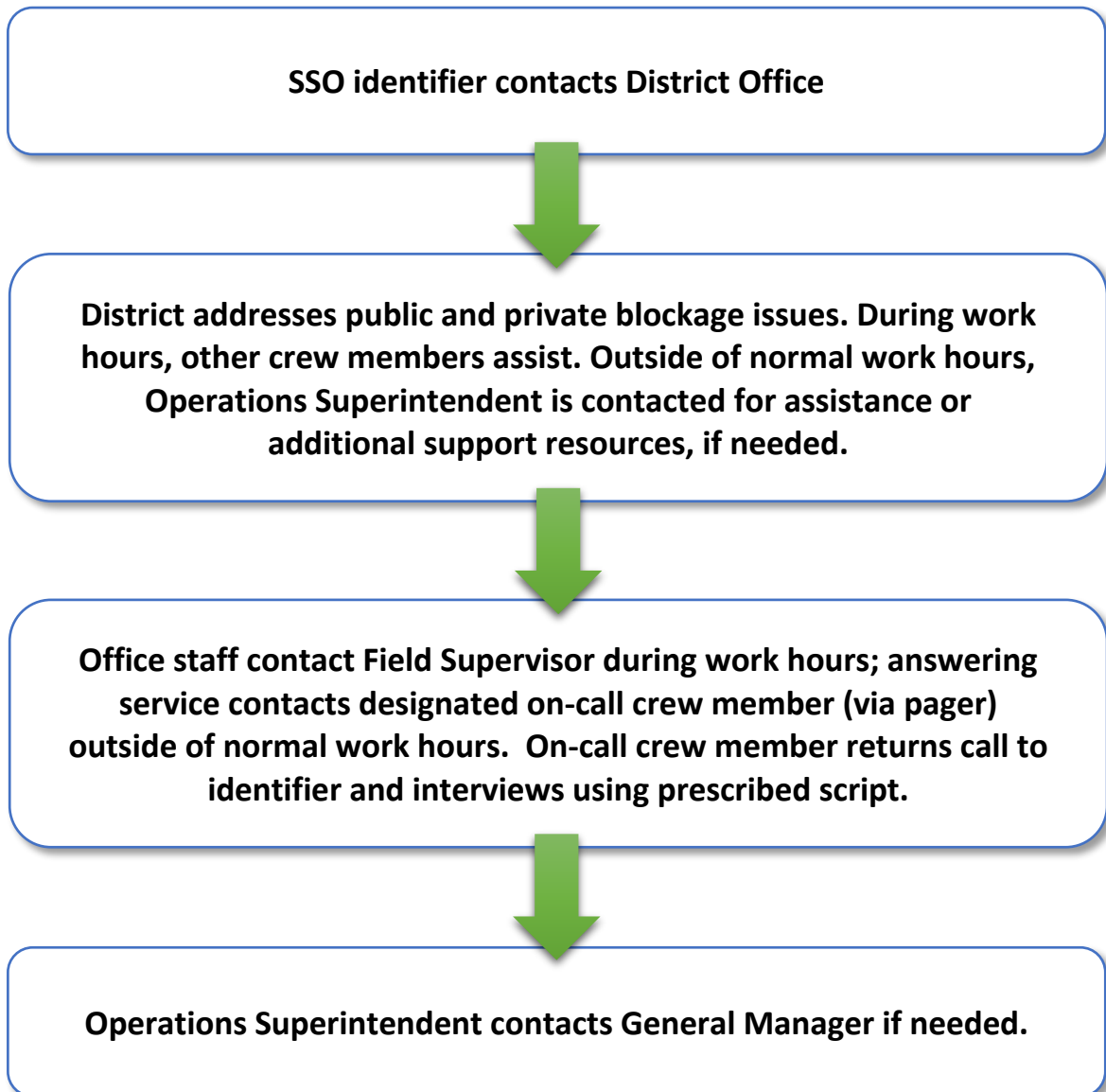
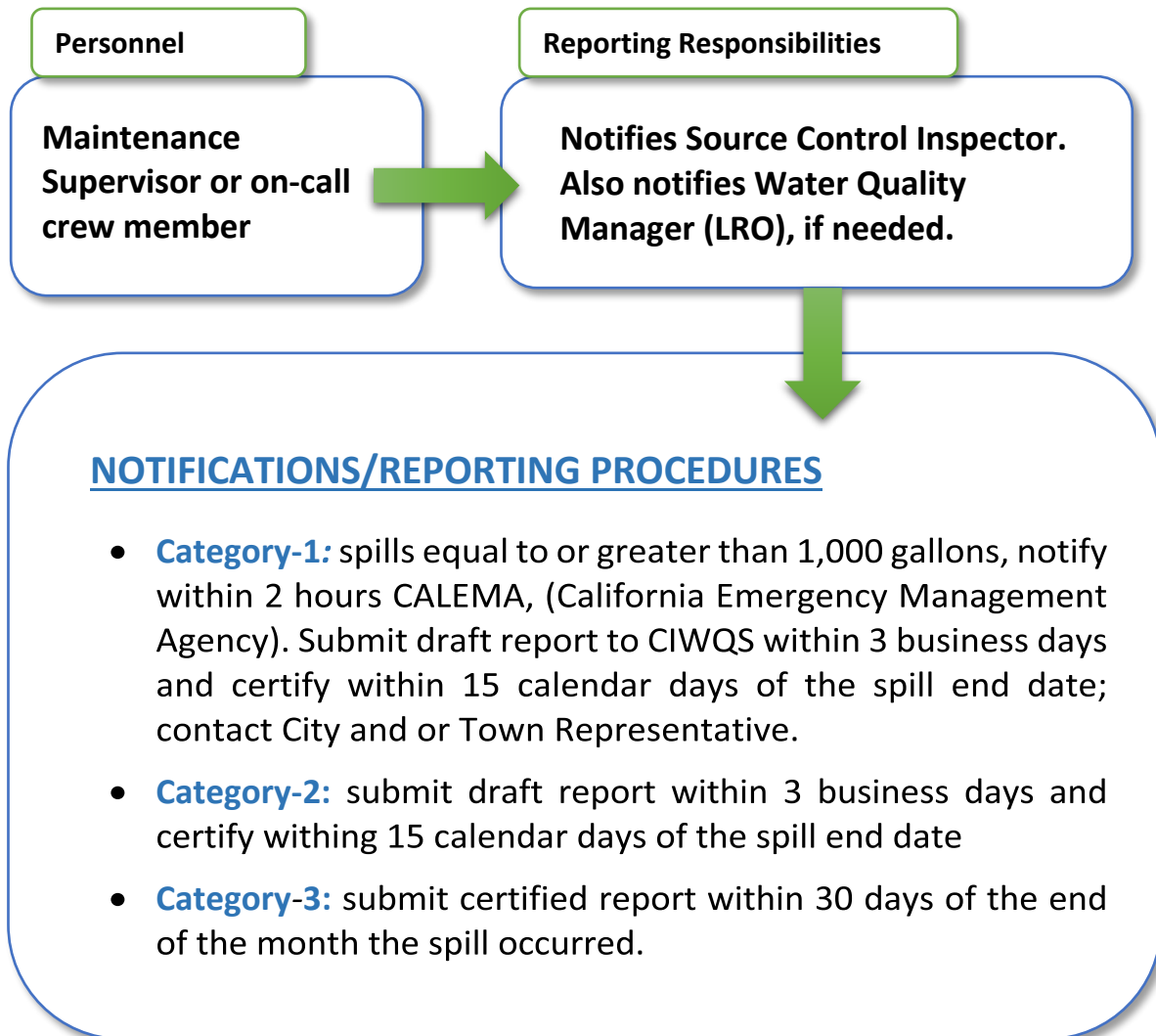


Figure 2-3: Chain of Communication for Reporting SSOs



In the event the on-call crew member is unable to make contact with a Source Control Inspector or the Water Quality Manager, the On-call member shall escalate to the next contact person listed on the SSO Report Form (MD-506 located in [Appendix-3A](#) of this SSMP & Appendix- B1 of the OERP) before making contact with the General Manager.



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Note: Note Source Control Inspectors are Data Submitters

Key Performance Indicators (KPIs)

KPI 2.2	Is the chain of communication for reporting spills adequate and adhered to during spill response events?	<i>Measured by review of spill event response debriefings.</i>
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3.0 LEGAL AUTHORITY

This element of the SSMP discusses the District's Legal Authority including its Code of General Regulations. This section fulfills the Legal Authority requirement for the RWQCB (Element 5) and the SWRCB (Element 3).

3.1 Regulatory Requirements for Legal Authority Element

The requirements for the Legal Authority element of the SSMP are summarized below:

3.1.1 RWQCB Requirement:

The District must demonstrate that it has the legal authority (through ordinances, service agreements, and other binding procedures) to control infiltration and inflow (I/I) from satellite collection systems and private service laterals; require proper design, construction, installation, testing, and inspection of new and rehabilitated sewers and laterals; and enforce violation of ordinances.

The SSMP should describe specific applicable legal mechanisms, with citations of names and code numbers of ordinances. If legal authority does not currently exist for a required element, the SSMP should indicate a schedule of activities to obtain the proper legal authority.

3.1.2 SWRCB Requirement

The District must demonstrate, through collection system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:

- Prevent illicit discharges into its wastewater collection system (examples may include infiltration and inflow (I/I), storm water, chemical dumping, unauthorized debris and cut roots, etc.);
- Require that sewers and connections be properly designed and constructed;
- Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency (as applicable) ;
- Limit the discharge of fats, oils, and grease and other debris that may cause blockages; and
- Enforce any violation of its sewer ordinances.



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3.2 District Legal Authority

The legal authority required for the SSMP by the RWQCB and the SWRCB is contained within the District's Code of General Regulations (Code), which is included in its entirety in [Appendix 3A](#), and reviewed annually. The District amended the Code defining Legal Authority in Section 602 and 1012 in September 2014.

The following subparagraphs of the District code are discussed in more detail below as they pertain to the requirements of the RWQCB and SWRCB.

3.2.1 Prevention of Illicit Discharges

Measures prohibiting illicit discharges are included in Article VI, Section 603, Prohibitions, of the District's Code. The purpose of this section is to prevent the discharge or any pollutant or any combination of pollutants into the sewers that would obstruct or damage the collection system, interfere with treatment, or threaten harm to human health or the environment. Examples of discharges covered by Section 603 are outlined below, and the complete text of the District Code is in [Appendix 3A](#).

- Subsection (01) General Prohibitions, Items (A)-(K): Prohibits and makes unlawful the discharge of wastes into the wastewater facilities that cause, threaten to cause, or are capable of causing, either alone or by interaction with other substances, the obstruction or damage of the collection system, interfere with treatment, or threaten harm to human health or the environment.
- Subsection (02) Storm Drainage and Ground Water: No person shall, and it shall be unlawful to, discharge, cause to be discharged, or permit to be discharged, any storm water, ground water, rainwater, street drainage, subsurface drainage, swimming pool drainage, or yard drainage, either directly or indirectly into the wastewater facilities, unless a permit therefore is issued by the General Manager. The General Manager may issue such permit only upon a finding by him or her that no reasonable alternative method of disposal of such water is available.
- Subsections (03)-(13): Describes additional prohibitions and limitations. Refer to the District Code in [Appendix 3A](#) for complete text.



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3.2.2 Proper Design and Construction of Sewers and Connections

Measures outlining the District’s authority regarding proper design and construction of sewers and connections are included in the District’s Code at Article IV, Specifications Controlling Manner of Construction and Clearing Services, and Article VII, Permits. Relevant sections are referenced below. Refer to the District Code in [Appendix 3A](#) for complete text.

“Standard Specifications for Sanitary Sewer Construction – 2014,” at Part D – Technical Specifications, incorporated by reference as part of the District’s Code also outlines the District’s authority. References to this document, listed below, are marked by an “*.”

- Article IV, §400: Requires sewer design and construction in accordance with District Standards;
- Article IV, §401: Prohibits connections to the public sewer without a permit;
- Article VI, §401: Requires separate sewers for every house and building;
- Article IV, §401.20: Specifies requirements for depth of lateral sewers;
- Article IV, §401: Requires wye clean-out fittings for lateral sewers;
- Article IV, §401, *B2.02: Specifies requirements for minimum pipe size and slope for sewers;
- Article IV, §401.20, *C5.02: Specifies requirements for pipe materials;
- Article IV, §700-705: Requires permits and compliance with design standards for

Pump Stations and Community Force Mains;

- Article VII, §700-705: Requires permits for Public Sewer Extensions;
- Article VII, §700-705: Requires plans, profiles and specifications prepared by a registered civil engineer for all public sewer construction applications.

3.2.3 Access for Maintenance, Inspection, & Repairs

Measures detailing the District’s authority to enter buildings for the purpose of protecting the public sewer system and enforcing provisions of the Sanitary Code are included in Article VII, Section 707.08, Inspection and Sampling, of the District’s Code.

- Article VII, Section 707.08 Inspection and Sampling: The General Manager is hereby authorized to inspect the premises of any customer at all reasonable times to ascertain whether the provisions of this Code or the provisions of any permit issued pursuant to this Code are being complied with. Owners or occupants of premises where wastewater



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is created, held, or discharged shall allow the General Manager ready access at all such reasonable times to all parts of the premises for the purposes of inspection, sampling, monitoring, or performing any or all of the duties reasonably necessary or appropriate in carrying out or enforcing the provisions of this Code or any permit issued pursuant to this Code. The General Manager shall further have the right to install and use on the customer's premises such devices as are reasonably necessary or appropriate to conduct sampling, metering, or monitoring operations or other of the aforesaid duties. In the event a customer has established security measures requiring identification and clearance prior to entry onto such customer's premises, the customer shall furnish and provide such identification or clearance to the General Manager so as to permit ready access by the General Manager to the premises for the purposes described in this Section.

3.2.4 Limit Discharge of Fats, Oils & Grease and Debris

As discussed in Element 7: Fats, Oils and Grease Control, the District has the legal authority to control the discharge of fats, oils, and grease (along with other substances) to the public sewer. The District's Code (Article VI, Section 603.09, Additional Limitations) prohibits the discharge of fats, oils, and grease as follows:

- Article VI, §603.09: Prohibits the discharge of any wastewater:
 - Containing more than 300 mg/l of oil or grease of animal or vegetable origin;
 - more than 100 mg/l of oil or grease of mineral or petroleum origin.

3.2.5 Enforcement Measures

The District's Code (Article X, Enforcement) details the District's ability to enforce provisions of the Sanitary Code. Refer to the District Code (Appendix 3A) for complete text.

Section 1000: Violation, Notification of Violation, Unauthorized Discharges;

Section 1001: Administrative Order;

Section 1002: Appeals From Notice Of Violation Or Administrative Order;

Section 1003: Civil Penalties;

Section 1004: Administrative Penalties;

Section 1005: Collection of Fines and Penalties;



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- Section 1006: Criminal Penalties;
- Section 1007: Termination of Service;
- Section 1008: Revocation of Permit;
- Section 1009: Public Nuisance;
- Section 1010: Correction of Violations;
- Section 1011: Injunction;
- Section 1012: Liability for District Enforcement Expenses, Losses or Damages;
- Section 1013: Hearing;
- Section 1014: Remedies Cumulative.

3.2.6 Agreements with Other Agencies

The District does collect wastewater from 1-satellite system (Stanford Linear Accelerator – SLAC). This facility is monitored through the SVCW Pollution Prevention Program in conjunction with the WBSD.

Key Performance Indicators (KPIs)		
KPI 3.1	Is existing municipal code adequate to ensure required legal authority?	<p><i>Measured by periodic review of municipal code and any changes to existing SSS WDRs.</i></p> <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> <p><i>Measured by periodic review of work orders, customer complaints, and encounters by staff for any circumstances where municipal code was inadequate</i></p>



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4.0 OPERATIONS & MAINTENANCE PROGRAM

This section of the SSMP discusses the District’s mapping, operations, preventative maintenance, inspection, training, and outreach activities. This section fulfills the Measures and Activities SSMP requirement for the RWQCB (Element 6) and the Operation and Maintenance Program SSMP requirement for the SWRCB (Element 4).

4.1 Regulatory Requirements and Plan for Measures and Activities Element

The requirements and District’s plan for the Measures and Activities element of the SSMP are summarized in each category below. Since requirements for this SSMP element contain many categories, this summary is organized by category, with RWQCB (Element 6) and SWRCB requirements (Element 4, Operation and Maintenance Program) described for each category as applicable.

4.2 Collection System Map

4.2.1 RWQCB Requirement

The District must maintain current maps of its collection system facilities.

4.2.2 SWRCB Requirement

The District must maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments, manholes, pumping facilities, pressure pipes, valves and applicable storm water conveyance facilities. The District does not have ownership of any storm water facilities; however, the City of Menlo Park, Town of Atherton, and the Town of Portola Valley do provide the District with maps of their storm water conveyance systems.



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4.2.3 Collection System Map

The District currently uses a Geographical Information System (GIS) to create and maintain maps of its collection system facilities. The geo-database includes pipe and manhole inventory information, including length, size, material, rim and invert elevations, year of construction, surface cover, address, and other notes. The District has both Basin maps (used to schedule maintenance activities) and Block maps [Appendix 4A](#).

Maps are updated within GIS when changes are provided to the I.T. support staff from maintenance staff. As-built sewer drawings as well as plans for pump stations and appurtenant facilities are available in hard copy form.

Key Performance Indicators (KPIs)		
KPI 4.1	Are collection system maps currently up to date?	<i>Measured by periodic review to ensure maps have been updated per change requests submitted by field staff.</i>
KPI 4.2	Have newly installed assets been added to current collection system maps?	<i>Measured by annual review of current map to ensure new construction project assets have been added</i>

4.3 Resources and Budget

4.3.1 RWQCB Requirement

The District must demonstrate that adequate resources are allocated for the operation, maintenance, and repair of the District’s collection system.

4.3.2 SWRCB Requirement

No requirement in current SSO WDR.



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4.3.3 Resources and Budget

WBSD prepares a General Fund budget for each fiscal year. The budget allocates resources to operate and maintain the collection system on an annual basis. The complete General Fund budget is included in Appendix 4BBSW. Resources for capital improvement of the system are determined by field evaluations performed on an on-going basis (i.e., per field and line televised inspections). The District has planned funding for Capital Improvement Program (CIP, [Appendix 4C](#)) improvements of approximately \$3.5 million each fiscal year. (Periodically the District performs a connection fee study to ensure the rate structure is sufficient to maintain, repair and replace the conveyance system (4D-WBSD Updated Sewer Connection Fee Study & 4E-District Code, Fees, Rates, & Charges).

The objective of the CIP is to systematically replace and or rehabilitate approximately 1.5% percent of system pipelines every year, in addition to completing already planned pump station and pipeline improvements. The District will additionally implement a High Frequency Repair project where \$2-2.5 Million dollars, annually for three years, will be allocated to repair and/or replace High Frequency line structures.

Key Performance Indicators (KPIs)		
KPI 4.3	Does CIP address proper management of infrastructure and include a plan and schedule?	<p><i>Measured by:</i></p> <ul style="list-style-type: none"> • <i>Is each segment evaluated for capacity deficiencies based on projected growth</i> • <i>Are system assets evaluated for status of remaining useful life</i> • <i>Is existing CIP plan and schedule being implemented as intended?</i>



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4.4 Prioritized Preventative Maintenance

4.4.1 RWQCB Requirement

The District must demonstrate that prioritized maintenance activities are performed by the District.

4.4.2 SWRCB Requirement

The District must 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 Preventive Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders.

4.4.3 Prioritized Preventive Maintenance

The District employs different methods of preventive maintenance and operation activities. Pipeline maintenance is performed on a daily basis by three cleaning crews and reviewed for quality control by the CCTV or Pipe Hunter Crew. In addition to quality control, the CCTV crew performs frequent pipe condition assessment on the collection system. Sections of mainline, where reported grease build up, offsets, and excessive root intrusion require further assessment, are televised and the cleaning frequency is increased, or the pipe is repaired in-house by Re-Hab construction crew. Any area where grease is reported in the system requires further evaluations by the District's Source Control Inspectors. Once a determination has been made that a mainline section needs to be replaced, the section is placed on the CIP list.

Specific elements of the program are described in the sections below.

4.4.3.1 Sewer Cleaning

The District's primary sewer maintenance activity is high pressure hydro-jetting. The District has established a "Regular" Preventative Maintenance (PM) applicable to every mainline pipe and a "High Frequency" PM cleaning program for pipes deemed to require a more frequent cleaning. These two cleaning programs are discussed below.



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4.4.3.2 Regular PM Cleaning (aka. Basin to Basin Cleaning)

The Regular PM consists of high-pressure hydro jet cleaning every gravity mainline pipe in the District ranging from 4” through 10” pipe, in 12-16 month intervals. Pipe sizes 12” to 21” are cleaned in 36–72-month intervals. Pipe sizes 24” to 54” are cleaned in 72-month (6 year) intervals. The District primary cleaning nozzle is the Worthog Nozzle for the ½ Inch Jetters and the Hydraulic Rootsaw or Warthog for the ¾ inch and 1 inch jetters; but for more aggressive root growth the Super Nova Chain Flail may be used. Where the root saws are deployed, a proofing tool is utilized to ensure a high-quality cleaning has been performed.

4.4.3.3 High Frequency Cleaning.

High Frequency PM consists of 1-, 3-, and 6-month high pressure hydro jet cleaning schedules for pipes needing more frequent cleaning. Mainline pipes deemed to require more frequent cleaning are cleaned on the High Frequency cleaning schedule. High Frequency schedules are determined by reviewing the history of mainline stoppages and overflows, and/or by CCTV assessment. Post Spill Assessments (PSA) are performed on mainline sections where an SSO has occurred. A mainline sewer pipe is televised within two (2) working days of an overflow or back up. Upon review of the CCTV assessment, a High Frequency schedule may be assigned to the mainline section, or a Point Repair may be scheduled. Where necessary, a mainline is added to the CIP list for replacement/rehabilitation. In the event the mainline pipe section is added to the CIP list, the cleaning frequency will be increased, and that higher frequency cleaning schedule will be implemented until rehabilitation and/or replacement is completed. Once the pipe section has been replaced, the section will be taken off of the High Frequency schedule and placed on the Regular PM intervals as listed above in section 6.4.3.2 The District’s Siphons are on a 1-month cleaning schedule all other pipes are on a 3-, 6-, or 12-month schedules. The High Frequency Cleaning schedules can be found in ([Appendix 4F](#)). Additionally, the schedules have been grouped by Basin so to reduce travel time and make cleaning processes more efficient.

4.4.3.3.1 Sewer Cleaning Results Matrix

The District collects all observations made by its sewer cleaning crews regarding the extent and nature of materials removed during the cleaning process. The observations are recorded in the District’s computerized information management system. The District maintains or changes the



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frequency of its High Frequency PM Cleaning Program for a Sewer Line Segment based on the Sewer Cleaning Results and CCTV inspection. See Matrix below in accordance with the section labeled “Action.” Changes in cleaning frequency based upon cleaning results and or CCTV data shall be determined by the District Collection System Operations Superintendent or Assistant Superintendent and no reduction in cleaning frequency shall be made in a Sewer Line Segment with a previous history of SSOs without the approval of the District Collection System Assistant Operations Superintendent, or Operations Superintendent.



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Table 4-1: Sewer Cleaning Results Matrix

	CLEAR	LIGHT	MODERATE	HEAVY
Debris	<ul style="list-style-type: none"> No observable debris 	<ul style="list-style-type: none"> Minor amount of debris 1-2 passes 	<ul style="list-style-type: none"> Moderate amounts of debris 3-4 passes 	<ul style="list-style-type: none"> Significant amounts of debris. More than 4 passes Operator concern for future stoppage
Grease	<ul style="list-style-type: none"> No observable grease 	<ul style="list-style-type: none"> Minor amounts of grease 15 minutes or less to clean 1-2 passes 	<ul style="list-style-type: none"> Small “chunks” No “logs” 15-30 minutes to clean 3-4 passes 	<ul style="list-style-type: none"> Big “chunks” or “logs” More than 4 passes Operator concern for future stoppage
Roots	<ul style="list-style-type: none"> No observable roots 	<ul style="list-style-type: none"> Minor amounts of roots 1-2 passes 	<ul style="list-style-type: none"> Thin stringy roots No “clumps” 3-4 passes 	<ul style="list-style-type: none"> Thick roots Large “clumps” More than 4 passes Operator concern for future stoppage
Debris: Structural pipe fragments soil, rock, etc.	<ul style="list-style-type: none"> No observable materials 	<ul style="list-style-type: none"> Specify material (if possible) Minor amounts of material 	<ul style="list-style-type: none"> Specify material Moderate amounts of material per line segment 	<ul style="list-style-type: none"> Specify material Significant amounts of material per line segment. Operator concern for future stoppage
Action	<ul style="list-style-type: none"> Decrease frequency to next lower frequency after 2 clear results (e.g., 6 months to 12 months) 	<ul style="list-style-type: none"> Continue current maintenance frequency 	<ul style="list-style-type: none"> Increasing current maintenance frequency to next higher frequency (e.g., 6 months to 3 months) Submit follow up for CCTV assessment 	<ul style="list-style-type: none"> Increase current maintenance frequency to next higher frequency (e.g., 6 months to 3 months) Submit follow up for CCTV assessment
<p><i>Note: Asst. Supt. /Ops.Supt., may request additional CCTV data to assist in decision making. Definition of “Pass”-From M/H to point of contact where observation was felt/observed.</i></p>				

4.4.3.4 Root Control

Roots are removed mechanically, through high pressure hydro-jetting and chain flailing during regular cleaning. Every effort is made to trap roots physically at the downstream manhole to remove them from the collection system. In 2010, the District funded and implemented a chemical root control treatment system in areas of the District with a history of root intrusion and difficult access. The root control treatment reduces the need for frequent visits by the Hydro-jet crews and



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significantly reduces SSOs in these areas. This cost-effective approach, which allowed cleaning crews to be more productive in cleaning more pipeline in other areas of the District, will be continued in the future.

4.4.3.5 Pump Station/Siphon Maintenance

District maintenance staff performs regular inspections and maintenance of the District's twelve (12) publicly owned Pump/Lift stations. In addition, District staff maintains private pump stations consisting of 86 residential grinder pump systems and Septic Tank Effluent Pump Systems (STEP). Maintenance schedules for publicly owned pump stations are performed weekly while private pump stations are checked biannually. All of the publicly owned pump stations are constantly being monitored using the District's telemetry system 24-hours per day.

The District maintains five (5) siphons that are designed to be self-flushing. The siphons are monitored by a level monitoring system (Smartcover); as well as, chemically treated and high-pressure hydro-jet cleaned monthly.

4.4.3.6 Odor Control

The District has few odor complaints – less than five per year. However, when odor complaints are received, District crews respond with an on-site investigation and improvements, if needed. For example, the District had been working with an isolated odor issue at the Corte Madera pump station emanating from the Village Square Lift Station. In late 2016 the flows from the (former) Corte Madera Pump Station were redirected to the new Sausal Vista Pump Station. The District currently treats the Village Square pump station with Helix-Commander odor control product to control the odors and H₂S. Its effectiveness is measured regularly with the District's OdaLogger Unit.

4.4.3.7 Corrosion Control, Cathodic Protection

The District currently has a "Corrosion Control Program" in place. Low voltage rectifiers and anodes are used on the Force Main located at the Flow Equalization Facility, which is calibrated and tested on an annual basis and inspected on a monthly basis by Pump Station personnel.



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4.4.3.8 Investigation of Customer Complaints

The District places high priority on responding to customer complaints about sewer service. Complaints are generally related to sewer stoppages, overflows, or, less frequently, odors. Detailed information about communication and the District's response procedures are included in the District's OERP, which is discussed further in Element 6 and included in Appendix 6A. Response is performed by the field crews during work hours and the on-call staff member during nonworking hours. Response includes making a field assessment of the complaint and taking necessary action(s) required to resolve the problem. Increased preventative maintenance may be implemented if the problem is mainline-related to minimize recurrence of the issue.

The District maintains a customer service survey process and regularly reviews customer service comments so that employees know how the District's work is regarded by the public. Customer Survey forms are reviewed regularly in an effort to achieve continuous improvement in customer service.

4.4.3.9 Maintenance Management and Work Orders

Work orders are generated from the Lucity® Computerized Maintenance Management System (CMMS), formerly known as GBA Master Suites, which is based upon and linked to the District's GIS through common manhole and pipe identification numbers. The District utilizes the CMMS to track operations and maintenance activities performed on the collection system, which include: facility and construction inspections, sanitary sewer overflows, routine inspections, Pump Station maintenance and scheduling of mainline cleaning. Any deficiencies noted during maintenance activities and maintenance recommendations are entered into the CMMS and used to refine work order details and cleaning schedules.



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Key Performance Indicators (KPIs)		
KPI 4.4	Are preventative maintenance work programs implemented and effective?	<i>Measured by:</i> <ul style="list-style-type: none"> • <i>annual review of work plans to ensure implementation as prescribed.</i> • <i>are work plan goals being met?</i> • <i>are goals meeting intended outcomes?</i>
KPI 4.5	Are complete maintenance, operations, engineering work orders reviewed for accuracy and completeness?	<i>Measured by:</i> <ul style="list-style-type: none"> • <i>annual review of generated work orders for completion/accuracy</i> • <i>annual review/database search for open work orders not completed</i>

4.5 Scheduled Inspections, Condition Assessment, and Rehabilitation Plan

4.5.1 RWQCB Requirement

The District must identify and prioritize structural deficiencies and implement a program of prioritized short-term and long-term actions to address them.

4.5.2 SWRCB Requirement

The District must develop 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.



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4.5.3 *Scheduled Inspections, Condition Assessment, and Rehabilitation Plan*

The District conducts closed circuit television (CCTV) inspections of its sewer facilities to evaluate their condition and identify needed increased preventative maintenance, repairs and rehabilitation. This activity has been further augmented by the purchase of two (2) Pipe Hunter Jetter Unit that performs CCTV during preventative maintenance operations which ensures the line is cleaned properly.

Key Performance Indicators (KPIs)		
KPI 4.6	Is R/R plan being implemented?	<i>Measured by annual review of R/R plan to ensure adherence to plan and schedule</i>
KPI 4.7	Are system assets being routinely evaluated for defects?	<i>Measured by review/evaluation of CCTV Inspection program for adherence to plan and schedule</i>
KPI 4.8	Is CCTV schedule appropriate?	<i>Measured by review and evaluation of work orders for maintenance related blockages and/or SSO's</i>

4.5.3.1 *Manhole Inspections*

The District inspects manholes during CCTV activities. Any deficiencies are noted and entered as a follow-up for repair to be completed by the Re-Hab Crew. Manholes are replaced or repaired along with adjacent pipelines, as needed, in-house and as scheduled in the District's CIP.

4.5.3.2 *Pipeline Inspections*

CCTV inspections of the collection system are performed on a six (6) year cycle by District crews. In addition to inspection of existing pipelines, the District performs CCTV inspection on newly installed pipelines, and inspects pipelines which have experienced SSOs to assess cause of the overflow and to determine the best method and frequency of cleaning or needed repair to prevent a repeat SSO. The District's CCTV equipment records inspection information that is stored in CMMS software. CCTV data is then transferred to the District's CMMS database. The District assigns condition ratings as set forth by the Pipeline Assessment & Certification Program (PACP)



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to each of the inspected pipelines using the protocol established by the National Association of Sewer Service Companies (NASSCO). The District uploads pipeline condition ratings on an ongoing basis into Lucity.

Table 4-2: NASSCO Pipeline Condition Assessment and Rehabilitation Protocol

Observed Defect	Corrective Action	Time Frame (from date defect observed)	Other Action
PACP Grade 4 or 5 Maintenance Defect	Clean sewer	30 days	Place on High Frequency cleaning or root control schedule
PACP Grade 3 Maintenance Defect	Clean sewer	4 months	Place on High Frequency cleaning or root control schedule
PACP Grade 5 Structural Defect– Immediate Failure Likely	Repair, rehabilitate, or replace sewer	1 year	N/A
PACP Grade 5 Structural Defect – Immediate Failure Unlikely	Repair, rehabilitate, replace, or re-inspect sewer	3 years	Re-inspect within 3 years if corrective action not taken
PACP Grade 4 Structural Defect	Repair, rehabilitate, or reinspect sewer	5 years	Re-inspect within 6 years if corrective action not taken

4.5.3.3 Pipeline Condition Assessment and Rehabilitation

CCTV reports and videos, together with field observations, form the basis for establishing needed system maintenance and repairs. Results are logged using fault (defect) codes and a numerical rating scale (with weights assigned to each type of defect). The ratings reflect the relative severity of the observed defects. The table below is used as a guide for the selection of pipes for sewer repair or rehabilitation.

Point repairs are completed by District crews. Larger repairs are designed and competitively bid for construction through the District’s Capital Improvement Program. Other factors are considered for placing a pipe segment on the CIP such as; maintenance history, number of defects within a segment, SSO history if any, impact should an SSO occur, and remaining useful life of pipeline.



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All side sewers, from the connection to the District public sewer to the property served, are the property of, solely owned by, and sole responsibility of the property owner. However, the District does, as a courtesy, provide blockage clearing services from a conforming property line cleanout to the mainline sewer when requested by the property owner.

In fiscal year 2009/10, the District developed a near-term prioritized replacement plan to jumpstart its long-term CIP. The District adopted its Master Plan in June of 2011 and has tentatively prioritized its 10-year plus Capital Improvement Program. The collection system Master Plan included a flow monitoring study performed in 2009/2010, historical CCTV records, and the collection system's maintenance history as a whole to develop fundable groupings of pipeline replacement projects and included capacity improvement projects as suggested by the hydraulic modeling discussed further in Section 8. As of January 2017, the District accelerated its Flow Monitoring program by installing flow meters at each of its 15 sub-basins to monitor the collection system and confirm tentatively prioritized CIP projects are required. The District initiated the Master Plan update in FY15/16 and changed the program name to "Sustainability Plan" to better reflect the ongoing assessments of our system which will be completed soon. In the interim the District has compiled a 10-year CIP program going out to FY26/27.

4.6 Contingency Equipment and Replacement Inventories

4.6.1 RWQCB Requirement

The District must demonstrate that contingency equipment is provided to handle emergencies, and that spare parts are available to minimize equipment/facility downtime during emergencies.

4.6.2 SWRCB Requirement

The District must provide equipment and replacement part inventories, including identification of critical replacement parts.

4.6.3 Contingency Equipment and Replacement Inventories

The District's emergency response plans have been designed to ensure continuous operation of the District's collection facilities and thereby achieve the District's chief objectives of upholding public health and safety and protecting the local environment. These plans have been implemented



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and employees have been trained in alternative duties. Spare parts have been stocked. Pumping stations have been adequately protected with backup power and designed for emergencies. The District has compiled a comprehensive list of Pump Stations, Grinders and STEP System spare parts ([Appendix 4G](#)), By-Pass Pump equipment ([Appendix 4H](#)) and Pipeline Re-habilitation Inventory ([Appendix 4I](#)).

Key Performance Indicators (KPIs)		
KPI 4.9	Periodic audit of replacement part and identified critical spare parts for collection system assets and vehicles/equipment.	<i>Measured by annual review of critical spare parts inventory</i>

4.7 Training

4.7.1 RWQCB Requirement

The District must provide training on a regular basis for its collection system operations, maintenance, and monitoring staff.

4.7.2 SWRCB Requirement

The District must provide training on a regular basis for staff in sanitary sewer system operations, maintenance, and require contractors to be appropriately trained.

4.7.3 Training

The District has a policy of maintaining a safe and healthful work environment for each employee, including contract employees, and compliance with all occupational health and safety regulations.

Capital Improvement Program Contractors are required to have the Knowledge, Skills and Abilities (KSAs) necessary to perform the job they were awarded.

The District's Injury and Illness Prevention Program (IIPP included in [Appendix 4J](#)) establishes a framework for identifying and correcting workplace hazards within the District, while addressing legal requirements for a formal written IIPP.



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The District performs Emergency Response Training on an annual basis. Staff reviews the District’s Contingency Disaster Response Plan and improves District performance by implementing practice emergency scenarios on pump station and mainline by-passing operations. Additionally, staff is divided into groups to practice these operations in the field. At the end of the training segment, field operations are critiqued and discussed. All noted deficiencies are reviewed and corrected, and improvements are made to the plan.

Key Performance Indicators (KPIs)		
KPI 4.10	Has all prescribed and required staff training been completed?	<i>Measured by annual review of training records for all appropriate employees.</i>
KPI 4.11	Have contracted services provided evidence of appropriate knowledge, skills and abilities and are appropriately trained for the task/job?	<i>Measured by review of submittals for each CIP project initiated.</i>
KPI 4.12	Review training records/ensure all staff records updated.	<i>Measured by annual review of training records for all appropriate employees.</i>

4.8 Outreach to Plumbers and Building Contractors

4.8.1 RWQCB Requirement

The District must implement an outreach program to educate commercial entities involved in sewer construction or maintenance about the proper practices for preventing blockages in private laterals. This requirement can be met by participating in a region-wide outreach program.

4.8.2 SWRCB Requirement

No requirement.



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The District participates in the Bay Area Clean Water Agency (BACWA) public outreach committee and, as a member of this group, has helped to develop a handout for plumbers that apply for permits to perform sewer lateral repairs and/or replacements. This handout is included in [Appendix 4K](#) of the SSMP. In addition, the District provides standard details for repair and replacement work that can be used by plumbers, contractors, or homeowners. This information is available on the [District's website](#) and at the District's front office counter. Additionally, District Contractors are required to have the knowledge, skills, and abilities necessary to work on and respond to collection system needs.

4.9 Element 4 Appendices-4A thru 4K

Supporting information for Element 4 is included in Appendices 4A-4K, which includes the following documents:

- [4A](#) Block Maps
- [4B](#) WBSD General Fund Budget 2018/2019
- [4C](#) Capital Improvement Program
- [4D](#) WBSD Updated Sewer Connection Fee Report
- [4E](#) Fees, Rates & Charges, District Code
- [4F](#) List of Sewers on High Frequency Cleaning Schedules
- [4G](#) Comprehensive List of Spare Parts Pump Stations, STEP Systems & Grinders
- [4H](#) By-Pass Equipment/Pump Stations
- [4I](#) Rehabilitation Parts Inventory
- [4J](#) WBSD Injury Illness Prevention Program
- [4K](#) Outreach to Plumbers & Contractors



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5.0 DESIGN & PERFORMANCE PROVISIONS

This section of the SSMP discusses the District's design and construction standards. This section fulfills the Design and Construction Standard SSMP requirement for the RWQCB (Element 7) and the Design and Performance Provisions SSMP requirement for the SWRCB (Element 5).

5.1 Regulatory Requirements and Plan for Design & Construction Standards Element

The requirements and District's plan for the Design and Construction elements of the SSMP are summarized below.

5.2 Installation, Rehabilitation and Repair

5.2.1 RWQCB Requirement

The District must demonstrate that minimum design and construction standards and specifications are in place for the installation of new sewer systems and for the rehabilitation and repair of existing sewer systems.

5.2.2 SWRCB Requirement

The District must have design and construction standards and specifications for the installation of new sewer systems, pump stations, and other appurtenances, and for the rehabilitation and repair of existing sewer systems.

5.2.3 Installation, Rehabilitation, and Repair

The design and installation of sanitary sewer collection and conveyance facilities for the District are governed by the WBSD Standard Specifications for the Design and Construction of Sanitary Sewer Collection and Conveyance Facilities document, which is included in [Appendix 5A](#).

Part A General Information: This section includes a general description of the intent and purpose of the District's Standard Specifications, a brief description of the District's Collection System Sustainability Plan, and definitions of terms used within the document.

Part B Design Standards: This section describes standards to be used in the design of all sewerage facilities for the District.



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- **Section B1** covers the general design requirements and design criteria applicable to the sewerage system as a whole.
- **Section B2** covers basic design criteria and standards relating to gravity sewers, force mains, and pressure systems.

Part C Construction Standards: This section, written in the form of typical specifications, covers the District's construction standards. These standards must be followed in any work constructed for the District's acceptance and may be included by reference in construction contracts.

- **Section C1:** Special Conditions and Construction Requirements
- **Section C2:** Earthwork
- **Section C3:** Concrete Work
- **Section C4:** Metalwork
- **Section C5:** Pipelines and Sewers
- **Section C6:** Painting
- **Section C7:** Resurfacing
- **Section C8:** Sewer Line Cleaning
- **Section C9:** Smoke Testing
- **Section C10:** Sewer Flow Control
- **Section C11:** Television Inspection
- **Section C12:** Pressure Systems

Part D – Standard Drawings: This section consists of standard drawings and details which must be followed where applicable, in any work done for the District's acceptance.

5.3 Inspection and Testing of New and Rehabilitated Facilities

5.3.1 RWOCB Requirement

The District must demonstrate that procedures and standards are in place for the inspection and testing of new sewers, pump stations, and other appurtenances, as well as for rehabilitation and repair projects.



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5.3.2 SWRCB Requirement

The District must have procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

5.3.3 Inspection and Testing of New and Rehabilitated Facilities

As described in Section 5 of this SSMP, Section 403. Inspection of Construction, of the District's Code requires inspection and testing of new and rehabilitated facilities. Section 403 reads, in pertinent part, "After approval of the plans by the District Board, actual construction may be started and all work shall be performed under the inspection of, and in accordance with the standard specifications of the District. All work shall be inspected by the District when construction is completed but before use is made of the facilities constructed."

In addition, Section 707. Wastewater Discharge Permits (08 Inspection and Sampling) of the District's Code authorizes further inspection under required permits, as follows, "The General Manager is hereby authorized to inspect the premises at all reasonable times to ascertain whether the provisions of this Code or the provisions of any permit issued pursuant to this Code are being complied with."

These requirements are repeated in the District's Standard Specifications for the Design and Construction of Sanitary Sewer Collection and Conveyance Facilities that are included in [Appendix 5A](#).

5.4 Element 5, Appendix 5A & 5B

Supporting information for Element 5 is included in Appendix 5A & 5B. These appendices include the following documents:

- WBSD Standard Specifications for the Design and Construction of Sanitary
- Sewer Collection and Conveyance Facilities (June 2015) [Appendix 5A](#)
- WBSD Standard Details (June 2015) [Appendix 5B](#)



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Key Performance Indicators (KPIs)

KPI 5.1	Are existing design and construction standards, specifications, and inspection procedures appropriate for the collection system?	<i>Measured by annual review of all warranty CCTV inspections for new CIP projects to ensure standards were adhered to and inspections were properly performed</i>
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6.0 OVERFLOW EMERGENCY RESPONSE PLAN

6.1 Introduction

This section of the SSMP provides a summary of the District's emergency response documents and procedures for sanitary sewer overflows, thus fulfilling the Overflow Emergency Response Plan requirements for both the RWQCB and the SWRCB. Complete documentation of the District's OERP is included in Appendix 6A

6.2 Regulatory Requirements for Overflow Emergency Response Plan Element

The summarized requirements for the Overflow Emergency Response Plan element of the SSMP are as follows:

6.2.1 RWQCB Requirement:

The collection system agency must develop an overflow emergency response plan that provides procedures for SSO notification, response, reporting, and impact mitigation. The response plan should be developed as a stand-alone document and summarized in the SSMP.

6.2.2 SWRCB Requirement:

The collection system agency 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:

- Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;
- A program to ensure appropriate response to all overflows;
- 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 receiving waters in accordance with the Statewide SSO WDR's Monitoring and Reporting Program (MRP). All SSOs shall be reported in accordance with this MRP, the California Water Code, and other applicable state laws and permit requirements. The SSMP should identify the officials who will receive immediate notification.



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- Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the emergency response plan and are appropriately trained.
- Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and

A program to ensure that all reasonable steps are taken to contain untreated wastewater and prevent discharge of untreated wastewater to waters of the United States and 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.

6.3 District OERP

WBSD has revised an Overflow Emergency Response Plan that is in compliance with both SWRCB and RWQCB SSMP OERP requirements. This plan is updated annually by the Water Quality Manager. The full OERP document is included in Appendix 6A.

6.3.1 WBSD OERP Components Overview

The WBSD OERP contains all the required SWRCB and RWQCB components as well as additional supporting information. The OERP is organized as follows:

- Responsibilities
- Spill Detection
- Spill Response
- Mitigation
- Public Notification
- Water Quality Sampling and Testing
- Spill Investigation and Documentation
- Spill Reporting
- Emergency Response Equipment Training

6.3.1.1 Responsibilities

This section identifies the responsible parties for responding to all service calls, alarms, and SSO events that occur within the WBSD collection system



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6.3.1.2 Spill Detection

This section describes ways that spills are detected, and how these spills are communicated to the District's First Responder, both during and outside of normal working hours. Additionally, flow charts illustrating spill detection, notification, and response communication processes for WBSD are included.

6.3.1.3 Spill Response

This section describes the procedures to be followed when responding to and addressing spills, including priorities; Emergency After-Hours Response (Page 6 of the OERP), initial response; containment or bypass; and special consideration in sensitive areas. This section also includes information and/or additional flowcharts illustrating procedures for handling the following scenarios: customer lateral spills, pipe blockage or collapse, pump around and repair, lift station or treatment plant spills, and backups from hydro cleaning.

6.3.1.4 Mitigation

This section describes procedures for recovery and clean up after sewer flow has been restored, addressing clean up under a variety of conditions including hard surfaces (exterior), landscaped and unimproved natural vegetation, natural waterways, and private property (interior).

6.3.1.5 Public Notification

This section addresses communications with the public during and after a spill event.

6.3.1.6 Water Quality Sampling and Testing

This section provides information on the Water Quality Monitoring Program for spills greater than 50,000 gallons where analytical testing is required to determine the extent and the impact of an SSO. The written Water Quality Monitoring Program includes an S.O.P. on the Sampling and Monitoring process and required procedures that must be followed. This Program and S.O.P. are located in [Appendix A8](#) of the Overflow Emergency Response Plan (OERP).



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6.3.1.7 Spill Reporting

This section includes spill reporting requirements as established by the revised Monitoring & Reporting Program (MRP) which became effective September 9, 2013 by the State Water Board for all leaks, spills, and overflows. Included within this section is information MRP changes and new requirements, and water quality objectives. Flowcharts depicting the necessary procedures for reporting of SSOs are located at Tabs 1-7 in the OERP.

6.3.1.8 Spill Investigation and Documentation

This section addresses post-spill assessment, with a focus on implementing processes and improvements that will prevent repeat SSOs and lead to decreased SSOs. The three key elements of post-spill assessment are spill documentation, post-spill debriefing, and failure analysis investigation.

6.3.1.9 Emergency Response Equipment

This section provides a list of specialized equipment that will support the OERP located at [Appendix 3A](#) as “Emergency Response Equipment” on page 19, Section 10.

6.3.1.10 Training

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

The District will perform annual training to staff of both the OERP and SSMP, utilizing in-house and/or outside consultant services. Any and all changes to the policy and procedures will be noted, tracked, and measured for effectiveness through annual updates of the SSMP.

Key Performance Indicators (KPIs)		
KPI 6.1	Were the notification procedures outlined in the OERP adhered to for each spill event?	<i>Measured by review of spill response debriefing form for each event.</i>
KPI 6.2	Was prompt notification to appropriate parties achieved for each spill event?	<i>Measured by review of spill response debriefing form for each event.</i>



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Key Performance Indicators (KPIs)

KPI 6.3	Was OERP training performed as prescribed in SSMP?	<i>Measured by annual review of training records</i>
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6.4 Additional Items

Additional items included as appendices in the OERP include:

- OERP Flowcharts – OERP Appendix A1 to A7
- Water Quality Monitoring Program A8
- WBSD Overflow Call-Out Report-Emergency Notification List Appendix B1
- Sanitary Sewer Overflow Prevention Assessment Appendix B2
- Compliance Checklist Appendix B3
- Overflow estimating methods and Manhole Spill Rate Chart-OERP Appendix C1 to C3,
- Residential Notification Form Appendix D1
- Raw Sewage Spill Sign Appendix D2



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7.0 FOG CONTROL

7.1 Introduction

The intent of this section of the SSMP is to evaluate the extent and nature of SSOs related to Fats, Oils and Grease (FOG), to outline the elements of the District's FOG Control Program and determine the need for additional elements of the District's FOG Control Program.

7.2 Regulatory Requirements for the FOG Element

7.2.1 RWOCB Requirement:

The collection system agency must evaluate its service area to determine whether a FOG control program is needed. If needed, a FOG control program shall be developed as part of the SSMP. If the District determines that a FOG program is unnecessary, proper justification must be provided.

7.2.2 SWRCB Requirement:

The collection system agency shall evaluate its service area to determine whether a FOG control program is needed. If the District determines that a FOG program is not needed, justification must be provided for why it is not needed. If FOG is found to be a problem, the District must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. The FOG source control program shall include the following as appropriate:

- An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;
- 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;
- The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;
- Requirements to install grease removal devices (such as traps or interceptors), design standards for the grease removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements;



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- Authority to inspect grease producing facilities, enforcement authorities, and determination of whether the District has sufficient staff to inspect and enforce the FOG ordinance;
- An identification of sewer system sections subject to FOG blockages and the establishment of a cleaning maintenance schedule for each section; and
- Development and implementation of source control measures, for all sources of FOG discharged to the sewer system, for each sewer system section identified as subject to blockages.

7.3 Nature and Extent of FOG Problems

The District conducts a commercial FOG source control, inspection, and preventive maintenance program. The District's Source Control Inspectors perform facility inspections of all Commercial and Industrial businesses within the District's sphere of influence, to confirm that these establishments comply with the District's Code of General Regulations, as well as state and local ordinances related to FOG control.

The District experiences no mainline blockages caused by commercially generated FOG. Therefore, a more formal FOG control program is not currently needed. However, the District is still required to clear blockages caused by residential FOG and performs residential outreach regarding prevention of FOG disposal into kitchen drains.

7.4 District FOG Control Program

7.4.1 Preventative Maintenance

District personnel performing maintenance activities within the collection system report all observations to the Operations Superintendent. Field reports noting FOG-related observations are forwarded to the Water Quality Department for follow up investigation, mitigation and or distribution of outreach materials.

7.4.2 Legal Authority to Prevent FOG

The District's "Code of General Regulations," which is included in [Appendix 3A](#), provides the legal framework for enforcing illicit discharges of FOG to the collection system. The Board approved the comprehensive FOG program changes amending the Code of General Regulations in September 2014. This code enables the District to protect the integrity of the collection system by limiting what may or may not be discharged to the system. The FOG Program strengthened the



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regulations by specifically addressing Best Management Practices, current California Plumbing Codes, Operation and Maintenance of related equipment and Enforcement Actions.

Significant changes to the Code of General Regulations are in sections 602, 707, 902 and revolve around the following enhancements to the Code.

- Strengthening the District’s Legal Authority to enforce compliance with the FOG ordinance.
- Provide a mechanism to recover costs of enforcement and compliance.
- Develop Variance Guidelines for Grease Control Devices

7.4.3 Specifically, the District Code provides authority for the following:

Prohibition of grease disposal into sewer system, and Requirement for the installation and maintenance of grease and oil interceptors (Article VI, Section 602)

7.4.4 Source Control Program

The District’s Regulatory Compliance Department employs two Source Control Inspectors who perform facility inspections of all commercial and industrial businesses within the District’s sphere of influence. One of the functions of this department is to ensure that FOG-related businesses (restaurants, food preparation facilities, vehicle service facilities, etc.) are inspected on a regular basis and maintain consistent compliance with the District’s Code of General Regulations, and state and local ordinances related to FOG.

All FOG-related businesses are inspected on a quarterly basis. Facilities noted as “non-compliant” are re-inspected within 30 days and if found “Non-Compliant” upon re-inspection are in violation of the District’s code and are subject to a \$175.00 fine. In the event that enforcement action is required, the District will issue a “Compliance Time Schedule (CTS)” and work with the Facility Operator until compliance is achieved or schedule required work and place a Tax Lien on the property. Other agencies may become involved in the CTS process, including the San Mateo County Environmental Health Department officials and the City/Town Code enforcement officers, to ensure compliance with regulations in a timely manner.

The District’s Source Control Inspectors perform routine inspections of restaurants and vehicle service facilities with grease traps, interceptors, and oil water separators to ensure compliance with the discharge limits of grease and oils per the District regulations. Inspectors perform sampling



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and flow monitoring, sanitary sewer overflow response, odor complaint response, and inspections to ensure that facilities are in compliance with the District’s Code of General Regulations. Staff also works in conjunction with outside agencies, (i.e., Fire Department, City of Menlo Park’s Code Enforcement and the San Mateo County Environmental Health Department).

The District’s Source Control Inspection Program covers approximately 650 commercial and industrial facilities.

7.4.5 Grease Disposal

Currently, grease haulers dispose of grease pumped from interceptors at a grease collection facility, Darling International, Salinas Tallow, or at Silicon Valley Clean Water (SVCW). At this time, there does not appear to be a need for additional grease disposal facilities to collect grease from the WBSD service area. However, the District may choose to evaluate this need further, should the need for additional grease disposal facilities become an issue in the future.

7.4.6 Public Education

At the same time that the District is proactively managing commercial FOG issues, it is also addressing blockages caused by FOG from residential sources. The District has implemented a targeted residential public outreach program for FOG related blockages, using leaflets and information posted on the District’s website.

Key Performance Indicators (KPIs)		
KPI 7.1	Is the commercial FOG program being implemented and are goals being achieved?	<i>Measured by annual review of commercial FOG program.</i>
KPI 7.2	Is the residential FOG program being administered and are goals being achieved?	<i>Measured by annual review of residential FOG program.</i>
KPI 7.3	Has the District experienced any FOG-related spills or blockages during the monitoring period?	<i>Measured by annual review of all FOG-related work orders and spills</i>
KPI 7.4	Has the District implemented any FOG-related enforcement during the monitoring period?	<i>Measured by annual review of all FOG-related enforcement actions.</i>



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8.0 SYSTEM EVALUATION & CAPACITY ASSURANCE PLAN

This section of the SSMP discusses the District's capacity management. This section fulfills the Capacity Management requirements for the RWQCB and the SWRCB elements.

8.1 Regulatory Requirements and Plan for Capacity Management Element

The requirements and District's plan for the Capacity Management element of the SSMP are summarized below:

8.2 Capacity Assessment

8.2.1 RWQCB Requirement

The District must show that a process is established to assess the current and future capacity requirements of its collection system.

8.2.2 SWRCB Requirement

The District must 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. Where design criteria do not exist or are deficient, the District must establish appropriate design criteria.

8.2.3 Capacity Assessment

Notwithstanding the lack of SSOs caused by capacity-related issues, the District proactively reassessed the capacity of its wastewater collection system in December of 2009 and completed the re-assessment project in early 2011 as part of the "Sanitary Sewer Master Plan 2011" (Master Plan) prepared West Yost & Associates. This effort updated the 2006 Sewer System Master Plan prepared by Freyer & Laureta, Inc. The complete 2011 Master Plan was updated in 2013, both documents are available at the District office and on the District's website. These documents are currently being revised as the "Sustainability Plan" anticipated to commence FY 22/23 and be completed in FY23/24.



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The on-going Flow Monitoring Study utilizes 17 flow monitors that capture both wet and dry weather flows. Flow measurements are used to determine peaking factors caused by inflow and infiltration. Based on land use designations/population projections from available planning documents, the Master Plan projects both dry weather flows and wet weather flows, and is then evaluated, based on a consistent 10-year 6-hour design storm size (this information is located on the [District's website](#)¹, and whether the District's trunk sewers had sufficient capacity to convey these flows. The Master Plan included analysis on Infiltration and Inflow, and the development of a hydraulic model using InfoWorks software. A chapter presenting planning criteria was also developed to evaluate system capacity and size any proposed new replacement facilities. The major elements of the Planning Criteria chapter are Design Storm, Hydraulic Deficiency Criteria, and New Pipeline Design Criteria. The Master Plan also included a chapter on Capacity Analysis, which included hydraulic capacity analysis results, recommended projects, and conceptual costs. These projects will be discussed further in [section 8.3](#). The revised "Sustainability Plan (Master Plan) is anticipated to be completed in FY23/24.

8.3 System Evaluation and Capacity Assurance Plan

8.3.1 RWOCB Requirement

The District must prepare a CIP to provide hydraulic capacity of key collection system elements under peak flow conditions.

8.3.2 SWRCB Requirement

The District must establish a short- and long-term capital improvement plan (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. The District shall develop a schedule of completion dates for all portions of the CIP. This schedule shall be reviewed and updated at least every two years.

¹ https://westbaysanitary.org/wsbd-prod/resources/824/WBSD_Master_Plan_2011.pdf



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8.3.3 System Evaluation and Capacity Assurance Plan

As part of the Master Plan, a flow monitoring study of the District's trunk lines was performed in 2009/2010 to assess system capacity. This data was used to create a "Hydraulic Model" of the District's collection system and pumping facilities. The hydraulic model was used to identify potential adverse conditions, during storm events and build-out of the cities and towns discharging into the District's conveyance system.

The Master Plan recommended five (5) priority sewer projects to be completed in the next ten years, and six (6) long term capacity improvement projects to meet the District's surcharge criteria under the applied design storm, those projects are nearing completion in FY19/20 without the need for the Marsh Road Diversion project. The District prioritized these projects as part of its Capital Improvement Program. The hydraulic model, existing CCTV information, and maintenance records helped to identify pipelines within the District that might have potential capacity issues during peak wet weather flows. Additionally, the District has implemented an ongoing flow monitoring program to confirm the needed expenditure for each of the prioritized projects.

This work will provide a risk-based, prioritized long-term CIP that replaces existing facilities and aims to reduce potential infiltration and inflow into the system. The District will pursue an aggressive High Frequency repair project, with approximately \$2-2.5 million dollars per year (for 3 consecutive years) to repair and/or replace sanitary sewer structures on the High Frequency cleaning list.

Additionally, the District does perform continual Flow Monitoring as needed on the collection system to ensure prioritized CIPs are scheduled accordingly, as new flow data becomes available it will be inserted into the hydraulic model for analysis and confirmation of proposed future projects.

An example of the District's Project Replacement Schedule for recommended sewer improvements is located in [Appendix 8A](#) of this SSMP.



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Key Performance Indicators (KPIs)		
KPI 8.1	Has the District experienced any capacity-related spills or surcharge events during the monitoring period?	<i>Measured by annual review of all work orders and field inspection data for capacity-related issues.</i>
KPI 8.2	Have any changes occurred within the service area that might affect the hydraulic model?	<i>Measured by</i> <ul style="list-style-type: none"> • <i>periodic review/update of hydraulic model).</i> • <i>periodic review/update of new development trends).</i> • <i>periodic review/update of land use agencies general plan zoning designations).</i>
KPI 8.3	Has the schedule for CIP capacity-related projects been adhered to?	<i>Measured by annual review of CIP plan/schedule.</i>



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9.0 MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS

This section of the SSMP discusses the District's Monitoring, Measurement, and Program Modifications. This section fulfills the Monitoring, Measurement, and Program Modifications requirements for the RWQCB and the SWRCB elements.

9.1 Regulatory Requirements for Monitoring, Measurement, and Program Modifications Element

The requirements for the Monitoring, Measurement, and Program Modifications element of the SSMP are summarized below.

9.1.1 RWQCB Requirement

The District must monitor the effectiveness of each SSMP element and update and modify SSMP elements to keep them current, accurate, and available for audit as appropriate.

9.1.2 SWRCB Requirement

The District shall:

- Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities;
- Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP;
- Assess the success of the preventative maintenance program;
- Update program elements, as appropriate, based on monitoring or performance evaluations; and
- Identify and illustrate SSO trends, including frequency, location, and volume.

9.2 Monitoring, Measurement, and Program Modifications

The District maintains information on sewer condition, repairs, flow, pipeline cleaning history, manhole inspection, number, size, and nature of SSOs, etc., in order to establish and prioritize appropriate SSMP activities. This information and more is entered and transferred on the Lucy CMMS discussed in Section 6.



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In order to comply with SSMP requirements, the District has developed a “Smart Goal Program” approach to monitor the implementation and effectiveness of each element of its SSMP. This program tracks a series of performance indicators, such as those listed above, that are in line with the District’s goals. Periodic review and assessment of the Smart Goals allows the District to evaluate the effectiveness of each SSMP element and update the elements as necessary.

Success of the Preventive Maintenance Program is measured by productivity, CCTV confirmation of quality cleaning, the decline in SSOs, and the steady reduction in the volume (e.g, gallons spilled) when SSOs occur.

The District maintains spill records in the form of an internal Wastewater Overflow Reports. Hardcopies of the Wastewater Overflow Reports are maintained in the Water Quality Manager’s office as well as, electrically on the District’s sever, along with any other reports and information (i.e., photographs, monitoring data, etc.) related to the event. The District also uses the RWQCB and State electronic SSO reporting systems (CIWQS), which records the number, volume, locations, and causes of SSOs.

All SSOs are assessed within two (2) days of the occurrence. The section of mainline where an SSO occurs is automatically re-cleaned and CCTV’d. The results of the evaluation or Post Spill Assessment are completed within 7-days and reviewed by staff and corrective measures are implemented, such as pipe repair, replacement (CIP), cleaning schedule change, or placement on the “High Frequency” cleaning schedule. In 2014 the District’s assessment led to a Preventative Maintenance change in Element #6.

The District also maintains a quality assurance/quality control program (“QA/QC Program”) to ensure proper and complete cleaning of sewers. The QA/QC Program consists of spot-checking the cleaning quality in six (6) Sewer Line Segments of the cleaned sewers on a monthly basis using CCTV to inspect the level of cleaning. If the cleaning is found to be inadequate, the Sewer Line Segment will be scheduled to be re-cleaned. Results of the QA/QC will be reviewed with cleaning crews and supervisors. To augment the PM program the District purchased a Pipe Hunter Jetter Unit with camera so staff could perform QA/QC while performing routine line cleaning.

The District’s CMMS, discussed in Section 6, includes modules for generating work orders, maintaining system inventory and inspection information, and rating sewers based on inspection results. Additionally, the District conducts routine inspections of its sewer facilities to evaluate their condition and identify needed repairs and rehabilitation.



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With the information available in the CMMS and the SSO reporting system, the District measures the effectiveness of the SSMP by tracking various parameters related to service calls, and maintenance and inspection activities, as well as by comparing SSO trends from previous years and identifying system components that may contribute to system failures. Specifically, the District tracks the following parameters with which to measure the effectiveness of the SSMP and its effectiveness in reducing SSOs:

- Number of SSOs per year,
- Volume of SSOs per year,
- Number of dry and wet weather SSOs per year,
- Number of SSOs per year by cause (e.g., roots, grease, pipe failure, I/I, pump failure or other deficiency, etc.),
- Response time to SSOs and other service calls (time from call received to first responder arriving on site),
- Length of gravity sewers cleaned annually,
- Actual versus scheduled cleaning dates for gravity sewers,
- Length of gravity sewers inspected by CCTV annually,
- Record of pump station maintenance work orders completed annually, and Location of SSOs.

The District also audits the SSMP on an annual basis as described in Element 10 SSMP Audits.

Key Performance Indicators (KPIs)		
KPI 9.1	Were KPIs reviewed and evaluated for each element of the SSMP?	<i>Measured by annual review of KPIs.</i>
KPI 9.2	Was the annual District Performance Measures report evaluated/updated?	<i>Measured by annual review of performance measures.</i>
KPI 9.3	Were any SSMP program element(s) corrected/updated based on results of performance measures?	<i>Measured by</i> <ul style="list-style-type: none"> • <i>annual review of performance measures</i> • <i>annual review of SSMP change log</i>



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10.0 SSMP AUDITS

This section of the SSMP discusses the District’s SSMP auditing program. This section fulfills the SSMP Audit requirement for the RWQCB and the SWRCB elements.

10.1 Regulatory Requirements for SSMP Audits Element

The requirements for the SSMP Audits element of the SSMP are summarized below:

10.1.1 RWQCB Requirement

The District must conduct an annual audit of their SSMP that includes any deficiencies and steps to correct them that are appropriate to the size of the District’s system and the number of overflows. The District must submit a report of its annual audit.

10.1.2 SWRCB Requirement

The District 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 District’s compliance with the SSMP requirements, including identification of any deficiencies in the SSMP and steps to correct them.

10.2 District SSMP Audits

The District completed its third 5-year Audit of the SSMP in September 2022. The 2022 Audit was completed by [Fischer Compliance](https://FischerCompliance.com)², LLC. which included work tasks to ensure the District complies with the requirements of the SSS WDRs, Provision D.13(x), “Periodic Internal Audits” focusing on evaluating the effectiveness of the SSMP and the District’s compliance with the SSMP requirements in the WDRs. The 2022 Audit incorporated compliance evaluation inspection procedures in use by U.S. EPA and the California Water Boards for generating findings and best practice recommendations to further assist the District in implementing additional strategies and projects to supports ongoing successes in reducing SSOs (see [Appendix-10A](#) for a copy of the 2022 Audit). The draft Audit Report shed light on many existing successful work programs in place by the District. When comparing the District SSO metrics performance with other collection

² <https://FischerCompliance.com>



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systems in the San Francisco Regional Water Board area and throughout the State, the District performs near the top. Detailed document reviews incorporating review of the Water Board's Pre-Inspection Questionnaire for collection systems, onsite meetings, onsite inspection, and field staff interviews were relied on for evaluating the District's spill reduction efforts, SSMP strengths, effectiveness, and compliance with the WDRs.

Staff has incorporated many of the 2022 Audit findings and recommendations with plans to carry forward remaining identified recommendations into the next SSMP Audit (due in 2024) and the next SSMP update (due in 2027) to further support ongoing implementation successes of the SSMP to reduce spills (see Tables 10.1 -10.4, below for a summary of the 2022 SSMP Audit Compliance Findings ([Table 10.1](#)), Best Practice Recommendations ([Table 10.2](#)), 2022 SSMP Commitments ([Table 10.3](#)), and 2022 SSMP Commitments for Completion ([Table 10.4](#)).



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Table 10-1: 2022 SSMP Audit Compliance Findings

Audit Elements ³	V? ⁴	AOC? ⁵	Effective? (Examples)
1.0 Goals	NO	NO	Yes. Extensive maintenance and capital spending to address system deficiencies and necessary improvements; extensive cleaning and inspections.
2.0 Org	NO	NO	Yes. Multiple disciplinary involvement in SSMP update and implementation including engineering, operations departments.
3.0 Legal	NO	NO	Yes. Extensive ordinances and authority defined.
4.0 O/M	NO	YES	Yes. Proper management and understanding of pump station operations, maintenance and SSMP implementation.
5.0 Design	NO	NO	Yes. Comprehensive design standards and specifications.
6.0 OERP	NO	YES	Yes. Field staff responding to SSOs following OERP.
7.0 FOG	NO	NO	Yes. Active FOG program.
8.0 SECAP	NO	NO	Yes. Significant dedication to capital spending to improve system.
9.0 Monitoring	NO	NO	Yes. Actively tracking maintenance programs.
10.0 Audits	NO	NO	Yes. Addressing previous audit findings and comprehensive annual review of key stats/work program.
11.0 Communication	NO	NO	Training events held with neighboring/satellite agencies for further improving relations and skills.
12.0 Implementation	NO	NO	Yes. Implementation and utilization of SSMP; extensive CIP.
13.0 Training/SOPs	NO	NO	Yes. Strong commitments to training and competency; SOPs utilized by field staff.
14.0 Discharges (spills)	NO	NO	Yes. Timely field response practices.
15.0 Notification	NO	NO	Yes. Timely compliance.
16.0 Reporting	NO	NO	Yes. Timely compliance.
17.0 Large SSO Monitoring	NO	NO	Yes. New SOP recommended.

³ For more details about sections 12 to 17, please see the 2022 SSMP Audit Report.

⁴ V (Violation)



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Table 10-2: 2022 SSMP Audit Best Practice Recommendations

Element ⁶	Effectiveness (E)	Resilience (R)
1.0 Goals	New Key Performance Indicators (KPIs); annual review of KPIs/work programs.	<ul style="list-style-type: none"> • <i>Reorganize SSMP to better document efforts and progress.</i> • <i>Annual review of Pre-Inspection questionnaire.</i>
2.0 Org	New KPIs/annual review.	<ul style="list-style-type: none"> • <i>“SSMP “Track changes” and log.</i> • <i>Ensure input is solicited, documented, and incorporated for Audits and SSMP updates.</i>
3.0 Legal	New KPIs/annual. Review outside agency agreements.	<ul style="list-style-type: none"> • <i>“Track changes” of SSMP.</i>
4.0 O/M	New KPIs/annual review including critical spare parts. Annual review of work programs.	<p><i>“Track changes” of SSMP.</i></p> <p><i>Add work program info. in SSMP.</i></p>
5.0 Design	New KPIs/annual review.	<ul style="list-style-type: none"> • <i>“Track changes” of SSMP.</i> • <i>Check effectiveness of protection of sewers with new construction.</i>
6.0 OERP	New KPIs/annual review; update OERP, SOPs, training and SSO documentation.	<ul style="list-style-type: none"> • <i>“Track changes” of SSMP; improve training scenarios/docs.</i>
7.0 FOG	New KPIs/annual review.	<p><i>“Track changes” of SSMP.</i></p> <p><i>Investigate ongoing FOG effectiveness and provide more examples in SSMP.</i></p>
8.0 SECAP	New KPIs/annual review. Add flow/level data outputs to SSMP.	<ul style="list-style-type: none"> • <i>“Track changes” of SSMP.</i> • <i>Investigate CIP effectiveness.</i>
9.0 Monitoring	New KPIs/annual review.	<ul style="list-style-type: none"> • <i>“Track changes” of SSMP.</i> • <i>Improve info. for ongoing budgets and spending in SSMP update.</i>
10.0 Audits	New KPIs/annual review. Improve tracking of audit timings. Add effectiveness evaluations to annual reviews.	<ul style="list-style-type: none"> • <i>“Track changes” of SSMP/audits</i> • <i>Begin preparing for audits early.</i>
11.0 Communication	New KPIs/annual review.	<ul style="list-style-type: none"> • <i>“Track changes” of SSMP.</i> • <i>Document outside meetings.</i>

⁵ AOC (Area of Concern)

⁶ For more details about sections 12 to 17, please see the 2022 SSMP Audit Report.



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Element ⁶	Effectiveness (E)	Resilience (R)
12.0 Implementation	New KPIs/annual review. Ensure follow-through on proposed actions.	<ul style="list-style-type: none"> • “Track changes” of SSMP. • Improve SSMP training • Annual staff performance reviews • Improve data and training records.
13.0 Training/SOPs	New KPIs/annual review.	<ul style="list-style-type: none"> • “Track changes” of SSMP • Improve trainings, SOPs, and documentation.
14.0 Discharges (spills)	New KPIs/annual review.	<ul style="list-style-type: none"> • Annual review of all SSOs reports.
15.0 Notification	New KPIs/annual review.	<ul style="list-style-type: none"> • “Track changes” of SSMP.
16.0 Reporting	New KPIs/annual review.	<ul style="list-style-type: none"> • “Track changes” of SSMP; check spill maps annually for accuracy.
17.0 Large SSO Monitoring	New KPIs/annual review.	<ul style="list-style-type: none"> • New SOP recommended/training.

Table 10-3: 2022 SSMP Commitments (Key Performance Indicators, KPIs)

Elements ⁷	Key Performance Indicators (KPIs)		
1.0 Goals	KPI 1.1	Annual review of gallons sewage spilled vs. gallons sewage conveyed	<i>Future measurement</i>
	KPI 1.2	Annual review of gallons sewage spilled vs. gallons sewage recovered	<i>Future measurement</i>
	KPI 1.3	Annual review of # spills prevented	<i>Future measurement</i>
	KPI 1.4	Annual review of State Water Board/San Francisco Bay Regional Board Collection System Questionnaires to ensure compliance with all SSS WDRs elements.	<i>Future measurement</i>

⁷ For more details about sections 12 to 17, please see the 2022 SSMP Audit Report



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Elements ⁷	Key Performance Indicators (KPIs)		
	KPI 1.5	Annual review work plan for effectiveness.	<i>Measured by annual review of District Measurement Report/Sustainability Plan goals to ensure being met.</i>
	KPI 1.6	Annual review of system performance (wet weather spill/surcharge events).	<i>Future measurement</i>
	KPI 1.7	Annual review of hydraulic model/interval, up to date.	<i>Measured by annual review of District Measurement Report/Sustainability Plan goals to ensure being met.</i>
	KPI 1.8	Review of spill response time goals.	<i>Measured by annual review of District Measurement Report/Sustainability Plan goals to ensure being met.</i>
	KPI 1.9	Post most recent SSMP/SSMP Audits on District website.	<i>Future measurement</i>
	KPI 1.10	Review of R/R plan for evaluating implementation and effectiveness.	<i>Measured by annual review of District Measurement Report/Sustainability Plan goals to ensure being met.</i>
	KPI 1.11	Review of CIP for evaluating implementation and effectiveness.	<i>Future measurement</i>
	KPI 1.12	Annual review work plans for effectiveness.	<i>Measured by annual review of District Measurement Report/Sustainability Plan goals to ensure being met.</i>
	KPI 1.13	Annual review completed work orders for completeness.	<i>Future measurement</i>
	KPI 1.14	Annual review of project warranty/CCTV records for compliance.	<i>Future measurement</i>
2.0 Org	KPI 2.1	Are names and telephone numbers for management and staff responsible for implementing measures in the SSMP current and accurate?	<i>Measured by annual review of organizational chart and staffing descriptions for accuracy/update as necessary.</i>



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Elements ⁷	Key Performance Indicators (KPIs)		
	KPI 2.2	Is the chain of communication for reporting spills accurate adequate and adhered to during spill response events?	<i>Measured by review of spill response debriefing form for accuracy/update as necessary.</i>
3.0 Legal	KPI 3.1	Is existing municipal code adequate to ensure necessary legal authority?	<i>Measured by</i> <ul style="list-style-type: none"> • <i>annual review of code and any changes to existing SSS WDRs.</i> • <i>annual review of work orders, customer complaints, and encounters by staff for any circumstances where code is inadequate; change code as necessary.</i>
4.0 O/M	KPI 4.1	Are collection system maps currently up to date?	<i>Measured by annual review to ensure maps have been updated per change requests submitted have by field staff.</i>
	KPI 4.2	Have newly installed assets been added to current collection system maps?	<i>Measured by annual review of current map to ensure new construction project assets have been added.</i>
	KPI 4.3	Does CIP address proper management of infrastructure and include plan and schedule?	<i>Measured by</i> <ul style="list-style-type: none"> • <i>Is each segment evaluated for capacity deficiencies based on projected growth?</i> • <i>Are our system assets evaluated for status of remaining useful life?</i> • <i>Is existing plan and schedule being implemented as intended?</i>
	KPI 4.4	Are preventative maintenance work programs implemented and effective?	<i>Measured by</i> <ul style="list-style-type: none"> • <i>annual review of work plans to ensure implementation as described.</i> • <i>are work plan goals being met?</i> • <i>are goals meeting intended outcomes?</i>
	KPI 4.5	Are completed maintenance, operations, engineering work orders reviewed for accuracy and completeness?	<i>Measured by</i> <ul style="list-style-type: none"> • <i>annual review of generated work orders for completion/accuracy.</i> • <i>annual review/database search for open work orders not completed.</i>



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Elements ⁷	Key Performance Indicators (KPIs)		
	KPI 4.6	Is R/R plan adequate for identifying/prioritizing system deficiencies?	<i>Measured by annual review of R/R plan to ensure adherence.</i>
	KPI 4.7	Are all system defects identified, rated, and prioritized?	<i>Measured by</i> <ul style="list-style-type: none"> • <i>annual review of PACP [1] condition grades/data.</i> • <i>has a repair method been determined for all prioritized defects?</i>
	KPI 4.8	Annual review of work orders generated, scheduled, and closed.	<i>Measured by annual updates for all work orders in system.</i>
	KPI 4.9	Annual review of identified critical spare parts list for collection system assets and vehicles/equipment.	<i>Measured by annual review of identified critical spare parts list.</i>
	KPI 4.10	Has all prescribed and required training been completed?	<i>Measured by annual review of training records for all appropriate employees.</i>
	KPI 4.11	Review staff/contractor demonstrated abilities and competency for cleaning, CCTV, lift station maintenance, OERP, excavation and repairs.	<i>Measured by annual review of training records for all appropriate staff.</i>
	KPI 4.12	Review training records/ensure all staff records updated.	<i>Measured by annual review of training records for all appropriate employees.</i>
5.0 Design	KPI 5.1	Are existing design and construction standards, specifications, and inspection procedures appropriate for the collection system?	<i>Measured by annual review of all warranty CCTV inspections for new development projects to ensure compliance with specifications.</i>
6.0 OERP	KPI 6.1	Were the notification procedures outlined in the OERP adhered to for each spill event?	<i>Measured by annual review of spill response debriefing form for each event.</i>



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Elements ⁷	Key Performance Indicators (KPIs)		
	KPI 6.2	Was prompt notification to appropriate parties achieved for each spill event?	<i>Measured by annual review of spill response debriefing form for each event.</i>
	KPI 6.3	Was OERP training performed for spills as prescribed in SSMP?	<i>Measured by</i> <ul style="list-style-type: none"> • <i>annual review of spill-related training records.</i> • <i>annual field staff performance assessments and records.</i>
7.0 FOG	KPI 7.1	Is the FOG program being implemented and administered as planned?	<i>Measured by</i> <ul style="list-style-type: none"> • <i>annual review of goals set for the program.</i> • <i>annual review of FOG inspections vs. goals; adjust frequency as necessary.</i>
	KPI 7.2	Has the District experienced any FOG related spills during the monitoring period?	<i>Measured by annual review of all FOG-related work orders and spills.</i>
8.0 SECAP	KPI 8.1	Has the District experienced any capacity-related spoils during the monitoring period?	<i>Measured by annual review of all work orders and spills for capacity-related issues.</i>
	KPI 8.2	Has the District identified capacity deficiencies or potential capacity issues for the collection system?	<i>Measured by</i> <ul style="list-style-type: none"> • <i>annual review/update of hydraulic model.</i> • <i>annual review/update of new development trends.</i> • <i>annual review/update of land use agencies general plan zoning designations.</i>
	KPI 8.3	Has the schedule for CIP capacity-related projects been adhered to?	<i>Measured by annual review of CIP plan/schedule.</i>
9.0 Monitoring	KPI 9.1	Were KPIs reviewed and evaluated for each element of the SSMP?	<i>Measured by</i> <ul style="list-style-type: none"> • <i>annual review of annual SSMP evaluation results.</i> • <i>Measured by annual review of District Annual Performance Measure report.</i>



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Elements ⁷	Key Performance Indicators (KPIs)		
	KPI 9.2	Were corrections or improvements made to any element where deficiencies or areas that could be improved were identified?	<i>Measured by:</i> <ul style="list-style-type: none"> • annual review of annual SSMP evaluation results. • annual review of District Performance Measure report.
	KPI 9.3	Were any SSMP program element(s) corrected/updated based on results of performance measures?	<i>Measured by</i> <ul style="list-style-type: none"> • annual review of performance measures • annual review of SSMP change log
10.0 Audits	KPI 10.1	Were program audits completed as required per compliance schedule?	<i>Measured by</i> Review of audit dates to determine if audit was performed on or before required date.
	KPI 10.2	Did the audit evaluate the effectiveness of the SSMP?	<i>Measured by</i> Review of audit results for effectiveness.
	KPI 10.3	Did the audit evaluate the compliance of the SSMP for all elements per SSS WDRs requirements?	<i>Measured by</i> Review of audit results for compliance.
11.0 Communication	KPI 11.1	Was the public afforded the opportunity to provide input as the program is being implemented?	<i>Measured by:</i> <ul style="list-style-type: none"> • annual review to ensure board has approved latest SSMP. • annual review to verify the latest SSMP/docs are posted to website. • annual review of any public comments from "Contact Us" or other methods.
	KPI 11.2	Were all outside agency/communications documented?	<i>Measured by</i> review of outside satellite agencies before next SSMP is updated.
12.0 Implementation		(See KPIs in Element 4 above)	
13.0 Training/SOP		(See KPIs in Element 4 above)	



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Elements ⁷	Key Performance Indicators (KPIs)		
14.0 Discharges (spills)	KPI 14.1	Have all spill reports been checked for accuracy?	<i>Measured by annual review of all spill report files and CIWQS map to ensure no outside agencies report spills in District service area.</i>
15.0 Notification	KPI 15.1	Have all spill reports been checked for compliance with SSS WDRs Amended Monitoring and Reporting (MRP) notification requirements?	<i>Measured by annual review of all spill reports requiring notification; flag any reports in violation; update notification SOP as necessary.</i>
16.0 Reporting	KPI 16.1	Have all spill reports been checked for compliance with SSS WDRs Amended Monitoring and Reporting (MRP) reporting requirements?	<i>Measured by annual review of all spill reports requiring reporting; flag any reports in violation; update reporting SOP as necessary.</i>
17.0 Large SSOs	KPI 17.1	Have all large spill reports (>50,000 gallons reaching surface waters) been checked for compliance with SSS WDRs Amended Monitoring and Reporting (MRP) reporting requirements?	<i>Measured by annual review of all spill reports requiring reporting; flag any reports in violation; update reporting SOP as necessary.</i>
	KPI 17.2	Have all field staff been trained on large spills (>50,000 gallons reaching surface waters) scenarios to ensure field sampling readiness is in place?	<i>Measured by annual review of large spill training records for all field staff to ensure future compliance.</i>
	KPI 17.3	Is large SSO monitoring program effective?	<i>Measured by annual review of large spill program to ensure future readiness and compliance.</i>



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Table 10-4: 2022 SSMP Commitments (Key Performance Indicators, KPIs)

Audit Element ⁸	Description of 2022 SSMP Commitments for Completion	2022 SSMP	2024 Audit	2027 SSMP
1.0 Goals	New KPIs; no significant changes.	BPRs 1-7 committed	No “Carry-Over” Recommendations from 2022 Audit”	No “Carry-Over” Recommendations from 2022 Audit”
2.0 Org	New KPIs; no significant changes.	BPRs 1-6 committed	No “Carry-Over” Recommendations from 2022 Audit”	No “Carry-Over” Recommendations from 2022 Audit”
3.0 Legal	New KPIs; no significant changes.	BPRs 1-5 committed	No “Carry-Over” Recommendations from 2022 Audit”	No “Carry-Over” Recommendations from 2022 Audit”
4.0 O/M	New KPIs; numerous 2022 SSMP Audit findings incorporated into 2022 SSMP.	AOCs 1-4 and BPRs 1-10 committed	Not planning in short-term for doing force main monitoring.	
5.0 Design	New KPIs; no significant changes.	BPRs 1-4 committed	No “Carry-Over” Recommendations from 2022 Audit”	No “Carry-Over” Recommendations from 2022 Audit”
6.0 OERP	New KPIs; no significant changes.	AOC 1-2 and BPRs 1-10 committed	No “Carry-Over” Recommendations from 2022 Audit”	No “Carry-Over” Recommendations from 2022 Audit”
7.0 FOG	New KPIs; no significant changes.	BPRs 1-5 committed	No “Carry-Over” Recommendations from 2022 Audit”	No “Carry-Over” Recommendations from 2022 Audit”
8.0 SECAP	New KPIs; no significant changes.	BPRs 1-6 committed	No “Carry-Over” Recommendations from 2022 Audit”	No “Carry-Over” Recommendations from 2022 Audit”
9.0 Monitoring	New KPIs; no significant changes.	BPRs 1-7 committed	No “Carry-Over” Recommendations from 2022 Audit”	No “Carry-Over” Recommendations from 2022 Audit”

⁸ For more details about sections 12 to 17, please see the 2022 SSMP Audit Report



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Audit Element ⁸	Description of 2022 SSMP Commitments for Completion	2022 SSMP	2024 Audit	2027 SSMP
10.0 Audits	New KPIs; numerous 2022 SSMP Audit findings incorporated.	BPRs 1-8 committed	No “Carry-Over” Recommendations from 2022 Audit”	No “Carry-Over” Recommendations from 2022 Audit”
11.0 Communication	New KPIs; no changes.	BPRs 1-5 committed	No “Carry-Over” Recommendations from 2022 Audit”	No “Carry-Over” Recommendations from 2022 Audit”
12.0 Implementation	New KPIs; no significant changes.	BPRs 1-3 and BPRs 1-10 committed	No “Carry-Over” Recommendations from 2022 Audit”	No “Carry-Over” Recommendations from 2022 Audit”
13.0 Training/SOPs	New KPIs; numerous 2022 SSMP Audit findings incorporated into 2022 SSMP.	AOCs 1-4 and BPRs 1-11 committed	No “Carry-Over” Recommendations from 2022 Audit”	No “Carry-Over” Recommendations from 2022 Audit”
14.0 Discharges (spills)	New KPIs; no significant changes.	BPRs 1-4 committed	No “Carry-Over” Recommendations from 2022 Audit”	No “Carry-Over” Recommendations from 2022 Audit”
15.0 Notification	New KPIs; no significant changes.	BPRs 1-3 committed	No “Carry-Over” Recommendations from 2022 Audit”	No “Carry-Over” Recommendations from 2022 Audit”
16.0 Reporting	New KPIs; numerous 2022 SSMP Audit findings incorporated into 2022 SSMP.	AOCs 1-4 and BPRs 1-8 committed	No “Carry-Over” Recommendations from 2022 Audit”	No “Carry-Over” Recommendations from 2022 Audit”
17.0 Large SSO Monitoring	New KPIs, new SOP for large SSOs added.	BPRs 1-4 committed	No “Carry-Over” Recommendations from 2022 Audit”	No “Carry-Over” Recommendations from 2022 Audit”

Staff also continually reassesses and updates the scheduled improvements documented in the Sustainability Plan and report their effectiveness on an on-going basis throughout each calendar year



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Key Performance Indicators (KPIs)		
KPI 10.1	Were the program audits completed as required?	<i>Measured by review of audit dates to determine if audit was performed on or before the require date</i>
KPI 10.2	Have any changes occurred within the service area that might affect the hydraulic model? Did the audit evaluate effectiveness of the SSMP?	<i>Measured by review of Audit results to check measurements for effectiveness.</i>
KPI 10.3	Did the audit evaluate the SSMP for compliance with the SSS WDRs?	<i>Measured by:</i> <ul style="list-style-type: none"> • <i>review of Audit results to check measurements for compliance</i> • <i>were deficiencies for compliance, if any addressed/corrected?</i>

The Annual Audit is located at [Appendix 10A](#); the Annual SSO Report is located at Appendix 10B of this SSMP



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11.0 COMMUNICATION PLAN

This section of the SSMP discusses the District's Communication Plan. This section fulfills the Communication Plan requirements for the SWRCB element.

11.1 Regulatory Requirements for Communication Plan Element

The requirements for the Communication Plan element of the SSMP are summarized below:

11.1.1 RWQCB Requirement

No requirement.

11.1.2 SWRCB Requirement

The District 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 District as the program is developed and implemented. The District shall also create a plan of communication with systems that are tributary and/or satellite to the District's sanitary sewer system.

11.2 District Communication Plan

The District currently utilizes its website and has District Board meetings that are open to the public, which aid in communication of its SSMP elements and progress with the public.

The District upgrades the website on regular basis to ensure the public has access to the latest information on performance related to the SSMP, and to educate the public on specific components of the SSMP, such as FOG control.

Currently, the District's outreach program to the public consists of the following: When SSOs occur, the type of debris found to create the blockage dictates the type of outreach material distributed to the public (i.e., FOG, "Flushable" Wipes, etc.) Staff distributes the appropriate outreach material to those residents and or businesses up-stream of the blockage. The District will



Sewer System Management Plan

continue sending out mass mailings to constituents on what can and cannot be discarded in the wastewater system.

Additional outreach materials are made available for contractors, businesses and the public at the front counter in the Administration Office and on the [District's website](#)⁹.

The District informs the public of its plans to revise and implement the SSMP by notifying interested parties of the Board meetings during which SSMP activities will be considered for adoption.

The District has also published newspaper articles explaining many of the preventative maintenance programs that the District is engaged in as well as CIP project information, and other activities designed to reduce SSOs from the collection system.

Key Performance Indicators (KPIs)		
KPI 11.1	Was the public afforded the opportunity to provide input as the program is being implemented?	<i>Measured by:</i> <ul style="list-style-type: none"> • <i>periodic review to ensure board has approved latest SSMP).</i> • <i>periodic review to verify latest SSMP/docs are posted on website).</i> • <i>periodic review of any public comments received via website or direct contact with District staff annual review of KPIs.</i>
KPI 11.2	Were all outside agency/communications documented?	<i>Measured by periodic review of outside agency/satellite meetings/emails/notices of communications.</i>

⁹ <https://westbaysanitary.org/>



Sewer System Management Plan

APPENDICES

3A Code of General Regulations

WEST BAY

SANITARY DISTRICT



**CODE OF GENERAL REGULATIONS
OF THE
WEST BAY SANITARY DISTRICT**

Revised: July 1, 2022

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ARTICLE I

GENERAL PROVISIONS

SECTION 100. Purpose.

The purpose of this Code of General Regulations hereinafter referred to as the "Code" is to establish standards and conditions, and to provide for fees, relating to the use of sanitary wastewater facilities of the West Bay Sanitary District, San Mateo County, California. It is further the purpose of this Code to establish uniform requirements for discharges into the wastewater collection and treatment system used jointly with other public entities. It is further the purpose of this Code to enable the District to comply with and meet applicable laws, regulations, standards and conditions established by Federal and State agencies, or by agencies thereof in implementation of such laws. The District Board of the West Bay Sanitary District hereby finds and declares that the health, safety and welfare of the people of the West Bay Sanitary District require the enactment of the provisions of this Code of General Regulations.

SECTION 101. Mailing Address and Offices of the District.

The mailing address and offices of the West Bay Sanitary District is as follows:

West Bay Sanitary District
500 Laurel Street
Menlo Park, CA 94025
(650) 321-0384

SECTION 102. Superseding Previous Regulations,

This Code shall supersede all previous regulations and policies of the District governing items covered in this Code.

SECTION 103. Distribution of Revenue.

All fees and charges payable under the provisions of this Code shall be paid to the West Bay Sanitary District, County of San Mateo, State of California, and any revenue derived pursuant to this Code shall be allocated as follows:

(01) The General Fund

The General Fund shall be credited with all revenue derived from sewer service charges, sewer permit and inspection fees, franchises, interest, and other miscellaneous revenue. Sewer user charge revenues designated for the replacement of District facilities shall be subsequently transferred and credited to the District's Capital Assets Fund.

(02) The Capital Assets Fund

The Capital Assets Fund shall be credited with sewer user charge revenues designated for replacement of District facilities and all revenue derived from connection fees and annexation fees assessed new applicants for wastewater service. A separate account shall be maintained within the Capital Assets Fund for that portion of connection fee revenue assessed for future Authority expansion costs and expansion costs paid to the Authority.

(03) The Debt Service Fund

The Debt Service Fund shall be credited with all revenues derived from the property tax roll or otherwise as payment of bonded indebtedness.

(04) The Clean Water Grant Fund

The Clean Water Grant Fund shall be credited with all revenues derived from Clean Water Grants from the Federal and State governments.

The District Board may transfer monies from any fund to any other fund in accordance with the provisions of law.

Revenues derived under the provisions of this Code shall be used for the acquisition, construction, reconstruction, maintenance and operation of sanitary or wastewater facilities, to repay principal and interest on bonds issued for the construction or reconstruction of such sanitary or wastewater facilities, to repay Federal or State loans or advances made to the District for construction or reconstruction of wastewater facilities, or any other lawful purpose the District Board deems necessary in order to conduct the business of the District. [Amended by General Regulation No. 66].

SECTION 104. Recording of Fees and Charges.

The District Manager shall keep a permanent and accurate account of all fees and charges received under this Code, give the names and addresses of the persons on whose account the fees and charges were paid, the date and amount thereof, and the purpose for which the charges were paid.

SECTION 105. Definitions.

Words, phrases, or terms not specifically defined herein, and having a technical or specialized meaning shall be defined as set forth in the latest addition of "Standard Methods for the Examination of Water and Wastewater", published by the American Public Health Association, The American Waterworks Association, and the Water Pollution Control Federation.

Reference to waste constituents and characteristics shall have a meaning ascribed thereto in the aforesaid "Standard Methods for the Examination of Water and Wastewater", and measurements thereof shall be set forth in said publication, or established by Federal or State regulatory agencies.

Unless the context specifically indicates otherwise, the meanings of terms used in this Code are applicable for this Code only and do not necessarily correspond to definitions that may be used by City or County zoning, planning or assessment designation.

Unless the context specifically indicates otherwise, the meaning of terms used in this Code shall be as follows:

(01) Authority.

South Bayside System Authority. The joint powers authority in which the District is a constituent member along with the Cities of Belmont, San Carlos and Redwood City, pursuant to a joint powers agreement signed in November, 1975.

(02) Beneficial Uses.

Uses of the waters of the District or State which may, or do require protection against quality degradation thereof, including, but not necessarily limited to, waters used for domestic, municipal, agricultural, industrial, power generation, recreation, aesthetic enjoyment, or navigation purposes, or for the preservation and enhancement of fish, wildlife or other aquatic resources or reserves, and such other uses, both tangible or intangible, as are or may be specified by federal or state law as beneficial uses. [Added by General Regulation No. 59.]

(03) BOD (Biochemical Oxygen Demand).

The quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure in 5 days at 20 degrees Centigrade expressed in parts per million by weight.

(04) Building Sewer.

That portion of any sewer beginning at the plumbing or drainage outlet of any building or industrial facility and running to the property line cleanout. If no conforming property line cleanout is installed, the building sewer designation applies to the entire sewer from the foundation to the main sewer connection.

- (05) Charge.
A rental or any other assessment established pursuant to this Code for services and facilities furnished by the District to any premises in connection with the operation of the wastewater facilities.
- (06) Code.
The Code of General Regulations of the District, with such amendments as may be adopted from time to time.
- (07) COD (Chemical Oxygen Demand).
The measure of chemically decomposable material in domestic or industrial wastewater as represented by the oxygen utilized as determined by the appropriate procedure described in "Standard Methods".
- (08) Compatible Pollutant.
Biochemical oxygen demand, suspended solids, pH and fecal coliform bacteria, additional pollutants identified in the District's National Pollutant Discharge Elimination System (NPDES) permit, and such other pollutants as may be designated by the District Manager upon a finding by him that such pollutants are substantially treated and removed by the wastewater facilities.
- (09) Commercial.
Any premises used for commercial or business purposes and discharging a quality and/or quantity of wastewater essentially similar to that of a residential customer.
- (10) Contamination.
An impairment of the quality of the waters of the District or State by waste to a degree which creates a hazard to the public health. Contamination shall include any equivalent effect resulting from the disposal of wastewater whether or not waters of the District or State are affected thereby.
- (11) Customer.
Owner or owners of any real property for which the District is providing sewer service. Any person who discharges, causes or permits the discharge of wastewater into the wastewater facilities.
- (12) Customer Classification.
A classification of customers based upon Classifications set forth in the Standard industrial Classification (SIC) Manual, 1972 edition, prepared and published by the Executive Office of Management and Budget of the United States.
- (13) District.
The West Bay Sanitary District, located in the County of San Mateo, State of California.
- (14) District Manager.
The District Manager of the West Bay Sanitary District or authorized deputy, agent or representative.
- (15) Emergency.
A condition which creates imminent danger to the public health, safety or welfare.
- (16) Governmental or Public Premises.
Any premises owned, controlled or used by: (1) the United States Government or any department or agency thereof, (2) the State of California or any department or agency thereof, (3) any city, county, town, city and county, or any of their departments or agencies, (4) any school district and (5) any other governmental or public entity.

- (17) Holding Tank Waste.
Any waste from wastewater or waste disposal holding tanks such as are associated with vessels, chemical toilets, campers, trailers, septic tanks, and vacuum pump tank trucks.
- (18) Incompatible Pollutant..
Any pollutant which is not a compatible pollutant.
- (19) Industrial.
Any premises used for manufacturing, processing or other industrial purpose which discharges waste, sanitary waste and wastewater by reason of the manufacturing, processing or other industrial purpose involved, or discharges chemicals or putrescent materials.
- (20) Industrial Wastes.
The liquid wastes from industrial processes and distinct from sanitary or domestic wastewater.
- (21) Institutional.
Any premises used for schools, churches, hospitals, convalescent homes, or other types of premises used to provide health, welfare, educational and similar services.
- (22) Interference.
An inhibition or disruption of the wastewater facilities, their treatment processes or operations, or their sludge processes, use or disposal which causes or significantly contributes to either a violation of the Authority's NPDES permit or to the prevention of sewage sludge use or disposal by the Authority in accordance with applicable state and federal statutory provisions and regulations or permits issued thereunder. [Added by General Regulation No. 59]
- (23) Lateral Sewer.
Shall mean the portion of sewer lying within a public street, public utilities easement or District easement connecting a conforming property line cleanout to a main sewer.
- (24) Main Sewer.
Shall mean a public sewer, maintained by a public agency and designed to accommodate more than one lateral or side sewer.
- (25) Major Contributing Industry.
Any wastewater contributor identified in the Standard Industrial Classification (SIC) Manual, prepared and published by the Executive Office of Management and Budget of the United States, classified within divisions A, B, D, E, and I therein, the wastewater of which has any one or more of the following characteristics: (1) a discharge flow of 50,000 gallons or more per average work day (if seasonal, the average shall be based upon the seasonal discharge) ; (2) a flow or pollutant loading greater than five percent of the design capacity of the wastewater facilities; (3) toxic pollutants in amounts defined in standards issued pursuant to Section 307 (a) of the Federal Water Pollution Control Act Amendments of 1972 (Public Law g2-500; 33 U.S.C., Section 1151, et seq.); or (4) a significant impact (determined by the Manager), either individually or in combination with other contributing industries, upon the wastewater facilities, or upon the quality of effluent from the wastewater facilities.
- (26) Mass Emission Rate.
The weight of material discharged to the wastewater facilities during a specified time interval. Unless otherwise specified, the mass emission rate shall mean pounds per day of a particular waste constituent or combination of constituents.

- (27) Multiple-Family Dwelling.
Any premises designed, improved or used as a residence for two or more families living independently of each other in two or more structurally joined dwelling units with separate entrances; this term shall include condominiums, apartment houses, triplexes, quadraplexes, and duplexes, but it shall not include hotels, motels, rooming houses, or boarding houses, dormitories, or similar structures.
- (28) Natural Outlet.
Any outlet into a watercourse, pond, ditch, lake or other body of surface or ground water.
- (29) Non-Residential Customer.
Any commercial, industrial, institutional, governmental, or miscellaneous customer not classified as a residential customer.
- (30) Parcel.
A parcel of real property as described in the records of the San Mateo County Assessor by an assessor's parcel number. It includes both improved and unimproved real property.
- (31) Pass Through.
The discharge of pollutants through the wastewater facilities into navigable waters in quantities or concentrations which cause or significantly contribute to violation of the Authority's NPDES permit. [Added by General Regulation No. 59.]
- (32) Person.
Any individual, property owner, firm, company, partnership, association, private corporation, public corporation, or governmental entity, authority, or agency, and the officers, agents or employees of such organizations.
- (33) pH.
A measure of acidity or alkalinity.
- (34) Pollution.
An alteration of the quality of the waters of the District or State by waste to a degree which unreasonably affects such waters for any beneficial use or affects facilities serving such beneficial use. The term pollution may also include contamination.
- (35) Premises.
A parcel of land, or portion thereof, including any improvements thereon, which is directly or indirectly connected to the wastewater facilities for purposes of receiving, using, and paying or service, or other purposes relating to the wastewater facilities, by an individual customer. Each dwelling unit of a duplex, apartment, or any other multi-family residence shall be deemed a separate premise. Subject to the provisions of this subsection, the Manager shall determine what constitutes a premise.
- (36) Properly Shredded Garbage.
The wastes from the preparation, cooking, and dispensing of food that have been shredded to such degree that all particles will be carried freely under the flow conditions normally prevailing in public sewers, with no particle greater than ½ inch in any dimension.
- (37) Public Sewer.
A sewer for the benefit of customers within the District which is controlled by the District.
- (38) Reclaimed Water.
Water which, as a result of treatment of waste, is suitable for direct beneficial use, or a restricted beneficial use, which would not otherwise occur but for such treatment.

(39) Requirement of Law or Other Requirements of Law.

A pertinent provision of the Federal Water Pollution Control Act as amended by the Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500, 33 U.S.C., Section 1151 et seq.), or of any statute, ordinance, code, rule, regulation, order, directive, or of the District's or Authority's National Pollutant Discharge Elimination System (NPDES) permit, or of any amendments thereto, or other Federal, State, Regional or Local law.

(40) Residential Customer.

Any single or multiple family dwelling customer, including premises defined as condominiums, apartment houses, duplexes, motels, rooming houses, or boarding houses, dormitories or similar structures.

(41) Sanitary Sewer.

A pipe or conduit which carries wastewater and to which storm, surface, and ground waters are not intentionally admitted.

(42) Shall.

The word "shall" is mandatory; "may" is permissive.

(43) Side Sewer.

Shall mean the sewer line beginning at the foundation wall of any building and terminating at the main sewer and includes the building sewer and lateral sewer together.

(44) Single-Family Dwelling or "Residential Unit".

Premises designed, improved or used as a residence for one family only and for no other purpose.

Notwithstanding the foregoing, the following kinds of residential dwelling units shall be deemed to be a part of, and not in addition to, a single family dwelling for all purposes of this Code, including provisions having to do with the calculation and payment of connection fees and sewer service charges:

1. Any structure located within the City of Menlo Park, which meets the requirements set forth in Ordinance No. 688 of the City of Menlo Park adopted on May 10, 1983 by the Menlo Park City Council.
2. Any structure located within the Town of Woodside which meets the requirements set forth in Ordinance No. 1984-321 of the Town of Woodside adopted on December 12, 1984 by the Woodside Town Council.
3. Any structure in the District located within the unincorporated areas of San Mateo County which meets the requirements set forth in Ordinance No. 2876 of the County of San Mateo, which Ordinance was adopted by the San Mateo County Board of Supervisors and became effective February 23, 1984.
4. Any structure located within the Town of Atherton which meets the requirements set forth in Ordinance No. 402 of the Town of Atherton adopted on March 21, 1984 by the Atherton Town Council.
5. Any structure located within the Town of Portola Valley which meets the requirements set forth in Ordinance No. 1991 – 263 of the Town of Portola Valley adopted on July 10, 1991 by the Portola Valley Town Council.
6. Any structure located within the City of Redwood City which meets the requirements set forth in Ordinance No. 1130.226 of the City of Redwood City adopted on July 27, 1983 by the Redwood City Council.
7. Any structure located in the District, but not within a Town or City referred to above, which meets the following requirements:

- (a) The Town or City has not adopted an “ordinance governing second units” as such ordinances are referred to in California Government Code section 65852.2(b) ; and
 - (b) The structure meets all of the requirements of Government Code section 65852.2(b). [Added by General Regulation No. 69.]
- (45) Silicon Valley Clean Water (SVCW). See “Authority”.
- (46) Storm Sewer or Storm Drain.
A sewer which carries storm and surface waters and drainage, but excludes wastewater and polluted industrial wastes.
- (47) Suspended Solids (SS).
The total non-filterable residue as defined in “Standard Methods for Chemical Analysis of Water and Wastewater.”
- (48) Type of Use.
The purpose of the premises, such as, commercial, industrial, institutional, single-family dwelling, multiple-family dwelling, and miscellaneous use.
- (49) Unpolluted Water.
Water to which no constituent has been added, either intentionally or accidentally, which would render such water unacceptable to the District or Authority for disposal to storm or natural drainages, or directly to surface waters.
- (50) Waste.
Wastewater and any and all waste substances, whether liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing or processing operation of whatever nature, including such waste placed within containers of whatever nature prior to, and for purposes of, disposal.
- (51) Wastewater. Waste and water.
Whether treated or untreated, discharged into, or permitted to enter into the wastewater facilities. Wastewater shall mean a combination of the water-carried wastes from residences, business buildings, institutions, and industrial establishments, together with such ground, surface, and storm waters as may be present.
- (52) Wastewater Constituents and Characteristics.
- (53) The individual chemical, physical, bacteriological and radiological parameters, including volume and flow rate and such other parameters that serve to define, classify or measure the contents, quality, quantity, or strength of wastewater.
- (54) Wastewater Facilities.
All facilities for collecting, pumping, treating, and disposing of wastewater.
- (55) Water Pollution Control Plant.
Any arrangement of devices and structures used for treating wastewater; a wastewater treatment plant.
- (56) Waters of the District or State.
Any water, whether surface, underground, and whether saline or non-saline, within the boundaries of the District, or within the boundaries of the District and flowing into, touching, or otherwise combined with later outside the limits of the District but within the boundaries of the State. [Added by General Regulation No. 59.]

ARTICLE II

MEETINGS OF THE DISTRICT BOARD

SECTION 200. Public Meetings.

All meetings of the District Board shall be open to the public except for closed sessions called pursuant to the Ralph M. Brown Act (California Government Code 5495.0 et.seq.).

SECTION 201. Regular Meetings.

The regular meetings of the District Board shall be held on the second and fourth Wednesday of each month at 7:00 p.m. at the District Administration Office, unless the regular meeting day is a District holiday, in which case the meeting shall be held at a time and date to be determined by the District Board and noticed in accordance with these regulations and statute. *Notwithstanding the foregoing, closed sessions may be commenced prior to the regularly scheduled start time, with notice of the start time specified on the agenda.* The District Board may cancel a regular meeting at any time. [Amended by General Regulation No. 2016-01]

SECTION 202. Special Meetings.

The District Board may schedule a special meeting at any time it deems necessary.

SECTION 203. Public Hearings.

The District Board may schedule a public hearing on any subject pertinent to business of the West Bay Sanitary District at any time it deems necessary. Public hearings shall be held in conjunction with regular or special meetings of the District Board.

SECTION 204. Quorum.

Three (3) members of the District Board shall constitute a quorum.

SECTION 205. Minutes of Meetings.

Minutes shall be taken of all public meetings of the District Board and Public Hearings. The minutes shall be approved by the District Board and, upon approval, shall be signed by the Secretary of the District. All minutes of public meetings of the District Board shall be retained at the Administration Office and shall be available for reading by the public, upon request.

SECTION 206. Contracts.

All contracts, deeds, warrants, releases, receipts, and documents shall be signed in the name of the District by its President, and countersigned by its Secretary, except that the Board may, by resolution, authorize the District Manager or other District employees specified by the Board to sign releases, receipts, and similar documents in the name of the District.

SECTION 207. Amendments to the Code of General Regulations.

Amendments to this Code shall be entered in the minutes of the District Board and shall be published once in a newspaper published in the District and posted in three (3) public places within the District for a period of one week. An Amendment to this Code takes effect upon expiration of the week of publication and posting.

SECTION 208. Orders Not Establishing Amendments to the Code of General Regulations (Resolutions).

Orders of the District Board not establishing Amendments to the Code shall be known as "Resolutions" and shall be entered in the minutes and shall take effect upon adoption. They need not be published or posted.

SECTION 209. Board Members Compensation.

Effective February 23, 2022, members of the District Board shall be compensated in the amount of \$240.00 per day for each day's attendance at meetings of the District Board, attendance at California Association of Sanitation Agencies conferences and for each day's service rendered as a Member of the District Board by request of the District Board. Compensation shall not exceed a total of \$1,440 (six days service) in any calendar month.

Compensation to Board Member attending conferences of the California Association of Sanitation Agencies shall be limited to two day's compensation regardless of the number of days attended.

ARTICLE III

COLLECTION, REMOVAL AND DISPOSAL OF SOLID WASTE

SECTION 300. District Solid Waste Collection, Removal and Disposal System.

By resolution duly adopted, the District Board may approve franchise agreements with private garbage companies or make such other provisions as it deems appropriate for the collection, removal and disposal of solid waste, garbage, trash and rubbish from the District. All residents and property owners of the District are required to use the District's solid waste collection, removal and disposal system.

SECTION 301. Establishment of Rates

By resolution duly adopted, the District Board may establish rates to be paid by residents and property owners or make such other provisions as it deems appropriate for the collection, removal and disposal of solid waste.

SECTION 302. Unlawful Acts.

It shall be unlawful for any person to place, deposit, or permit to be deposited in an unsanitary manner upon public or private property within the District, or in any area under the jurisdiction of the District, any human or animal excrement, garbage, or other objectionable waste.

SECTION 303. Mandatory Organic Waste Disposal Reduction.

The District's Mandatory Organic Waste Disposal Reduction Ordinance, as set forth in Appendix "A" is hereby adopted as part of Article III of the Code of General Regulations and incorporated by reference into this Section 303 and made a part hereof.

ARTICLE IV

SPECIFICATIONS CONTROLLING MANNER OF CONSTRUCTION AND CLEARING SERVICES

SECTION 400. Standard Specifications.

"Standard Specifications for Sanitary Sewer Construction - 1979", Part D - Technical Specifications, revised March, 1980, promulgated by the District, as they may be hereafter amended from time to time, are hereby adopted as the standard specifications of the District governing the manner of construction, repair, maintenance and operation of all sanitary wastewater facilities within the District. These standard specifications are incorporated herein by reference. Copies of the standard specifications shall be available for examination in the District's Administration Office at all times.

SECTION 401. Building Sewers and Connections.

(01) Sewer Permit Required.

No unauthorized person shall uncover, make any connections with or openings into, use, alter or disturb any public sewer or appurtenance thereof without first obtaining a written sewer permit from the District Manager.

(02) Costs and Expenses of Installation.

All costs and expenses incident to the installation and connection of the building sewer shall be borne by the owner. The owner shall indemnify the District from any loss or damage that may directly or indirectly be occasioned by the installation of the building sewer.

(03) Separate Building Sewer Required.

A separate and independent building sewer shall be provided for every building; except:

- (A) Where one building stands at the rear of another on an interior lot and no private sewer is available or can be constructed to the rear building through an adjoining alley, court, yard, or driveway, the building sewer from the front building may be extended to the rear building and the whole considered as one building sewer.
- (B) Where it is determined by the District Manager that it is necessary to do so in order to properly service a particular building, more than one building sewer may be required.
- (C) Where there is a second auxiliary residential structure or living unit located on the same parcel, under the same ownership, as a primary residence, the District Manager may determine that the primary building sewer may be extended to serve the second structure or living unit. [Added By General Regulation No. 68.]

(04) Cleanout Required.

Every building sewer shall have an approved cleanout located within 5 feet of the property line of the premises served by such building sewer. The cleanout shall be equipped with a cleanout box which shall be accessible for maintenance purposes and plainly visible to the eye. Unless otherwise approved by the District Manager, the cleanout shall be located within the property to be served.

(05) Cleanout Boxes.

Concrete sidewalks shall have an appropriate sized cleanout box made of concrete fitted with a loose cover. The concrete cover shall have two holes in the top for removal. Cleanout boxes installed in alleys, streets, or driveways shall be of cast iron. The cast iron cleanout box cover shall be installed with two brass screws. Cleanout boxes installed in unpaved surfaces shall be of concrete or of equal quality as approved by the District Manager.

(06) Cleanout Assembly.

The cleanout assembly, consisting of a “Y” and branch fittings, shall be made of cast iron or clay of the same size as the building sewer it serves. The cast iron riser shall connect the “Y” and branch fittings up to the cleanout box. The top of the riser shall be fitted with a brass or plastic screw type cleanout cap.

(07) Side Sewer Ownership.

All side sewers, from the connection at the District Public Sewer to the property served, are the property of, solely owned by, and the sole responsibility of, the Property Owner. [Gen Reg. 111]

(08) Side Sewer Clearing

Notwithstanding subsection (07), the District may provide side sewer clearance, between the public sewer and the property line cleanout of properties which have a Conforming Property Line Cleanout Assembly and provided further that the side sewer and property line cleanout conform to the requirements of this Code of General Regulations. Notwithstanding the provision of these clearing services, the District will have no responsibility for costs incurred by a property owner that privately contracts for sewer clearing services. [Gen. Reg. 111]

(09) Refusal of Clearing Services

Side sewer clearing services offered pursuant to subsection (08) may be refused for any reason including, but not limited to, the following:

(A) If the District Manager or a designee determines that the provision of clearing services could damage private or public property, including property of the District. In such circumstances, the District may determine, in its sole discretion, that clearing services shall not be provided until such time as the side sewer has been inspected, tested and approved for such service. Any costs incurred by a property owner in the inspection, testing or repair of side sewer shall be the sole responsibility of the property owner and shall be conducted in accordance with this Code of General Regulations.

(B) If the District Manager or a designee determines, in its sole discretion, that the condition of a side sewer, or discharges to the lateral sewer in violation of this Code of General Regulations are resulting in excessive requirements for clearing. In such circumstances, the District Manager may employ one or more of the following options:

- I. Deny the request for clearing services;
- II. Charge for clearing services;
- III. Require the inspection, testing and repair or replacement of the side sewer. Such inspection, testing, repair or replacement shall be at the sole cost and expense of the property owner. [Gen. Reg. 111]

(10) Side Sewer Clearing Request Notification

All requests for clearing service provided pursuant to this article are the sole responsibility of the property owner. All requests for clearing services must be made by telephone to the District Office. The District shall not be responsible for failure to respond to a Request for Service that is made in any other form, i.e. Facsimile or any other form of Electronic Transmission.[Gen. Reg. 111]

(11) Side Sewer Clearing Request Notification Data Analysis

The District may, at its sole option, record and analyze requests for clearing service. Analysis and projection of Clearing Service Data shall not constitute an agreement to provide future clearing service by the District. [Gen. Reg. 111]

(12) Side Sewer Damage Responsibility

The District shall not be responsible for any damage caused by a blocked or damaged side sewer unless such blockage or damage is caused by the activities or facilities of the District. All other damage caused by a blocked or damaged side sewer, whether caused by the property owner, another entity, or another person shall not be the responsibility of the District, including but not limited to, root intrusion, construction activities, damage due to earthquakes or other "Acts of God". In such circumstances, any costs of construction or repair, permits, encroachment fees or any other fees required by any other entity empowered with oversight of such matters, and any damages of whatever nature caused by the blockage or failure of the side sewer, shall be the exclusive responsibility of the property owner. [Gen. Reg. 111]

(13) Side Sewer Overflow Responsibility

Overflows into or onto private property, in part or in whole resulting from faulty construction, maintenance or repair of a private sewer in accordance with the Uniform Plumbing Code and this Code of General Regulations, including, but not limited to, failure to adequately provide for clearing of the private sewer line, failure to ensure adequate capping of cleanouts or other appurtenances of the private sewer line, or any other condition for which care, diligence and maintenance is under the control of the property owner, shall be the sole responsibility of the property owner. [Gen. Reg. 111]

(14) Old Building Sewers.

Old building sewers may be used in connection with new building sewers only when they are found on examination and test by the District Manager to meet all requirements of this Article.

(15) Residential Sewers.

The lateral sewer for residential property shall be of PVC C900, or approved equal; for non-residential property, the lateral sewer shall be PVC C900 or approved equal. Pipe specifications shall be in conformance with the technical specifications of the Standard Specifications approved by the District Board. Any variations from the conditions must be approved by the District Manager.

(16) Elevation; Change of Direction.

Whenever possible the building sewer shall be brought to the building at an elevation below the basement floor. Changes in direction require a cleanout or properly curved pipe and fittings as approved by the District Manager.

(17) Artificial Lift.

In all buildings in which any building drain is too low to permit gravity flow to the public sewer, sanitary wastewater carried by such drain shall be lifted by approved artificial means and discharged to the building sewer. Responsibility for construction, operation, and maintenance of wastewater facilities serving private property shall be the sole obligation of the property owner. The District shall attempt to clear only that portion of the building sewer which is within the public right-of-way in accordance with this Article. [Gen. Reg. 111]

(18) Excavation.

All excavations for building sewer installation shall be adequately guarded with barriers and lights so as to protect the public from hazard. Streets, sidewalks, parkways and other public property disturbed in the course of the work shall be restored in a manner satisfactory to the District and to any governmental agency having jurisdiction thereof.

(19) Control Manholes.

When required by the District Manager, the owner of any property served by a building sewer carrying non-residential wastes shall install a suitable control manhole in the building sewer to facilitate observation, sampling and measurement of the wastes. Such manhole, when required, shall be constructed in accordance with plans approved by the District Manager. The manhole shall be installed by and at the owner's expense,

and shall be maintained by the owner, at the owners sole cost and expense, so as to be safe and accessible at all times. [Gen. Reg. 111]

(20) Alternative Sewer Lateral Materials

The District will accept the following methods for replacing or rehabilitating side sewers:

1, Preferred Replacement

The West Bay Sanitary District will provide cleaning service to laterals replaced with the following materials:

- | | | |
|----|-----------------|---|
| a) | Less than 36" - | Ductile Iron Pipe Class 50 or 51
PVC C900 Class 200 |
| b) | 36" or deeper - | PVC C900 Class 150 or 200
Vitrified Clay
Ductile Iron Pipe Class 50 or 51 |

2. Acceptable Rehabilitation of Existing Side Sewer

The West Bay Sanitary District will accept, but NOT provide cleaning service to laterals rehabilitated with the following materials. Property Owners are specifically notified that the following methods are not as effective nor as long lived as the preferred methods.

- a) Cured-in-place materials
- b) HDPE SDR 17 installed by pipe bursting

If the Acceptable Rehabilitation method is chosen by the property owner(s), the owner(s) must sign the District's permit addendum which clearly states that although the District will allow the use of the pipe bursting and cured in place replacement methods, **THEY ARE NOT RECOMMENDED** and that: 1) the side sewer will not receive cleaning service from the District, and 2) that this information will be disclosed by the property owner(s) should the property be transferred. This permit addendum shall be recorded at the County by the District prior to acceptance of the lateral.

If the existing side sewer is less than 36", the preferred method of installation must be applied.

SECTION 402. Examination of Plans

The District Manager or his representative shall examine the plans submitted under a Class 3 sewer permit to verify that they are in accordance with good engineering practices and in compliance with the standard specifications and policies of the District. Plans which have been so examined and approved will be submitted to the District Board for approval, alteration, or rejection.

SECTION 403. Inspection of Construction

After approval of the plans by the District Board, actual construction may be started and all work shall be performed under the inspection of, and in accordance with the standard specifications of the District.

All work shall be inspected by the District when construction is completed but before use is made of the facilities constructed. Inspection shall be made at such other times as the District Manager may require. The applicant shall give 24 hours advance notice to the District Manager that construction performed under a Class 1 or a Class 2 sewer permit is ready for inspection.

The applicant shall give 48 hours advance notice with respect to such construction performed under a Class 3 sewer permit.

SECTION 404. Dedication of Sewers - Easements

The District encourages the placement of main sewers in the public right-of-way. When no viable alternative exists the District Manager may authorize the placement of main sewers in Public Utility Easements or in dedicated easements. No sewer shall become a public sewer unless it is dedicated to public use and is

accepted by the District on such terms as the District may require. As a condition of accepting a sewer as a public sewer, the applicant shall provide such original grant deeds of easement to the District, together with rights of ingress and egress, as maybe necessary for the District to enter upon the property for the purposes of operating and maintaining the public sewers. No such easement shall be less than fifteen (15) feet in width.

Easements shall be recorded in the Official Records of the County of San Mateo as an encumbrance on the property.

Owners of property over which easements have been granted shall be responsible to maintain them in accordance with the requirements of Section 603 (13) of Article VI of this code.

SECTION 405. Disconnection of Sewers

(01) Permanent Disconnection.

When sanitary sewer service has been discontinued, permanent disconnection of properties from the District's facilities shall be accomplished by the actual disconnection of the existing lateral at its point of connection to the District's main sewer. The method of disconnection is by saw cutting the lateral at the main sewer and plugging the remaining stub(s) with a caulder type coupling (or equal) and a clay disc ("biscuit") or other material or method approved by the District Manager. The owner of the property to be disconnected shall obtain a Class Four (4) Sewer Permit from the District and all other necessary permits for the abandonment in the street and/or public right-of-way, and shall restore the site to its original condition to the satisfaction of the District and/or other public agency with appropriate jurisdiction.

(02) Temporary Disconnection.

When sanitary sewer service has been discontinued, temporary disconnection of properties from the District's facilities shall be accomplished by the capping of the existing lateral at the rear of the cleanout or within five feet of the property line closest to the public right-of-way if no Conforming Property Line Cleanout exists.

Prior to reuse, the property owner is required to install a Conforming Property Line Cleanout Assembly in accordance with this Code of General Regulations.

Failure to obtain, and comply with, a Class Four (4) Disconnection Permit shall result in discontinued Clearing Service from the Conforming Property Line Cleanout to the Main Line Sewer until the property owner has obtained a Class One (1) Sewer Permit and the sewer lateral has been tested, inspected and found to be acceptable for reuse. The property owner shall be solely responsible for all costs of repair and/or construction of the Conforming Property Line Cleanout Assembly. [Gen. Reg. 111]

SECTION 406. Backflow Prevention Devices.

Property owners shall install a backflow prevention device on any side sewer for gravity sewer laterals connecting houses having a finished floor elevation less than 12" above the top elevation of the nearest upstream structure (manhole). The device shall be located on the side sewer between the Building and the Conforming Property Line Cleanout Assembly and shall be installed in conformance with the current Universal Plumbing Code. The property owner shall be solely responsible for all costs of installation and maintenance of such devices

ARTICLE V

ANNEXATION OF TERRITORY

SECTION 500. Application for Annexation of Territory.

The District Board shall consider an application for annexation of territory after the following conditions have been met:

- (01) The applicant has complied with all conditions of annexation imposed by the San Mateo County Local Agency Formation Commission (LAFCO);
- (02) The San Mateo County Local Agency Formation Commission has approved the territory for annexation by resolution; and
- (03) The applicant has complied with all conditions of annexation imposed by the District and any other public agency having jurisdiction over such matters.

SECTION 501. Conditions and Payment of Fees.

No territory shall be annexed to the District until the applicant has complied with all terms and conditions of annexation imposed by the District and the applicant has paid to the District the State Board of Equalization Filing Fee.

ARTICLE VI

USE OF PUBLIC SEWERS

SECTION 600. Use of Public Sewers Required.

(01) Toilet Facilities and Connections required.

The owner of all houses, buildings, or properties used for human occupancy, employment, recreation, or other purpose, situated within the District and abutting on any street, alley or right-of-way in which there is now located or may in the future be located a public sewer of the District, is hereby required at his expense to install suitable toilet facilities therein, and to connect such facilities directly with the proper public sewer in accordance with the provisions of this Code, within ninety (90) days after date of official notice to do so, provided that said public sewer is within one hundred (100) feet of the property line.

(02) Private Disposal Unlawful, with Exceptions.

Except as hereinafter provided, it shall be unlawful to construct or maintain any privy, privy vault, septic tank, cesspool, or other facility intended or used for the private disposal of wastewater.

SECTION 601. Private Wastewater Disposal.

(01) Sewers not Available.

Where a public sanitary sewer is not available under the provisions of Section 600 (01), the building sewer shall be connected to a private wastewater disposal system complying with the provisions of this Article.

(02) Permit Required.

Before commencement of construction of a private wastewater disposal system, the owner shall first obtain a written permit signed by the District Manager.

(03) Compliance with Regulations.

The type, capacities, location, layout, operation and maintenance of a private wastewater disposal system shall comply with all applicable regulations promulgated by any government agency having jurisdiction with respect to the discharge of wastewater into a private wastewater disposal system.

(04) Discharge to Natural Outlet.

No septic tank, cesspool or other private wastewater treatment or disposal system shall be permitted to discharge effluent to any natural outlet unless applicant has complied with all applicable regulations promulgated by and obtained approval from any government agency having jurisdiction with respect to the discharge of such effluent.

(05) Unlawful to Discharge to Public Sewer.

No septic tank, cesspool or other private wastewater treatment or disposal system shall be permitted to discharge effluent to any public sewer, unless otherwise authorized by a permit issued pursuant to Article VII of this Code.

(06) Owner to Operate and Maintain.

The owner shall operate and maintain the private wastewater disposal facilities in a sanitary manner at all times, at no expense to the District.

SECTION 602. Grease, Oil, and Sand Interceptors.

(01) Applicability.

This Section 602 shall apply to discharges of wastewater containing fats, oils and grease conveyed to the wastewater facilities from any commercial or institutional food service establishment.

(02) Definitions.

(A) Fats, Oils and Grease (FOG).

Any substance such as a vegetable or animal product that is used in, or is a byproduct of, the cooking or food preparation process, and that becomes or may become viscous, or solidifies or may solidify, with a change in temperature or other conditions.

(B) Food Service Establishment (FSE).

A non-residential wastewater discharger that engages in activities of preparing, serving, or otherwise making available food for consumption by the public or on the premises.

(C) Grease Control Device.

Any grease control device, grease trap or other mechanism, device or process which attaches to, or is applied to, wastewater plumbing fixtures and lines, the purpose of which is to trap, collect or treat FOG prior to it being discharged into the wastewater facilities.

(D) Remodel or Remodeling.

Any physical and/or operational change to an FSE that involves any one or a combination of the following: (i) under-slab plumbing in the food processing area; (ii) a 30% or greater increase in the net public seating area; (iii) a 30% or greater increase in the size of the kitchen area; (iv) any change in the size or type of food preparation equipment; and (v) any remodel, addition, alteration or repair valued greater than \$50,000.

(E) Sanitary Sewer Overflow (SSO).

Any blockage, overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system.

(03) Prohibitions and Limitations

(A) Discharge of FOG or any food waste containing FOG into drains directly leading to the wastewater system is prohibited, except in accordance with this Section 602 and applicable building codes and regulations.

(B) Discharge of the following to or through any grease control device is prohibited: (i) wastewater from dishwashers; (ii) wastewater with temperatures in excess of 150 degrees F; and (iii) wastes from toilets, urinals, wash basins, and other fixtures containing fecal materials.

(C) Installation of food grinders in the FSE plumbing system is prohibited. FSEs shall remove or render permanently inoperative all existing food grinders within 180 day of the adoption of this ordinance.

(D) Diluting a discharge to achieve compliance with this Section 602 is prohibited.

(E) Introduction of any additives into the plumbing system of an FSE or grease control device for the purpose of emulsifying or chemically treating FOG for grease remediation or as a

supplement to device maintenance is prohibited. Biological treatment of grease control devices may be allowed upon approval of the District Manager or designee.

(04) Grease Control Device Requirements.

(A) All FSEs shall, at the time of construction, remodel, and/or change in operation, install, operate, maintain and service a grease control device. The grease control device shall be installed at a location where it shall be at all times easily accessible for inspection, cleaning, and removal of accumulated grease.

(B) Any FSE required to provide a grease control device shall install, operate, and maintain a District approved type and adequately sized grease control device necessary to maintain compliance with the objectives of this Section 602.

(C) Grease control device design, construction, sizing, and installation shall be subject to prior written approval of the District and shall conform to the most current edition of the California Plumbing Code.

(D) Any existing FSE which has caused or contributed to a grease-related blockage in the wastewater facilities, has one or more sewer laterals connected to pipelines on the District's list of sewer lines that have experienced grease related blockages or sanitary sewer overflows, and/or has contributed significant FOG to the wastewater facilities, shall be deemed to have reasonable potential to adversely impact the wastewater facilities and shall be required to install a grease control device within 180 days following the issuance of written notification from the District Manager.

(05) Maintenance Requirements.

(A) Grease control devices shall be fully pumped out and cleaned once every 3 months or when the combined FOG and solids accumulation in the grease control device equals 25% of the design hydraulic depth of the grease control device, whichever occurs first. FSEs shall comply with any District directive to increase the frequency of grease control device servicing if the frequency of servicing is not adequate to ensure this requirement. If the grease control device at any time contains FOG and solids accumulation exceeding this maximum, the FSE shall be required to have the grease control device pumped and cleaned as soon as possible, but in no case more than 48 hours following issuance of an order to clean by the District Manager, unless otherwise specified.

(B) Wastewater, accumulated FOG, floating materials, sludge/solids, and other materials removed from the grease control devices shall be transported by a licensed waste hauler to an approved recycling or disposal site in accordance with all applicable federal, state, and/or local laws. FSEs shall obtain and maintain a copy of the waste hauler's documentation, which shall include: (i) name of hauling company; (ii) name and signature of the operator performing the pump out; (iii) documentation of a full pump out indicating the total volume of water and FOG removed in gallons; (iv) documentation of the level by percentage of the combined FOG and solids accumulation in the control device; (v) documentation regarding whether repairs to the grease control device are required; and (vi) identification of the facility where the waste hauler has transported the waste.

(06) Kitchen BMP Requirements.

All FSEs shall implement kitchen BMPs in accordance with requirements and guidelines established by the District Manager.

(07) Recordkeeping Requirements.

All FSEs shall be required to maintain on the FSE premises copies of the following records for no less than 3 years: (i) grease control device cleaning and maintenance activities; (ii) kitchen best management practices implemented; (iii) solids accumulation in the grease control device; (iv) waste hauling documentation; (v) sampling data; and (vi) spills and/or cleaning of the wastewater facilities.

(08) Inspection and Sampling Conditions.

All FSEs shall allow the District Manager access to the FSE premises during normal business hours to inspect the FSE's grease control device, sample wastewater discharges and review records kept in accordance with this Section 602. Failure by the FSE to comply with the requirements of this Section 602 constitutes a violation of this Code and shall be cause for the District to initiate all necessary actions and/or exercise any available legal remedies to remediate such violation.

(09) Variance.

(A) In accordance with the District's Grease Control Device Variance Guidelines, any FSE may submit in writing to the District Manager a request for a variance from the grease control device requirement upon a showing that the installation of a grease control device is not feasible in an existing structure or the FSE's FOG discharge is negligible and has had an insignificant impact on the wastewater facilities.

(B) Where the installation of a grease control device in an existing structure is not feasible, an FSE may be granted a variance upon the payment of an annual grease disposal mitigation fee to cover the District's costs of increased maintenance of the wastewater facilities resulting from the FSE's inability to adequately remove FOG from its wastewater discharge.

(10) Charges and Fees.

The District shall adopt charges and fees by resolution for reimbursement of costs incurred by the District and to ensure consistent compliance with this Section 602. In addition, any cost, expense, liability, fine, penalty or other payment made or incurred by the District to clear or repair any wastewater facility, or to contain, clean, report or otherwise remediate the FSE from violation of this Code shall constitute a debt to the District, due and payable upon demand and collectable in any manner provided by law.

(11) Falsifying Information or Tampering with Process.

It shall be unlawful to make any false statement or record or other document that is required by this Section 602 or otherwise required by the District Manager, and to tamper with or knowingly render inoperable any grease control device required under this Section 602.

(12) Enforcement.

Failure to comply with the provisions of this Section 602 may result in one or more of the following enforcement actions in addition to any other remedy or provision of law, including but not limited to, those provided in Article X of this Code: (i) a notice of violation may be issued with a compliance schedule for correction; (ii) a noncompliance fee may be charged, which fee may be increased each time an FSE is issued a notice of violation; (iii) the District Manager may direct a contractor to pump and clean an FSE's grease control device; (iv) service to the FSE may be

suspended or terminated; (v) the FSE may be issued an administrative citation; (vi) a misdemeanor complaint against the FSE may be filed; and/or (vii) FSE noncompliance may be enjoined as a public nuisance through a civil action brought by District or the San Mateo District County Attorney against the FSE.

SECTION 603. Prohibitions.

(01) General Prohibitions.

No person shall, and it shall be unlawful to, discharge wastes into the wastewater facilities which cause, threaten to cause, or are capable of causing, either alone or by interaction with other substances;

- (A) A fire or explosion;
- (B) Obstruction of flow, or injury to, the wastewater facilities, or any portion thereof;
- (C) Danger to life or safety of persons;
- (D) Conditions inhibiting or preventing the effective maintenance or operation of the wastewater facility;
- (E) Strong or offensive odors, air pollution, or any noxious, toxic, or malodorous gas-or substance, or gas-producing substances;
- (F) Interference with the wastewater treatment process, or overloading of the wastewater facilities, or excessive collection or treatment costs, or use of capacity in the wastewater facilities to which the person is not entitled;
- (G) Interference with any wastewater reclamation process, which does or may operate in conjunction with the wastewater facilities, or overloading, or a breakdown of such reclamation process, or excessive reclamation costs, or any product of the treatment process which renders such reclamation process impracticable or not feasible under normal operating conditions;
- (H) A detrimental environmental impact, or a nuisance wherever located, or a condition unacceptable to any public agency having regulatory jurisdiction over operation of the wastewater facilities;
- (I) Discoloration, or any other adverse condition in the quality of the effluent from the wastewater facilities such that receiving water quality requirements established by any statute, rule, regulation, ordinance, or permit condition cannot be met by the District or the Authority;
- (J) Conditions at or near the wastewater facilities, or any portion thereof, which cause, or may cause, the District or Authority to be in violation of the requirements of law.
- (K) Pollutants introduced into the wastewater facilities which pass through or interfere with the operation or performance of the wastewater facilities. [Added by General Regulation No. 59.]

(02) Storm Drainage and Ground Water.

No person shall, and it shall be unlawful to, discharge, cause to be discharged, or permit to be discharged, any storm water, ground water, rain water, street drainage, subsurface drainage, swimming pool drainage, or yard drainage, either directly or indirectly into the wastewater facilities, unless a permit therefor is issued by the District Manager. The District Manager may issue such permit only upon a finding by him that no reasonable alternative method of disposal of such water is available.

(03) Unpolluted Water.

No person shall, and it shall be unlawful to, discharge, cause to be discharged, or permit to be discharged any unpolluted water, including, but not limited to, cooling water, process water, or blow-down water from cooling towers or evaporative coolers, either directly or indirectly into the wastewater facilities, unless a permit therefor is issued by the District Manager.

(04) Garbage Grinders.

No person shall, and it shall be unlawful to, discharge, caused to be discharged, or permit to be discharged waste from garbage grinders into the wastewater facilities, provided, however, that:

- (A) Wastes generated in preparation of food normally consumed on the premises may be so discharged; or
- (B) Such discharge is made pursuant to a permit issued by the District Manager.

Garbage grinders from which wastes are permitted under either subparagraph (A) or subparagraph (B) above, shall be of such design and capacity to shred wastes used therein such that all waste particles shall be carried freely under normal flow conditions into and through the wastewater facilities.

(05) Direct Discharge.

No person shall, and it shall be unlawful to, discharge, cause to be discharged, or permit to be discharged any wastes or wastewater, or any object, material, or other substance directly into a manhole or other opening into the wastewater facilities other than wastes or wastewater through an approved building sewer; provided, however, that wastes or wastewater may be discharged into the wastewater facilities by means other than through an approved building sewer pursuant to a permit therefor issued by the District Manager.

(06) Holding Tank Waste.

No person shall, and it shall be unlawful to, discharge, cause to be discharged, or permit to be discharged any holding tank waste into the wastewater facilities; provided, however, that:

- (A) Such discharges may be made into facilities designed to receive such wastes and approved by the District Manager; or
- (B) Such discharge may be made pursuant to a permit issued therefor by the District Manager. Unless otherwise provided by the District Manager, a separate permit shall be required for each separate holding tank waste discharge.

(07) Radioactive Wastes.

No person shall, and it shall be unlawful to, discharge, cause to be discharged, or permit to be discharged, any radioactive wastes into the wastewater facilities, provided, however, that;

- (A) Persons authorized to use radioactive materials by the State Department of Health or other governmental agency empowered to regulate the use of radioactive materials may discharge, cause to be discharged, or permit to be discharged such wastes provided that such wastes are discharged in strict conformance with current California radiation control regulations (California Administrative Code, Title XVII, Ch. 5, Sub. Ch. 4, Group 3, Art. 5), and federal regulations and recommendations for safe disposal of such wastes; and
- (B) The person so acting does so in compliance with all applicable rules and regulations of all other regulatory agencies.

(08) Wastewater Strength.

Except as noted below under Article VI, Section 603 (10), no person shall, and it shall be unlawful to, discharge, cause to be discharged, or permit to be discharged any wastewater containing any of the following constituents in excess of the maximum allowable amounts respectively hereinafter established therefor:

-
- (a) 0.27 mg/l arsenic;
 - (b) 0.13 mg/l cadmium;
 - (c) 2.3 mg/l copper;
 - (d) 0.06 mg/l cyanide;
 - (e) 1.2 mg/l lead;
 - (f) 0.00097 mg/l mercury;
 - (g) 0.17 mg/l nickel;
 - (h) 0.44 mg/l silver;
 - (i) 3.3 mg/l total chromium;
 - (j) 6.5 mg/l zinc;

- (k) 0.098 mg/l selenium;
- (l) 0.07 mg/l methylene chloride;
- (m) 0.03 mg/l chloroform;
- (n) 0.03 mg/l tetrachloroethene (perchloroethylene);
- (o) 0.002 mg/l benzene;
- (p) 0.001 mg/l carbon tetrachloride;
- (q) 2,000 mg/l cBOD;
- (r) 3,600 mg/l TDS
- (s) 1,800 mg/l Electrical Conductivity

(09) Additional Limitations.

No person shall, and it shall be unlawful to, discharge, cause to be discharged, or permit to be discharged any wastewater:

- (A) The temperature of which is higher than 150 degrees Fahrenheit (65 degrees Celsius);
- (B) Containing more than 300 mg/l of oil or grease of animal or vegetable origin;
- (C) Containing more than 100 mg/l of oil or grease of mineral or petroleum origin;
- (D) Having a pH lower than 6.0 or having a corrosive property capable of causing damage or hazard to structures or equipment of the wastewater facilities, or any portion thereof;
- (I) Containing any sand, grit, straw, metal, glass, rags, feathers, paper, tar, plastic, wood, leaves, garden clippings, manure, dead animals, offal, or any other solid or viscous substance capable of causing obstruction to the flow in the wastewater facilities, or which in any way interferes with the proper operation of the wastewater facilities;
- (J) Containing a toxic or poisonous substance not otherwise specifically prohibited in this Code in sufficient quantities to constitute a hazard to humans or animals, or to create a hazard in the wastewater facilities, or to injure or interfere with the operation thereof;
- (K) Containing suspended solids, not otherwise specifically prohibited under the provisions of this Code the characteristics or quantity of which require unusual attention, treatment, or expense in handling or treating such material in the wastewater facilities, or any portion thereof;
- (L) Any waste streams with a closed cup flashpoint of less than 140 degrees Fahrenheit;
- (M) Any trucked or hauled wastes except at points designated by the Authority or District.

(10) Specific Customer Limitations.

Notwithstanding the limitations upon the characteristics or quantity of wastewater discharged, caused to be discharged, or permitted to be discharged into the wastewater facilities pursuant to this Article, the District Manager may, in connection with the issuance of permits pursuant to the provisions of Article VII, establish additional or different specific limitations on wastewater strength upon a finding by the District Manager that:

- (A) The limitations set forth in this Article may not be sufficient to protect the operation of the wastewater facilities, or any portion thereof, or the waste or wastewater proposed to be discharged otherwise constitutes a hazard to, or an unreasonable burden upon, such operation, or otherwise causes or significantly contributes to violation of the Authority's National Pollutant Discharge Elimination System (NPDES) permit; or
- (B) The limitations set forth in this Article may be unreasonably restrictive when applied to a specific industry; and imposing a less stringent limitation will not cause or contribute to violation of any state or federal requirement of law; or
- (C) Specific standards have been established by the state or federal government for a specific category of industrial customer which would supersede the limitations set forth in this Article with respect to such category. [Amended by General Regulation No.59.]

(11) Protection from Damage.

No unauthorized person shall break, damage, destroy, uncover, deface or tamper with any structure, appurtenance, or equipment which is a part of the District's wastewater facilities.

(12) Discharge to Natural Outlet.

It shall be unlawful to discharge to any natural outlet within the District, or in any area under the jurisdiction of the District, any wastewater, industrial wastes, or other polluted waters, except where suitable treatment has been provided in accordance with provisions of this Code.

(13) Interference with District Easements.

(A) Except as provided in Subsection (E) below, it is unlawful for any person to obstruct, encroach upon or otherwise interfere with District easements or to permit or allow such obstructions, encroachments or interferences.

(B) Without in any way limiting the breadth of the general prohibition contained in Subsection (A) above, the following conditions are expressly prohibited.

(1) Construction, installation or maintenance of any permanent or temporary structure which is on, in or over any easement and which cannot be readily and easily removed at any time the District requires access to or use of an easement. In this regard, the term "structure" includes buildings, fences, gates, decks, roof overhangs, decorative rocks and boulders, and the like.

(2) Planting, growing or maintaining trees, shrubs or other forms of plant life which restrict access to an easement or which interfere with the use or operation of wastewater facilities located in the easement. Included within this prohibition are: trees and shrubs located on the surface of an easement which inhibits access by District personnel, vehicles and equipment; overhanging vegetation located outside the easement which likewise restricts access; and plants of kind which produce roots that are likely to invade wastewater facilities.

(3) The deposit of any debris, garbage, trash or other solid waste on or in an easement.

(4) The abandonment of any items of property, including vehicles, within an easement.

(C) The foregoing prohibitions do not preclude the owner of the real property which is the subject of the District's easement from making uses of the easement so long as such uses are not inconsistent with District's rights.

(D) Any condition which constitutes an obstruction of, encroachment upon or interferences with a District easement shall promptly be removed by the property owner or any other responsible person upon District's demand to do so, provided, however, that in the event of an emergency, District shall be entitled, without prior demand, to remove any obstruction, encroachment or interference by such means as District determines are reasonably necessary, even if such removal will result in damage to or loss of property by the property owner or other responsible person who caused or allowed the condition to occur. In the event a condition is not removed by responsible persons after District's reasonable demand, or without demand in the case of an emergency, District shall be entitled to recover from any responsible persons all costs and expenses incurred by it to remove the condition. The remedies provided to District by this Subsection are in addition to, and cumulative with, any other remedies available to District pursuant to this Code or otherwise as provided by law.

(E) In the event of any substantial hardship, or for other good cause, any affected person may seek relief from the provisions of this Subsection (13) by requesting a variance pursuant to Section 1100 of Article XI of this Code.[Amended by General Regulation No. 82]

ARTICLE VII

PERMITS

SECTION 700. Permits Required.

No person shall do any of the following acts without first obtaining a written permit from the District Manager:

- (01) Construct or use any private wastewater disposal system;
- (02) Uncover, make any connection with or opening into, use, alter or disturb any public sewer or appurtenance thereof;
- (03) Reestablish use of any private wastewater disposal system where such use has been discontinued;
- (04) Reestablish service to any premises served by the public sewers, where use of the public sewers has been discontinued;
- (05) Increase the volume of discharge of wastewater from any premises into the public sewers or into a private wastewater disposal system beyond the volume authorized for such premises under any previously issued permit;
- (06) Change the nature of the discharge of wastewater from any premises into the public sewers or into a private wastewater disposal system beyond the nature of the discharge authorized for such premises under any previously issued permit.
- (07) Discharge, cause to be discharged or permit to be discharged any wastewater containing in excess of 0.02 mg/l total identifiable chlorinated hydrocarbons.
- (08) Discharge, cause to be discharged or permit to be discharged any wastewater containing in excess of 1.0 mg/l phenolic compounds.
- (09) Discharge, cause to be discharged or permit to be discharged any wastewater containing in excess of 20.0 mg/l fluoride compounds.

SECTION 701. Pre-existing Discharges.

For the purposes of Sections 700 (05) and 700 (06) above, premises which have been legally connected to the public sewers prior to July 1, 1974 shall be deemed to have been authorized the volume and nature or discharge which existed for the calendar year 1974 or the quantity and quality of discharge for which a connection fee has been paid, whichever is greater.

SECTION 702. Requirements Applicable to all Permits.

No permit shall be issued until all of the following requirements, to the extent applicable, have been satisfied:

- (01) It has been determined by the District Manager that:
 - (A) The real property to be served is located within the District;
 - (B) The proposed project is not prohibited or precluded by this Code or by the regulations of any other government agency having jurisdiction over wastewater disposal within the District;
 - (C) There is sufficient capacity within the District's wastewater facilities to accommodate the proposed project and, if required by the District, the applicant has received a written recommendation for wastewater discharge entitlement for a specified volume in gallons per day, average daily flow, from the local planning jurisdiction in which the project is located;
 - (D) No extension of the District's collection facilities is required to serve the proposed project or the applicant has satisfied all requirements of the District for extending the collection facilities to the vicinity of the project site; and
 - (E) Any easements necessary for the District to operate and maintain public facilities installed in private property have been granted and accepted by the District.

(02) The applicant has submitted a properly completed application on a form supplied by the District which shall set forth the following:

- (A) The name and address of the applicant;
- (B) The location and description of the discharge proposed to be permitted;
- (C) A detailed description of any work to be performed, and materials and equipment to be used in carrying out the provisions of such permit; and
- (D) Such other information deemed necessary by the District Manager to determine the effect upon the wastewater facilities of the proposed discharge or activities related thereto, or otherwise reasonably necessary to enable the District Manager to carry out the provisions of this Code, or any other requirements of law.

(03) The applicant has paid all fees and charges imposed by the District to process and consider the application.

SECTION 703. Other Conditions and Requirements of Permits.

Where the interest of the District would be served, the District Board may, at its discretion:

- (01) Impose additional requirements upon an applicant which must be satisfied before the permit will be issued;
- (02) Authorize issuance of the permit subject to satisfaction of conditions subsequent; failure to satisfy such conditions is grounds for the District Board to revoke the permit and discontinue any use authorized by the permit;
- (03) Waive compliance by the applicant with requirements or conditions previously imposed.

SECTION 704. Types of Sewer Connection, Disconnection and Construction Permits.

There shall be two (2) classes of sewer connection; one (1) class of sewer disconnection permit and one (1) class of construction permit as follows:

(01) Residential.

Class 1 sewer permits are required for the following types of residential connections:

- Permit type 1A for single-family residences;
- Permit type 1B for multiple-unit residences;
- Permit type 1C for rooming houses or boarding houses;
- Permit type 1D for miscellaneous residential;
- Permit type 1E for residential STEP or Pressure Grinder Systems;
- Permit type 1F for residential Non-Preferred Method of lateral replacement

(02) Non-Residential.

Class 2 sewer permits are required for the following types of non-residential connections:

- Permit type 2A for commercial establishments;
- Permit type 2B for industrial establishments;
- Permit type 2C for institutional establishments;
- Permit type 2D for miscellaneous non-residential;
- Permit type 2E for non-residential STEP or Pressure Grinder Systems;
- Permit type 2F for non-residential Non-Preferred Method of lateral replacement

(03) Sewer Mains, Pumping Station, Other.

Class 3 sewer permits are required for construction of sewer mains, pumping stations and other wastewater facilities including STEP or Pressure Grinder Systems.

Subsequent to the District Board's acceptance of a sewer system constructed pursuant to a Class 3 permit, but prior to connection of and discharge into the District's wastewater facilities, a Class 1 or Class 2 permit, as applicable, must be obtained by the applicant.

(04) Class 4 – Sewer Disconnection.

Class 4 permits are required to disconnect from the District's sewer system.

Permit type 4A for Permanent Disconnection;

Permit type 4B for Temporary Disconnection.

(05) All Permits - Expiration.

All sewer connection and disconnection permits shall expire twelve (12) months from the date of issuance unless such permit is extended by the District Manager.

(06) All Permits – Refund of Fees.

No refund of permit fees shall be made for expired permits

SECTION 705. Information Required by Type of Sewer Permit.

(01) Class 1.

The following information is required of all applicants for Class 1 Sewer Permits:

- (A) Legal description including street address, lot number, block number, name of subdivision, assessor's parcel number and the parcel volume and page number according to the parcel map.
- (B) Type or work to be done including the kind of building to be connected, whether it is a new connection, repair or other, the building permit number and the District's connection record number.
- (C) The owner's name, address and telephone number.
- (D) The contractor's name, address and telephone number.
- (E) Any additional information which the District Manager may require due to the nature of the project.
- (F) The signature of the applicant including the applicant's address and telephone number.

(02) Class 2.

The following information shall be required for application for Class 2 Sewer Permit:

- (A) Applicant's business name.
- (B) Address of premises discharging wastewater, including the assessor's parcel number.
- (C) The standard industrial classification of applicant's business and the number of the classification.
- (D) The applicant's name, mailing address and telephone number.
- (E) The engineer/contractor's name, address and telephone number.
- (F) The volume of wastewater proposed to be discharged.
- (G) Any additional information which the District Manager may require due to the nature of the project, including a wastewater discharge report or permit.
- (H) The signature of the applicant and the date.

(03) Class 3.

The following information shall be required of all applicants for a Class 3 Sewer Permit:

- (A) The name of the owner or owner's agent making application.
- (B) The location of the project.
- (C) The name and address of the engineer.
- (D) The name and address of the owner.
- (E) The name and address of the contractor.
- (F) Maps, plans, profiles and other information as required by the District Manager. These maps, plans, profiles, etc. shall show the location and boundary lines of the property to be sewered and of each tract, lot, or parcel therein, together with existing and proposed streets, roads, highways, easements, and rights-of-way within and immediately contiguous with said property, and shall show the proposed connections with the District's sewer or other proposed facilities and existing ground surface elevations together with such changes as may result from subsequent grading, filling, road construction and the like.
- (G) A Negative Declaration or final Environmental Impact Report, whichever is applicable, as determined by the lead agency for the project pursuant to the California Environmental Quality Act, as amended.
- (H) The signature and address of the applicant.

SECTION 706. Wastewater Discharge Report.

Upon a determination that such information is necessary or appropriate to carry out the provisions of this Code, the District Manager may require that any person discharging, causing to be discharged, permitting to be discharged, or proposing to discharge wastewater into the wastewater facilities shall file a periodic discharge report, the cost of which shall be borne by such person. Such report may include, but shall not necessarily be limited to:

- (01) A description of the activities, facilities, and plant processes conducted on the premises, including, but not limited to, all materials fabricated or processed and the type of materials which are or could be discharged into the wastewater facilities;
- (02) The type and quantity of each product produced, fabricated or manufactured on the premises;
- (03) Site plans, floor plans, mechanical and plumbing plans in detail necessary or appropriate to show and to describe all sewers and appurtenances by size, location and elevation.
- (04) The number and classifications for work categories of employees, and the hours of work or operation on the premises;
- (05) Wastewater constituents and characteristics the presence and amount of which shall be determined by a laboratory competent to test and describe such constituents and characteristics, as approved by the District Manager;
- (06) Average volumes and 30-minute peak flow rate of fresh water, non-wastewater, and wastewater proposed to be discharged, including daily, monthly, and seasonal variations, if any;
- (07) Time and duration of the proposed wastewater discharge;
- (08) Such other information deemed necessary by the District Manager to determine the affect upon the wastewater facilities of the proposed discharge, or to determine the necessity for, or type of pretreatment, or permit conditions, or other measures necessary or appropriate to enable the District Manager to carry out the provisions of this Code or any other requirements of law. The District Manager may also require that such reports include the chemical constituents and quantity of liquid, gaseous, or solid materials stored on the premises relating to such discharge, even though such materials are not normally discharged into, or become a part of the wastewater, in the wastewater facilities. Such reports shall be in addition to self monitoring reports, information furnished in connection with wastewater discharge permits, or other permits authorized under this Code. Reports authorized and required under this Section shall be filed with the District Manager periodically and/or at such other times as the District Manager may reasonably require.

SECTION 707. Wastewater Discharge Permits.

(01) Mandatory Wastewater Discharge Permit.

No major contributing industry or other customer discharging, or proposing to discharge wastewater having characteristics or quantities equivalent to that of a major contributing industry, shall, and it shall be unlawful for any such industry or customer to connect to, or discharge into, the wastewater facilities without first obtaining a Wastewater Discharge Permit therefor.

(02) Non-Routine Wastewater Discharge Permit.

A Wastewater Discharge Permit may be required for any customer who:

- (A) Requests that charges and fees established pursuant to this Code be based upon an estimated volume of wastewater discharged, or to be discharged, into the wastewater system.
- (B) Establishes to the satisfaction of the District Manager that wastewater proposed to be discharged from such customer's premises into the wastewater system has, or will have, wastewater strength characteristics less than normal range for the customer classification to which such customers assigned, by reason of pretreatment, process changes, or other reasons related to such wastewater characteristics.
- (C) Discharges, or proposes to discharge, unpolluted water into the public wastewater system.
- (D) Operates or proposes to operate, a garbage grinder on the premises which discharges to the public wastewater system.
- (E) Maintains, or proposes to maintain, a holding tank for wastewater which discharges into the public wastewater system.
- (F) Discharges, or proposes to discharge, any wastewater containing in excess of 0.02 mg/l of total identifiable chlorinated hydrocarbons into the public system.
- (G) Discharges, or proposes to discharge, any wastewater containing in excess of 1.0 mg/l phenolic compounds into the public wastewater system.
- (H) Discharges, or proposes to discharge, any wastewater containing in excess of 20.0 mg/l fluoride compounds.
- (I) Maintains and operates, or proposes to maintain and operate, a flow meter which measures either the volume of wastewater discharged into the public wastewater system or the volume of unpolluted water discharged into the storm drain or to groundwater drainage or to other diversion not discharged to the public wastewater system.
- (J) Discharges, or proposes to discharge, wastewater into the wastewater facilities by means other than through an approved building sewer.
- (K) Maintains and operates, or proposes to maintain and operate, a private wastewater disposal system.
- (L) Occupies or owns a parcel at which the business or activity on the premises would create a hazard to public health or the public wastewater system should an accidental discharge occur.

(03) Permit conditions.

Wastewater Discharge Permits authorized under this Article shall be subject to all provisions and requirements of this Code, and to all other requirements of law. Permits authorized under this Article may include any or all of the following limitations, requirements, and conditions:

- (A) The unit charge or schedule of charges and fees for the service and use of the wastewater facilities to be paid by the permittee, and the terms and conditions of such payment;
- (B) The allowable average and maximum wastewater constituents and characteristics thereof permitted to be discharged into the wastewater facilities;
- (C) Limitations upon time and rate of wastewater discharge, or requirements for flow regulations and equalizations thereof;
- (D) Requirements for the installation of inspection, sampling, or testing facilities;
- (E) Pretreatment requirements;
- (F) Specifications for monitoring programs which may include, but shall not necessarily be limited to, sampling locations, frequency and method of sampling, number, types and standards per test, and reporting schedule;

- (G) Requirements for submitting chemical, engineering or other kinds of technical reports or wastewater discharge reports;
- (H) Requirements for maintaining plant records related to the wastewater discharge, as specified by the District Manager, and provisions for access by the District Manager thereto;
- (I) The mean and maximum mass emission rates, or other appropriate limits, when incompatible pollutants are proposed to be discharged into, or are present in, the customer's wastewater discharge; and
- (J) Such other conditions, requirements, or provisions deemed appropriate by the District Manager to insure compliance with the provisions of this Code or other requirements of law.

(04) Duration of Wastewater Discharge Permit.

A Wastewater Discharge Permit authorized under this Article shall be effective for the period described therein, but in no event, longer than five (5) years.

Upon expiration of the term specified in any Wastewater Discharge Permit, or any term during which the permit was renewed automatically, the permit shall be deemed renewed automatically for an additional one-year period, which shall commence upon the day following the last day of the expired term; provided, however, that in the event the District Manager gives written notice to the permittee of the termination or expiration of such permit not less than thirty (30) days prior to the expiration of the initial term thereof, or prior to the expiration of any successive one-year term thereof, then a new permit shall be required subject to the provisions of this Code.

(05) Modification, Amendment or Other Change.

(A) Every permit shall be subject to modification, amendment, or other change by the District Manager during the term thereof, as determined necessary by the District Manager in order to obtain compliance by the customer with the requirements of this Code or other requirements of law.

(B) Except in an emergency, if the District Manager determines that non-compliance with the requirements of the Code or other requirements of law has created a risk to the public health, safety or welfare, the District Manager shall give written notice to a permittee of any proposed modification, changes or amendments to the customer's permit not less than thirty (30) days prior to the effective date of such change, modification, or amendment. The District Manager may specify a time schedule for compliance with any new conditions, provisions, or requirements established by modification, change, or other amendments to the permit. The notice shall state the time, date and place a hearing shall be held by the District Board upon the question of the proposed modifications, changes or amendments and time schedule for compliance, which date shall not be not less than ten (10) days after giving such notice.

(C) If the District Manager determines that non-compliance with the requirements of the Code or other requirements of law has created a condition which constitutes an emergency, the permit is subject to modification, amendment, or other change by the District Manager without prior written notice.

(06) Non-assignability of Wastewater Discharge Permit.

Wastewater Discharge Permits shall be personal to each permittee, and shall relate only to the use or operation described therein. No person shall, and it shall be unlawful to, assign, reassign, transfer, sell, lease, sublet, or otherwise transfer a Wastewater Discharge Permit, or any interest therein, to another person or to use, cause to be used, or permit to be used, such permit in connection with different premises, or a different operation than that specified in such permit, or with a new, expanded, or modified operation.

(07) Monitoring Facilities.

The District Manager may require a customer to construct, operate, and maintain, at the customer's own expense, monitoring, sampling, or metering facilities or other equipment to allow inspection, sampling, and flow measurement of the customer's building sewer, or internal drainage systems, or waste or wastewater discharges. Such monitoring, sampling, or metering facilities or equipment shall be located on the customer's premises; provided, however, that the District Manager may allow such equipment or facility to be constructed upon public property adjacent to the customer's premises upon a determination by the District Manager that location of such equipment or facilities upon the customer's premises would be impracticable or cause

unnecessary or undue hardship. In the event that the District Manager makes the foregoing determination, and the public property upon which such facilities or equipment are proposed to be constructed or installed is outside the District, the customer shall obtain permission for such installation or construction, and for the maintenance and operation of such facilities or equipment, from the government agency having jurisdiction over such public property. Monitoring, sampling, or metering facilities or equipment to be provided, installed, maintained and operated pursuant to the provisions of this Section shall be so situated and constructed and installed as to permit safe and immediate access thereto by the District Manager; provided, however, that the District Manager may, at the option of the customer, secure such equipment or facilities with a lock furnished by the District Manager, at the expense of the customer. The customer shall provide sufficient space, as determined by the District Manager, at or near such equipment or facilities so as to allow ready and accurate monitoring, sampling, and composition of samples for analysis. Such equipment and facilities, and the sampling and measuring equipment to be maintained and operated in connection there-with, shall be so maintained and operated at all times in a safe and proper condition, by and at the expense of the customer.

Monitoring, sampling or metering equipment or facilities to be furnished pursuant to the provisions of this Section shall be provided in accordance with all reasonable requirements of the District Manager and all applicable construction standards and specifications of the District, or the government jurisdiction wherein such equipment or facilities are located. Installation and construction of such facilities or equipment shall be completed within ninety (90) days following written notification requiring such installation or construction from the District Manager provided, however, that the District Manager may, at his discretion, extend the time of performance of such installation or construction.

(08) Inspection and Sampling.

The District Manager is hereby authorized to inspect the premises of any customer at all reasonable times to ascertain whether the provisions of this Code or the provisions of any permit issued pursuant to this Code are being complied with. Owners or occupants of premises where wastewater is created, held or discharged shall allow the District Manager ready access at all such reasonable times to all parts of the premises for the purposes of inspection, sampling, monitoring, or performing any or all of the duties reasonably necessary or appropriate in carrying out or enforcing the provisions of this Code or any permit issued pursuant to this Code. The District Manager shall further have the right to install and use on the customer's premises such devices as are reasonably necessary or appropriate to conduct sampling, metering, or monitoring operations or other of the aforesaid duties. In the event a customer has established security measures requiring identification and clearance prior to entry onto such customer's premises, the customer shall furnish and provide such identification or clearance to the District Manager so as to permit ready access by the District Manager to the premises for the purposes described in this Section.

(09) Pretreatment.

Pretreatment of wastes or wastewater shall be furnished by every customer on the customer's premises when such waste or wastewater, prior to pretreatment, does not comply with the minimum acceptable requirements and criteria for discharge into the wastewater facilities as set forth in Article VI, Section 603 of this Code. Such pretreatment facilities shall be provided and maintained at the customer's expense, and shall be of sufficient design and capacity to pretreat waste or wastewater discharged from the premises into the wastewater facilities to a level meeting such minimum requirements, and such other requirements established by the District Manager and reasonably necessary or appropriate for the wastewater facilities to treat adequately such waste or wastewater under normal operating and treatment conditions.

(10) Protection Against Accidental Discharges.

Every customer shall provide protective measures against accidental or unauthorized discharges for prohibited wastes, wastewater constituents or characteristics, or volumes into the wastewater facilities as set forth in Article VI, Section 603 of this Code, or as may be otherwise set forth in any permit issued pursuant to this Code. Such measures shall consist of operational or other procedures and/or facilities as determined reasonably necessary or appropriate by the District Manager. All costs of such measures shall be borne by the customer.

The District Manager may specify standard procedures and/or facilities for each classification of customer, and, to the extent so specified, he is hereby authorized and directed to require the institution and use of such procedures, and the installation and construction of such facilities for each such classification. Alternatively,

the District Manager may require any customer to propose such procedures and/or facilities, which proposals shall be submitted to the District Manager for review, with such supporting plans, specifications, data, explanations, or other matters as may reasonably be required by the District Manager in order to ascertain the effectiveness of the procedures and/or facilities proposed. The District Manager may require such revisions, amendments, modifications, or other changes to such proposals, or approve, or reject the same, as the District Manager deems reasonably necessary or appropriate in order that such proposals ensure protection against accidental or unauthorized discharge.

(11) Public Information.

All information and data furnished by, or regarding the operations of, a customer obtained from reports, questionnaires, permit applications, permits, monitoring programs, inspections, or from other sources provided or required under the provisions of this code shall be available to the public or other government agencies without restriction unless the customer requests in writing that such information be maintained confidential, and establishes to the satisfaction of the District Manager that the disclosure of the information to other persons would result in unfair competitive disadvantage to the customer; provided, however, that in no event shall wastewater constituents, characteristics, or volumes be deemed confidential information.

Notwithstanding the foregoing, information approved by the District Manager as confidential shall be available for use by the District, the Authority, the State, the Federal government, or any agency of said entities, in connection with enforcement proceedings, or any judicial proceedings to which the customer is a party. Subject to the foregoing, information accepted by the District Manager as confidential shall not be transmitted to any government agency, or to the general public by the District Manager until and unless prior written notification is given to the customer.

(12) Special Agreements.

The provisions of this Code shall not be deemed a limitation upon the District or Authority to enter into agreements, and to recover costs relating thereto, with any customer relating to treatment, pretreatment, or other matters in furtherance of the provisions of this Code and the purposes thereof, and not inconsistent therewith, when unique, unusual, or extraordinary circumstances require such special agreements; provided, however, that no such agreement shall authorize an extension of the final dates for compliance with required federal standards or waive such standards. [Amended by General Regulation No. 59]

(13) Notice to Affected Public Agencies.

No Wastewater Discharge Permit shall be issued, nor shall it become effective, until affected public agencies shall have been given an opportunity to review and comment upon the proposed permit in the manner set forth in this Subsection.

(A) An "affected public agency" within the meaning of this subsection (13) is the County of San Mateo and/or a City or Town having territory located in the District if the wastewater to be discharged under the proposed permit will be discharged in or conveyed through the territorial boundaries of the County, City or Town.

(B) Not less than ten (10) days prior to the date the Wastewater Discharge Permit is proposed to be issued and become effective, the District Manager shall give written notice thereof to any affected public agencies who have informed the District they desire to receive such notices. As a minimum, the written notice shall identify the applicant, the address of the applicant and the site of the proposed discharge, the nature of the uses to be made on the site, the wastewater constituents proposed to be discharged, and the conditions which the District intends to attach to the proposed permit.

(C) Any affected public agency may comment upon the proposed permit and may request changes to the conditions or that the permit not be issued. If the Manager agrees with the requests, the changed conditions shall be included in the permit or the permit shall not be issued, as the case may be. If the Manager does not concur with the request, the affected public agency or agencies may appeal the Manager's decision in accordance with the procedures set forth in Article HI, Section 1101. The permit shall not be issued, nor shall it become effective, until the appeal process has been concluded. [Amended by General Regulation No. 73]

SECTION 708. Private Wastewater System Permit.

A permit for a private wastewater system shall become effective upon signing by the District Manager. The permit shall provide the District Manager with the authority to inspect the work at any stage of construction and before any underground portions are covered.

SECTION 709. Extension of Sewer Permit.

The District Board may extend a sewer permit beyond its expiration date upon such terms as the District Board deems just and reasonable, and upon a showing of good cause for such extension by the applicant. The showing shall include proof that the applicant has exercised due diligence in pursuing the construction project.

SECTION 710. Payment of Permit Fees.

Permits authorized pursuant to the provisions of this Article shall be subject to reasonable terms and conditions determined necessary or appropriate by the District Manager in order to carry out the provisions of, and insure compliance with, this Code, or other requirements of law. No permit shall be issued until all applicable fees and charges, including inspection fees, and, if applicable, connection charges, established pursuant to this Code have first been paid.

ARTICLE VIII

WASTEWATER VOLUME DETERMINATION

SECTION 800. General.

For the purposes of this Code unless otherwise provided pursuant to the conditions of this Article, wastewater volumes shall be determined upon the basis of volumes of fresh water, including all sources of non-wastewater, used by, or furnished to, a customer.

SECTION 801. Exceptions - Metering.

Upon application of a customer, and upon a finding by the District Manager that a significant portion of fresh water or non-wastewater, received by the customer from any meter source does not flow into the wastewater facilities because of the principal activity of the customer, or other significant diversion of water use, or by reason of removal of wastewater by other means, the District Manager may authorize determination of the volume of wastewater discharge to be made by an appropriate metering device. Upon such determination by the District Manager, a metering device, of a type approved by the District Manager, and at a location approved by the District Manager, shall be installed at the customer's expense. Such metering device shall measure either the amount of wastewater discharged into the wastewater facilities, or the amount of fresh water or non-wastewater diverted from the wastewater facility. Upon installation, such meters shall be maintained and tested periodically for accuracy in accordance with requirements established by the District Manager, all of which maintenance and testing shall be at the expense of the customer.

SECTION 802. Exceptions - Estimated Volume.

In lieu of use of a metering device as specified in the previous section, and upon a determination by the District Manager that it would be unnecessary or impractical to install, maintain, or operate such metering device, wastewater volume discharged by a customer into the wastewater facilities may be based upon an estimate thereof determined by the District Manager. The determination of such estimated wastewater volume shall be based upon such factors as the number of fixtures through which wastewater flows into the sewerage facilities from the customer's premises, seating capacity of buildings or improvements upon the premises, the population equivalent associated with the premises, annual production of goods and services related to the premises, or other factors reasonably relating to water use, wastewater volume calculations and/or diversions of wastewater flow from wastewater facilities.

SECTION 803. Exceptions - Permit Required.

Permission for calculation or wastewater volumes to be determined in accordance with the provisions of the previous Sections (801 and (802) shall only be granted by a permit issued by the District Manager or as a provision of such other permit as may be required or provided under this Code. In the event such permission is granted pursuant to a separate permit, applications therefor shall be in writing in such form as the District Manager shall require, and shall set forth the following:

- (A) The name and address of the applicant ;
- (B) The location, or other description of the premises served by the wastewater facilities and for which such calculation is proposed to be made;
- (C) Reasons supporting use of a metering device or calculation or estimated volumes, as appropriate; and
- (D) Such data, statistics, or other information deemed necessary or appropriate by the District Manager to enable him to make the findings or determination specified in the two previous Sections (801) and (802), as appropriate.

ARTICLE IX

FEES, RATES, AND CHARGES

SECTION 900. Sewer Service Charge.

(01) Purpose of Sewer Service Charge.

The purpose of the sewer service charge is to raise revenue for the costs of maintenance, operation, construction, and reconstruction of the District's wastewater facilities used for the collection, conveyance, treatment, and disposal of wastewater, including the District's share of the cost of construction, operation, and maintenance of the South Bayside System Authority wastewater facilities, and for other expenditures deemed necessary by the District Board in order to conduct the business of the District, except to the extent prohibited by Sections 5471 and 6520.5 of the Health and Safety Code of the State of California.

(02) Basis of Charge.

The basis of the sewer service charge is the establishment of a flat rate for the residential customers and a unit cost per hundred cubic feet for non-residential customers, computed to reflect costs of collection, treatment and disposal of sewage. In no event shall any customer be charged less than the residential customer flat rate charge.

(03) Residential Customers Sewer Service Charge.

(A) Residential Customers Rate.

The flat rate sewer service charge for fiscal year July 1, 2022 through June 30, 2023 for residential customers shall be One Thousand Two Hundred Eighty dollars and no cents (\$1,280.00) per Single Family Residence.

The flat rate sewer service charge for fiscal year July 1, 2023 through June 30, 2024 for residential customers shall be One Thousand Three Hundred Six dollars and no cents (\$1,306.00) per Single Family Residence.

(B) Septic Tank Effluent Pumping System and Grinder Pump System (STEP/Grinder System) Residential Customers Rate included in the On-Site Wastewater Disposal Zone (OWDZ).

The sewer service charge for residential customers served by a STEP/Grinder System for fiscal year July 1, 2022 through June 30, 2023 shall be Two Thousand Fifty Dollars and no cents (\$2,050.00) per Single Family Residence.

The sewer service charge for residential customers served by a STEP/Grinder System for fiscal year July 1, 2023 through June 30, 2024 shall be Two Thousand Two Hundred Twenty-Six Dollars and no cents (\$2,226.00) per Single Family Residence.

(04) Non-Residential Customer Sewer Service Charge.

(A) The rates for customers in the non-residential category for fiscal year July 1, 2022 through June 30, 2023 shall be computed on the basis of:

(1) A flow rate charge of \$7.61 per hundred cubic feet of metered water consumption in accordance with the formula set forth for non-residential customers, **PROVIDED** that District may make adjustments where it appears to District that water consumption is not a reasonably accurate measure of wastewater discharge.

(2) A biochemical oxygen demand rate of \$1.34 per pound per hundred cubic feet of water consumption; and,

(3) A suspended solids loading rate of \$1.53 per pound per hundred cubic feet of water consumption.

(B) The rates for customers in the non-residential category for fiscal year July 1, 2023 through June 30, 2024 shall be computed on the basis of:

(1) A flow rate charge of \$7.76 per hundred cubic feet of metered water consumption in accordance with the formula set forth for non-residential customers, **PROVIDED** that District may make adjustments where it appears to District that water consumption is not a reasonably accurate measure of wastewater discharge.

(2) A biochemical oxygen demand rate of \$1.37 per pound per hundred cubic feet of water consumption; and,

(3) A suspended solids loading rate of \$1.56 per pound per hundred cubic feet of water consumption.

(C) STEP/Grinder System Non-Residential Customer Rate (Non-Residential Customers included in the On-Site Wastewater Disposal Zone – OWDZ).

The sewer service charge for non-residential customers served by a Septic Tank Effluent Pumping System or Grinder Pump System for fiscal year July 1, 2022 through June 30, 2023 shall be Two Thousand Fifty Dollars and no cents (\$2,050.00) for each 200 gallons per day, average annual daily flow rate, discharged to the District's sewer system.

The sewer service charge for non-residential customers served by a Septic Tank Effluent Pumping System or Grinder Pump System for fiscal year July 1, 2023 through June 30, 2024 shall be Two Thousand Two Hundred Twenty-Six Dollars and no cents (\$2,226.00) for each 200 gallons per day, average annual daily flow rate, discharged to the District's sewer system.

(D) In accordance with the California Environmental Quality Act ("CEQA") Public Resources Code Sec. 2100 et seq., and the regulations promulgated pursuant to CEQA, the District Board finds that this Regulation establishes rates and/or charges for the purpose of meeting operating expenses of the District, meeting financial reserves needs and requirements of the District, and obtaining funds for capital projects which are necessary to maintain services within existing sewer service areas in the District

(05) Non-Residential - Added Provisions.

The following are additional provisions applicable to the computation of the sewer service charge for non-residential customers:

(A) In no event shall the non-residential sewer service charge be less than the flat rate sewer service charge for residential customers.

(B) The period used in determining the total of metered water consumption shall be the preceding calendar year or such other period as, in the opinion of the District Manager, is representative of water consumption.

(C) Upon application from customers maintaining extensive irrigated landscaping or where it can be conclusively established that the metered water consumption is not a valid measure of the quantity of wastewater discharged, the quantity to be used in determining the yearly rate shall be determined by the District Manager.

(D) The District or the customer may require the installation of District-approved recording and sampling devices or sewage meters on the premises for use by the District at the customer's expense. Such devices or meters shall be available for inspection at any reasonable time. Recording devices shall be capable of recording instantaneous and accumulated flows, and sampling devices shall be automatic and capable of twenty-four hour storage and maintenance of temperature between 30 degrees and 40 degrees Fahrenheit and have a five-gallon capacity as approved by the District Manager. The customer shall be responsible for the maintenance, repair and replacement of all sampling or recording devices and equipment.

(06) Adjustments and Reimbursements.

It is the intent of the District Board, to establish different sewer service charges for different categories of customers, that reflect the proportional cost of the sewer service attributable to the premises or parcel, based upon the type of use of the premises or parcel. If, in respect to any customer the District Board should find that the charge is inequitable or unfair because of unusual circumstances, it may establish a special service charge for such customer, differing from those otherwise established, which will bear a closer relationship to the proportional cost of sewer service. Such special charge may be established by resolution or agreement, but may be revoked at any time by the District Board whenever it finds that continuation thereof would be inequitable or unfair under the circumstances then prevailing.

Requests for a different basis of charges shall be applied for, in writing, and shall state with particularity the unusual circumstances which the applicant believes justifies a different basis of charges for the premises in question. The application shall be submitted to the District Manager and shall be considered and a determination made thereon by the District Board and shall be effective as of the date of such application and continuing during the period of such special circumstances.

When a refund becomes due and owing by virtue of action of the District Board or by virtue of any error made in ascertaining the charge applicable to any customer, the District Manager is authorized to pay such monies from the specific fund established for the deposit of sewer service charges.

(07) Vacancy.

No credit, adjustment or refund shall be made to any customer because the premises or any part thereof are vacant, unless said premises are disconnected from the sewer system.

(08) Effective Date of Charges.

(A) Charges and rates established by this Section and subsequent amendments, as required, shall be effective upon the date specified by the District Board and shall apply to all premises then connected or then discharging directly or indirectly any wastewater and/or industrial waste into said system.

(B) Notwithstanding the foregoing provisions of this Section or other provisions of this Code, no service charge shall be due or paid for building or dwelling which is newly constructed until such building or dwelling is connected to the sewer system.

(09) Person Responsible.

The owner of any premises is and shall be responsible for payment of any and all sewer service charges applicable to said premises. It shall be and is hereby made the duty of each such owner to ascertain from the District Manager the amount and due date of any such charge applicable to said premises and to pay such charge when due and payable. It also shall be and is hereby made the duty of all owners of all premises to inform the District Manager immediately of all circumstances, and of any change or changes in any circumstances, which will in any way affect the applicability of any charge to said premises or the amount of any such charge.

(10) Collection of Sewer Service Charges on Tax Roll.

(A) Pursuant to the provisions of Division 5, Part 3, Chapter 6, Article 4, of the Health and Safety Code of the State of California, subject to the provisions of this Section, the District hereby elects, as the procedure for the collection of sewer service and use charges prescribed or imposed by the provisions of this Section, to have all such sewer service charges for each fiscal year collected on the tax roll of the County of San Mateo in the same manner, by the same persons and at the same time as property taxes, assessments and other charges collected thereon.

(B) The District Manager shall prepare and file with the District Secretary on or before the 15th day of July of each year written report containing a description of each and every parcel of real property receiving sewer service and facilities and subject to the sewer service charge established by this Section and the amount of the service charges for each parcel for the then current fiscal year, computed in conformity with the charges prescribed by the provisions of this Section. The parcels of real property included in said report may be described by reference to maps prepared in accordance with Section 327 of the Revenue and Taxation Code

of the State of California and on file in the office of the County Assessor of San Mateo County, California, or by reference to plats or maps on file in the office of the District.

(C) The District Secretary shall cause notice of the filing of said report and of a time and place of hearing thereon to be published prior to the date set for hearing in a newspaper of general circulation published within the District. The publication of said notice shall be once a week for two successive weeks. Publications shall be made with at least five days intervening between the respective publication dates not counting such publication dates. A minimum of two public notices shall be published in a newspaper circulated more often than once a week. In newspapers that circulate once a week, the public notice shall be published in each circulation for two successive weeks. The period of notice commences upon the first day of publication and terminates at the end of the 14th day, including therein the first day.

(D) At the time stated in the above mentioned notice, the District Board shall hear and consider all objections or protests, if any, to said report referred to in said notice and may continue the hearing from time to time. If the District Board finds that protest is made by owners of a majority of separate parcels of property described in the report, then the report shall not be adopted and the charges shall be collected separately from the tax roll and shall not constitute a lien against any parcel or parcels of land.

(E) Upon the conclusion of the hearing, the District Board may adopt, revise, change, reduce or modify any charge or overrule any or all objections, excepting objections from a majority as described above in sub-section (10)(D), and shall make its determination upon each charge as described in said report, which determination shall be final.

(F) On or before the 31st day of August of each year following such final determination, the District Secretary shall file with the Controller of the County of San Mateo a copy of said report with a statement endorsed thereon over his signature that the report has been finally adopted by the District Board in order that the Controller of the County of San Mateo shall be able to enter the amounts of the charges against the respective lots or parcels of land as they appear on the current assessment roll and in order that such charges may be collected on the tax roll in accordance with the provisions of Sections 5473.5 through 5473.11 of the Health and Safety Code of the State of California. [Amended by General Regulation No. 75.]

(G) Except as provided in Section 5473.8 of the Health and Safety Code of the State of California, the amount of the charges shall constitute a lien against the lot or parcel of land against which the charge has been imposed as of the date prescribed by law as the lien date for property taxes.

(11) Omission From Collection on Tax Roll - Direct Billing.

If the full amount of sewer service charges for premises connected to or discharging wastewater into the District sewer system are, for any reason, not collected in accordance with the provisions of sub-section (10) above, the sewer service charges, or the portion thereof not appearing on the tax rolls, for such premises shall be collected by direct billing of the property owner.

(A) Billing. The District Manager shall ascertain the amount of each sewer service charge applicable to such premises and shall mail to the owner and/or owner and lessee thereof, within Sixty (60) days from and after the date any sewer service charges become due and payable, a bill for the sewer service charges which are then due and payable. Such bill shall be mailed to the person or persons listed as the owners on the last equalized assessment roll of the County of San Mateo at the address shown on such assessment roll, or to the successor in interest and/or to the lessee of such owner, if the name and address of such successor in interest or lessee is known to the District Manager. Each bill so mailed shall contain a statement that a delinquency in payment for sixty (60) days shall constitute a lien against the lot or parcel against which the charge is imposed and that when recorded it shall have the force, effect and priority of a judgement lien three (3) years unless sooner released or otherwise discharged. Failure of the District Manager to mail any such bill or failure of any owner to receive any such bill, shall not excuse the owner of any premises from the obligation of paying any sewer service charge for any premises owned by him.

(B) Due Date of Sewer Service Charges. All sewer service charges shall be due and payable on November 1st of each year. At the customer's option, sewer service charges may be paid in two equal installments with the first installment being due and payable on November 1st and the second installment being due and payable on February 1st of the following year so that both payments are made within the same fiscal year.

(C) Delinquency Date of Sewer Service Charges. Each sewer service charge shall be delinquent if not paid on or before the tenth (10th) day of the month following the date upon which such sewer service charge became due and payable.

(D) Where Payable. Sewer service charges collected by direct billing shall be payable at the administrative offices of the District, or as noted on the billing.

(E) Penalties for Non-Payment of Sewer Service Charges-Lien. Whenever a delinquency shall occur for non-payment of sewer service charges, a penalty of ten (10) percent shall attach to such charges, and for each month that such charges remain delinquent a further penalty of one and one-half percent (1-1/2 percent of said basic charge shall be added. [Amended by General Regulation No.74.]

SECTION 901. Sewer Connection Charges.

(01) Purpose of Sewer Connection Charge.

The purpose of the sewer connection charge is to equalize the cost of acquisition, construction, and installation of the District's facilities by the District so that each resident or property owner pays his/her proportionate share of such costs.

(02) Basis of Charge.

No connection shall be made to any public sewer, or to any sewer flowing into a public sewer within the District, until there shall be paid to the District a sewer connection charge, such charge to be in addition to charges for permits, inspections or the requirements of any other rule or regulation of the District. The connection charge shall be paid at the time the application for a Class 1 or Class 2 sewer permit is filed.

The estimate of the average volume of wastewater discharge in gallons per day for any proposed use shall be made by the District Manager. Any applicant for connection dissatisfied with the average daily volume estimated by the District Manager may appeal such determination to the District Board, who shall conduct a hearing thereon and establish connection charge to be paid by the applicant.

(03) Charges by Type of Connection.

The connection fees shown below shall be assessed each new applicant for wastewater service. In the event that a parcel will have combined residential and non-residential uses, the residential connection fee shall be applied to each living unit and the non-residential connection fee shall be applied to the non-residential uses. In no event shall a connection fee be less than the residential connection fee. A separate meter serving the non-residential premises shall be required for annual user charge assessments.

Connection Fee Dollars	District
Residential Unit (includes 30 gpd lateral I/I) Minimum per EDU 200 Gallons Per Day (GPD)	\$8,608.00
Supplementary Connection Fee (a) (equivalent to 30 gpd lateral I/I)	\$1,291.20
Non-Residential Use (b) Equal or Less than 300 mg/l Biological Oxygen Demand (BOD) or Suspended Solids (SS) *per supplementary connection (a)	\$43.04/gpd +\$1,291.20*
Greater than 300 mg/l BOD or SS *per supplementary connection (a)	\$36.28/gpd + \$6.76/gpd x strength ratio (c) + \$1,291.20*

(a) * The connection fee for a supplementary connection(s) to the same building shall be \$1,291.20 per connection. [Amended by General Regulation No.2022-02]

- (b) Non-Residential Use connection fees are calculated using average daily flow in gpd. Minimum Non-Residential Use is based on 300 gpd of average daily flow. In no event shall the Non-Residential Use connection fee be less than the Residential connection fee of \$8,608.00.
 Example: A Non-Residential Use connection with 300 gpd of average daily flow and 300 mg/l of BOD or SS would pay the following:
 $\$43.04/\text{gpd} \times 300 \text{ gpd} = \$12,912.00$
- (c) The strength ratio component for Non-Residential Use with BOD and/or SS concentrations greater than 300 mg/l, is calculated by the ratio of the highest of the BOD or SS concentrations to 300 mg/l.
 Example: A Non-Residential Use connection with 300 gpd of average daily flow and 400 mg/l of BOD and 350 mg/l of SS would pay the following:
 $\$36.28/\text{gpd} \times 300 \text{ gpd} + (\$6.76/\text{gpd} \times 300 \text{ gpd} \times (400 \text{ mg/l} \div 300 \text{ mg/l})) = \$13,588.00$

Connection fees will be adjusted annually, July 1 of each year, by the Annual Percentage Change of the Engineering News Record Construction Cost Index for San Francisco. The Annual Percentage Change shall be calculated as: the December Value for the current fiscal year, minus the December Value for the prior fiscal year, and the result of which shall be divided by the December Value for the prior fiscal year.

Accessory Dwelling Unit

Pursuant to Section 65852.2 of the California Government Code the District will charge an Accessory Dwelling Unit Connection Fee based on the number of plumbing fixture units (FU). District establishes 20 FU's per EDU (equivalent dwelling unit) as the basis for charging accessory dwellings for an existing customer. The connection fee would be \$430.40 multiplied times the number of fixture units in the accessory dwelling unit to charge a connection for the accessory dwelling unit.

Formula Assumptions:

#1 - District Connection Fee charge per EDU = \$8,608.00, the charge per fixture unit would be \$430.40 per FU (\$8,608.00 divided by 20 FU).

#2 - \$430.40 per FU per FU (\$8,608.00 divided by 20 FU).

Example: An accessory dwelling for an existing customer with 15 fixture units would be charged a connection fee of \$6,456.00 (15 x \$430.40).

(04) Persons Responsible.

The owner of any premises is and shall be responsible for payment of all connection charges applicable to said premises. It shall be and is hereby made the duty of each property owner to ascertain from the District Manager the amount and due date of any connection charge applicable to said property and to pay said charge when due and payable. Each property owner shall be responsible to inform the District Manager, in a reasonable amount of time of any change or changes in any circumstances which will in any way affect applicability, or amount of any such charge.

(05) Increased Use of Sewers.

(A) In the event increased use is or will be made of the sewer, and the actual, calculated, or estimated volume of wastewater discharge exceeds or will exceed the volume of wastewater discharge the premises are entitled to discharge, an additional sewer connection charge shall be paid. The additional sewer connection charge shall be calculated by subtracting the wastewater discharge entitlement assigned to the parcel from the actual, calculated or estimated volume of wastewater discharge, measured in gallons per day, average daily flow and multiplying the remainder by the non-residential connection charge rate. The wastewater discharge entitlement is determined by the base year wastewater discharge, which is the average daily discharge from the property in 1974 OR the wastewater discharge for which a connection charge has been paid, whichever is higher. The maximum allowable volume of wastewater discharge shall be increased through payment of additional sewer connection charges.

(B) In those instances where an increased use has been made without written notice by the customer to the District, the additional connection charge shall be computed at the rate in effect under this Code on the date

the additional charge is levied. The District Manager shall ascertain the amount of each additional connection charge applicable to each premise in the District and shall mail to the property owner of each applicable premise a statement for the additional connection charge which is due and payable. Such statement shall be mailed to the person or persons listed as the property owner on the last equalized assessment roll of the County of San Mateo at the address shown on such assessment roll, or to the successor in interest of such owner, if the name and address of such successor in interest is known to the District Manager. Each bill so mailed shall contain a statement that a delinquency in payment for Sixty (60) days shall constitute a lien against the lot or parcel against which the charge is imposed and that when recorded it shall have the force, effect and priority of a judgment lien for three (3) years unless sooner released or otherwise discharged. Failure of the District Manager to mail said statement, or failure of any property owner to receive said statement, shall not excuse the obligation of paying said additional connection charge. [Amended by General Regulation No. 75.]

(C) In the event a customer has previously notified the District in writing of an increased use, the additional connection charge shall be computed at the rate in effect on the date such written notice was received by the District. The District Manager shall ascertain the amount of the additional connection charge applicable to the premises and shall mail to the property owner of the premises a statement for the additional connection charge which is due and payable. Such statement shall be mailed to the person or persons listed as the property owner on the last equalized assessment roll of the County of San Mateo at the address shown on such assessment roll, or to the successor in interest of such owner, if the name and address of such successor in interest is known to the District Manager. Failure of the District Manager to mail said statement, or failure of any property owner to receive said statement, shall not excuse the obligation of paying said additional connection charge.

(D) Penalties for Non-Payment of Additional Connection Charges. Whenever a delinquency shall occur for non-payment of additional connection charges, a penalty of ten (10) percent shall attach to such charges, and for each month that such charges remain delinquent a further penalty of one and one-half percent (1-1/2 percent) of said basic charge shall be added. [Amended by General Regulation No. 75.]

(E) Where payable. Additional connection charges collected by direct billing shall be payable at the administrative offices of the District, or as noted on the billing. [Amended by General Regulation No. 75.]

(06) Repurchase of Capacity.

(A) In the event the property owner notifies the District Manager within 2 years of payment of a sewer connection charge for a use proposed to be made that it appears either that such use will not be made or will create less volume of wastewater discharge than anticipated, the District Manager may recompute the sewer connection charge and refund to the payer ninety percent (90%) of the difference between the sewer connection charge paid and the recomputed charge. [Amended by General Regulation No. 66.]

(07) Administration of Connection Charges.

(A) The sewer connection charge rate may be revised only by an amendment to this Code approved by a two-thirds vote of the members of the District Board.

(B) The amount of connection charges for all classifications of connections shall be reviewed at least once each fiscal year. [Amended by General Regulation No. 66.]

SECTION 902. Permit and Inspection Fees.

(01) Class 1,2, 3, and 4 Permits.

- (A) Class 1 Sewer Permits for service to residential structures;
- (B) Class 2 Sewer Permit for service to non-residential structures;
- (C) Class 3 Sewer Permit for construction of sewer mains, pumping stations and other wastewater facilities. The inspection fee for a Class 3 sewer permit shall be paid as covered under subsection (03) Excess Expenses, below;
- (D) Class 4A Sewer Disconnection Permit for Permanent Disconnection; and
- (E) Class 4B Sewer Disconnection Permit for Temporary Disconnection.

(02) Non-Routine Wastewater Discharge Permits.

Fees, in amounts established by the Board of Directors, shall be imposed upon and collected from applicants and customers of the wastewater facilities to defray the costs of processing and issuing the following Non-Routine Wastewater Discharge Permits or performing the following services:

- (A) Mandatory wastewater discharge permit.
- (B) Determination and approval of metered waste water volumes, and metered volume permit.
- (C) Determination and approval of use of estimated wastewater volume, and estimated volume permit.
- (D) Private wastewater disposal permit.
- (E) Review of proposals for protection against accidental discharges.
- (F) Discharge report review. [Amended by General Regulation No. 78.] Service or work which is expressly or impliedly required to be performed by the District pursuant to the provisions of this Code, the payment for which is not otherwise provided for herein, shall be paid in advance of the performance of such services or work in an amount equal to the estimated cost to the District thereof. Upon performance of such services or work, and upon the calculation of the actual costs thereof, sums deposited in excess of such actual costs shall be refunded or additional charges equal to the amount by which the actual cost exceeds the estimated cost shall be paid.

The foregoing fees and charges shall be paid at the time the application for the work to which they pertain is made or requested or upon receipt of billing for excess expenses. No application shall be processed, nor work performed, without said fees or charges having first been paid. These fees and charges shall be in addition to fees, charges, or expenses payable pursuant to other provisions of this Code.

(03) Excess Expenses.

In addition to the permit fees, the applicant shall pay to the District all costs and expenses in excess of said fees which have been borne by the District to examine application or plans and inspect construction, and to test, sample and/or monitor wastewater discharge, said costs to be determined by the District.

In accordance with the California Environmental Quality Act ("CEQA") Public Resources Code Sec. 2100 et seq. , and the regulations promulgated pursuant to CEQA, the District Board finds that this Regulation establishes fees for the purpose of meeting operating expense of the District. [Amended by General Regulation No. 78.]

SECTION 903. Sewer Relocation Charge.

(01) Imposition of Charge.

A sewer relocation charge shall be imposed by the District whenever all of the following conditions are found by the District Board to exist:

- (A) A governmental entity proposes to undertake a work of public improvement that will necessitate relocation, modification, or reconstruction of existing District wastewater facilities;
- (B) Except for the work of improvement, the wastewater facilities would not have required relocation, modification, or reconstruction at that time;
- (C) The District will be required to pay to the governmental entity all or some part of the relocation, modification or reconstruction costs, or the District will be required to perform the relocation, modification or reconstruction of its facilities without reimbursement for all or some portion of the attendant costs; and
- (D) The work of improvement is primarily for the benefit of some of the premises within the District's boundaries, and not primarily for the general benefit of all premises within the District.

(02) Effect of General Benefit.

If the Board makes all of the findings required by above Sub-section, it shall further determine to what extent, if any, there is some benefit to the District generally by reason of the relocation, modification, or reconstruction. To the extent the District Board determines that there is some general benefit to the District, that pro-rata share of the net cost, as defined in sub-section (04) below, shall be borne by the District from its general funds. In making the determination required by this Section, the Board shall consider all relevant factors including increased life of the wastewater facilities and benefits to wastewater facilities outside of the improvement project boundaries.

(03) Parcels Subject to Relocation Charge.

The relocation charge, other than that allocated to the District generally, shall be levied against all parcels within the boundaries of the improvement project which are either connected to or able to connect to the District's wastewater facilities. Determination of whether a parcel is able to connect to the District's wastewater facilities is governed by Article VI of this Code. Those parcels which are unable to connect are exempt from the relocation charge. If the governmental entity which has undertaken the improvement project has not established boundaries for the project, the District Board shall set the boundaries based upon a determination of which premises are benefited by the improvement project.

(04) Determination of Net Cost.

The total amount to be allocated among the benefited premises as a relocation charge shall be the net cost to be borne by the District for all necessary expenses, after credit for any reimbursements to the District from sources other than the imposition of the relocation charge, and after credit for any grant funding to be received by the District. Necessary expenses include, without limitation: labor, material and equipment costs; fees for engineering, architectural, legal or other professional services; interest charges; bond or insurance premiums; and the like.

(05) Computation of Relocation Charge Payable by Each Premise.

The amount of the relocation charge to be imposed against each parcel shall be computed according to the following formula:

$$RC = \frac{PSC}{TSC} \times NDC$$

Where 'RC' is the relocation charge to be imposed against each premises; 'PSC' is the annual sewer service charge imposed by this Code and then in effect for the premises; 'TSC' is the total of all annual sewer service charges imposed on all benefited premises within the boundaries of the improvement project; and 'NDC' is the net District cost after taking into account any reduction by reason of the effect of a general benefit, pursuant to sub-section (02) above. In the event any premises are not presently subject to a sewer service charge, then in performing the computation, 'PSC' shall be the minimum annual sewer service charge rate, and 'TSC' shall be determined as if an annual minimum sewer service charge rate was in effect for the premises.

(06) Adoption of Resolution.

The imposition of a relocation charge pursuant to this Section shall be established by a Resolution of the District Board and approved by a two-thirds vote of its members. The Resolution shall set forth the following:

- (A) A schedule of the relocation charges to be imposed.
- (B) The description of all premises subject to the charge by Assessor's Parcel Number.
- (C) The provisions for payment and collection of the charge.
- (D) The time and place at which the District Board will hold a public hearing at which persons may appear and voice any and all objections they may have to the imposition of the charge.

(07) Use of Relocation Charge Revenue.

Except as prohibited by Section 5471 and 6520.5 of the Health and Safety Code of the State of California, revenues derived from the imposition of the relocation charge may be used for any lawful purpose as determined by the District Board.

SECTION 904. Annexation Fees.

(01) State of California Fees.

All properties annexed to the District shall submit an annexation fee as established by resolution, plus any fees payable to the State of California for filing and processing fees, the amount of which is determined by the San Mateo County Local Agency Formation Commission (LAFCo) in accordance with applicable statutes of the State Board of Equalization. All applications shall submit, at the time of application, an application fee in an amount established by resolution of the Board, in addition to any other fees, charged by LAFCo or any other regulatory agency, that are required as a condition of proceeding.

(02) Additional Fees.

In addition to the State of California fees, new properties shall be required to pay all costs of collection facilities on the property, connection to the District's collection system, and any over-sizing of the District's collection system which may be required to convey the sewer discharge through the District's collection system to the Authority. [Amended by General Regulation No. 66.]

SECTION 905. Solid Waste Collection and Disposal Charge.

The charges for solid waste collection and disposal shall be established and revised from time to time, by resolutions duly adopted and approved by the District Board in accordance with Article III of this Code.

SECTION 906. Environmental Impact Report and Negative Declaration -Preparation of Review Fee.

A charge shall be imposed upon and collected from applicants to defray costs for the preparation or review by the District of any environmental documents including an Environmental Impact Statement (EIS), an Environmental Impact Report (EIR), a Negative Declaration, or other similar statement, report or study for any projects (as defined in the California Environmental quality Act of 1969) undertaken by any person other than the District, according to the following methods:

(01) If the preparation or review is made by District staff, the charge shall be the actual salary of District employees for the time necessary for the preparation or review, times 1.75.

(02) If the preparation or review is made by District consultants engaged by the District, the charge shall be the actual cost billed to the District by the consultants.

(03) Any other expenses incurred by the District for such preparation or review shall also be reimbursed by the applicant to the District.

ARTICLE X

ENFORCEMENT

SECTION 1000. Violation, Notification of Violation, Unauthorized Discharges

(a) Violators Subject to Enforcement Provisions

Any person who violates any ordinance, rule or regulation of the District, or who alters or tampers with sewer facilities so as to render the operation thereof inconsistent with the approved plans, specifications or conditions for such facilities, shall be subject to the enforcement provisions of this ordinance. Each day that a violation of an ordinance, rule, regulation or condition that deviates from such approved plans, specifications or condition continues shall constitute a separate and additional violation.

(b) Powers and Authority of Inspectors.

The District Manager and other duly authorized employees of the District bearing proper credentials and identification shall be permitted to enter upon all properties for the purpose of inspection, observation, measurement, sampling, and testing, in accordance with the provisions of this Code. The District Manager and other duly authorized employees are further empowered to ascertain the nature of such premises, the type of activities carried on therein, the number and type of plumbing fixtures situated therein, and any other facts and information reasonably necessary to carry out the provisions of this Code.

(c) Notification of Unauthorized Discharge.

Every customer shall notify the District Manager immediately upon discharging wastes or wastewater in violation of the provisions of this Code, or any permit issued pursuant to this Code. A customer, who discharges, causes to be discharged, or permits to be discharged such wastes or wastewater shall, within five (5) days of the occurrence thereof, submit a written report to the District Manager describing the cause or causes of such unauthorized discharge, and measures taken, or proposed to be taken, to prevent future similar occurrences. Such report shall not relieve any customer of liability for any expense, loss, or damage suffered or incurred by the District or the Authority directly or indirectly, by reason of such unauthorized discharge. Such report shall not relieve or absolve any person from civil liabilities, or imposition of civil or criminal penalties in any manner whatsoever.

(d) Notices to Employees Regarding Unauthorized Discharges.

Every non-domestic customer, every customer issued a mandatory wastewater discharge permit and every customer issued an optional wastewater discharge permit shall prominently post a notice on the customer's premises advising of the requirement to notify the District Manager of any unauthorized discharge, including the telephone number of the District Manager to be called in the event of such discharge. The District Manager may require any customer to inform and advise the customer's officers, agents, and employees of the provisions of this Code, or the provisions of any permit issued pursuant to this Code, or of other requirements of law, or of any other information which may be of assistance in ensuring compliance with said Code, permit, or other requirements of law.

(e) Notice of Violation.

Whenever it is found that any person has violated, is violating, or is threatening to violate any District ordinance, rule or regulation, or any prohibition, limitation or requirement contained therein or in any sewer permit issued pursuant thereto, the District may serve upon such person a Notice of Violation stating the nature of the violation and providing a reasonable time, not to exceed thirty (30) days, for its satisfactory correction and the submission of an explanation of the circumstances giving rise to such violation. The Notice of Violation may set forth a compliance schedule with specific actions the user shall take in order to prevent or correct the violation. In addition, the Notice of Violation may require inspections or sampling and may impose other requirements deemed necessary. The Notice of Violation may also contain a statement that additional enforcement action may be pursued if corrective actions are not accomplished as scheduled.

(f) Extension of Time to Comply.

If the Manager receives a request from any person required to comply with a Notice of Violation, the Manager may grant an extension for any period of time to correct or remedy the violation if the Manager determines that such an extension of time will not create or perpetuate imminent danger to the public health and safety. The Manager shall have the authority to place reasonable conditions on such an extension.

SECTION 1001. Administrative Order.

In lieu of issuing a Notice of Violation under Section 1000, above, or, if a person does not take appropriate corrective action in response to a Notice of Violation issued under Section 1000, the Manager may issue an Administrative Order requiring immediate compliance with the terms of the District ordinance, rule, regulation, or permit or setting forth a compliance schedule with specific actions the user shall take in order to prevent or correct the violation. In addition, the Administrative Order may require inspections or sampling and may impose other requirements deemed necessary by the Manager. Prior to issuing such an Administrative Order, the Manager may, but shall not be required to, issue an order to show cause. Said order to show cause shall present the user with the facts demonstrating non-compliance and shall ask that the user show cause why the District should not institute formal enforcement action or discontinue sewer service.

SECTION 1002. Appeals From Notice Of Violation Or Administrative Order

Any person affected by a Notice of Violation or Administrative Order issued pursuant to Section 1000 or Section 1001 may file a written request for reconsideration or appeal the same pursuant to Section 1101.

SECTION 1003. Civil Penalties.

Any person who discharges pollutants, except in compliance with waste discharge requirements, or who violates any Administrative Order, prohibition, waste discharge requirement, effluent standard, water quality related effluent standard, federal standard or performance, pretreatment or toxicity standard or requirement, or who refuses to comply with the requirements adopted to control the discharge of pollutants, or who fails to comply with the conditions of their permit, or who alters a sewer system so as to render it out of compliance with plans and specifications approved by the District, or who fails to comply with any condition or requirement set forth in any District ordinance, rule or

regulation, shall be subject to a civil penalty not to exceed one thousand dollars (\$1,000) for each such discharge, violation, refusal or failure to comply occurs. The District may utilize any mechanism authorized by law to impose, assess and recover any such civil penalty, including but not limited to petitioning the Superior Court to impose, assess and recover such civil penalty.

SECTION 1004. Administrative Penalties.

(a) Violators Subject To Administrative Penalties.

A person who violates any District ordinance, rule, regulation or permit, or who tampers with or alters any sewer facility constructed pursuant to a District-issued permit so as to render it out of compliance with plans and specification approved by or conditions imposed by the District shall be subject to an administrative penalty pursuant to this Section, in addition to any other remedy authorized by this Code or otherwise by law.

(b) Issuance of Administrative Complaint.

Prior to imposing such administrative penalties, the District shall issue an administrative complaint to the person the District alleges has violated a District ordinance, rule, regulation or permit, or who has tampered with or altered any sewer facility as set forth in subsection (a), above. The administrative complaint shall be served by personal delivery or certified mail, and shall inform the person served that a hearing shall be conducted within forty-five (45) days after the person has been served.

(c) Notice of Violation.

Where the alleged violation does not create an immediate danger to health or safety, the District shall, prior to imposing administrative penalties, first issue a Notice of Violation that gives the person responsible for a continuing violation a reasonable period of time to correct or remedy the violation.

(d) Hearing.

The hearing shall be before a hearing officer designated by the Board of Directors. The person who has been issued an administrative complaint may waive the right to a hearing, in which case the District shall not conduct a hearing. A person dissatisfied with the decision of the hearing office may appeal to the Board of Directors pursuant to Section 1101.

(e) Determination of Penalty; Schedule of Penalties.

If after the hearing, or appeal, if any, it is found that the person has violated a District ordinance, rule, regulation or permit, or has tampered with or altered any sewer facility as set forth in subsection (a), above, the hearing officer or Board of Directors may assess an administrative penalty against that person. In determining the amount of the administrative penalty, the hearing officer or Board of Directors shall take into consideration all relevant circumstances, including but not limited to the extent of the harm caused by the violation, the economic benefit derived through any noncompliance, the nature and persistence of the violation, the length of time over which the violation occurs and corrective action, if any attempted or taken by the discharger. Penalties imposed pursuant to this section shall not exceed the limits set forth in subdivision (d) (1) of Cal. Gov't Code, section 54740.5.

(f) The County of San Mateo, the District's Designee for Edible Food Recovery

The County of San Mateo, the District's Designee for Edible Food Recovery, is hereby authorized to and may enforce the Edible Food Recovery provisions in the District's Mandatory Organic Waste Disposal Reduction Ordinance as adopted by reference in Article III, Section 303, upon entry into a Memorandum of Understanding with the County of San Mateo. The County's enforcement authority includes, without limitation, the authority to inspect, investigate, hold hearings, issue citations and/or assess administrative fines on behalf of the District as its Designee for Edible Food Recovery.

SECTION 1005. Collection of Fines and Penalties.

(a) Remedies Cumulative.

Remedies for collecting and enforcing fines and penalties for violation of any ordinance set out in this Article are cumulative and any and all may be used alternatively, and none of the remedies are exclusive.

(b) Placed on Tax Bill.

Fines and penalties imposed pursuant to this Article may be added to and become part of the charges fixed by the District for services furnished to the property where the violation occurred if the property is owned, controlled, or in the possession of the same person who owned, controlled, or was in possession of it during the time the violation occurred. Fines and penalties may be collected in the same manner, by the same person, and at the same time together with the fees and charges levied by the District.

(c) Lien.

Fines and penalties added to a service charge are a lien on the subject property.

(d) Petition to Court.

Fines and penalties may be collected by an action in any court of competent jurisdiction against a person or persons who owned the property where the violation occurred, in addition to any other means of collection authorized by law.

SECTION 1006. Criminal Penalties.

(a) Violations of Ordinances, Rules or Regulations.

Any person who willfully or negligently discharges pollutants, except in compliance with wastewater discharge requirements, or who willfully or negligently violates any Administrative Order, prohibition, wastewater discharge requirement, effluent standard, water quality related effluent standard, Federal standard of performance, pretreatment or toxicity standard or requirement, or who fails to comply with the conditions of their permit, compliance schedule or any standard, condition or requirement set forth in any District ordinance, rule or regulation, or who tampers with any sewer facility so as to render such facility out of compliance with any District-approved plans, specifications or permit conditions, shall be punished by a fine of not more than one thousand dollars (\$1,000) for each day such violation occurs, or by imprisonment for not more than thirty (30) days, or both.

(b) False Statements.

Any person who knowingly makes any false statement, representation, record, report, plan or other document filed with a Regional Water Quality Control Board or the State Water Resources Control Board, or who falsifies, tampers with or knowingly renders inaccurate any monitoring device or method required by the laws of the State of California shall be punished by a fine of not more than ten thousand dollars (\$10,000), or by imprisonment for not more than six (6) months, or both.

(c) Authority to Request Enforcement.

If the District believes a criminal offense has been committed hereunder, it may refer the matter to the District Attorney for prosecution. Nothing in this Code of Regulations shall limit the District's authority to request enforcement of Section 6523 of the California Health and Safety Code, which provides that a violation of a regulation of the District is a misdemeanor punishable by imprisonment in the County jail not to exceed thirty (30) days or by a fine not to exceed one thousand dollars (1,000) or by both.

SECTION 1007. Termination of Service.

In order to effect its powers and subject to the provisions of this Section, the District may terminate sanitary wastewater service to any premises from which wastes or wastewater have been discharged, are being discharged, or are threatened to be discharged in violation of any provision of this Code, or of any permit issued pursuant to this Code, or because of delinquency of any charge or fee assessed by the District, or of any other requirement of law.

Prior to termination of service, the District Board shall notify, in writing, the owner and tenant, if any, of such property that service is intended to be terminated, which notice shall state the date of proposed termination of service, the reason(s) therefor, and the date, time and place a hearing shall be held by the District Board upon the question of the termination. Such notice shall be mailed to the owner at the address shown on the records of the assessor of the County of San Mateo or as known to the clerk, and a copy shall be delivered to the tenant or posted conspicuously on the property. Such hearing shall not be held less than 10 days subsequent to the giving of notice as herein described.

Any owner, the customer, the tenant, the alleged violator, the District Manager and any other person as the District Board may deem appropriate shall be heard at the hearing on the question of termination of service. The District Board shall determine such order as it deems appropriate under the circumstances and in furtherance of the purposes and intent of this Code.

Notwithstanding the foregoing, any unauthorized connection with or opening into the public sanitary wastewater system or appurtenance thereof may be abated by the District Manager without notice if, in the judgment of the District Manager, such unauthorized connection or opening poses an imminent threat of damage to the District's wastewater facilities or of injury to the public health, safety and welfare.

Notwithstanding the foregoing, any unauthorized connection with or opening into the public sanitary wastewater system or appurtenance thereof may be abated by the District Manager without notice if, in the judgment of the District Manager, such unauthorized connection or opening poses an imminent threat of damage to the District's wastewater facilities or of injury to the public health, safety and welfare.

In the event disconnection from the wastewater facilities would create a public hazard or nuisance, the District Manager or his representative may enter upon the premises for the purpose of doing such things as may be reasonably necessary to alleviate or remove such hazard or menace. The owner of

such premises shall have a duty to reimburse the District for all expenses incurred by the District in disconnecting any such premises, or in doing other things authorized by this Section; and no reconnection shall be made until all such charges are paid

SECTION 1008. Revocation of Permit.

Subject to the procedure set forth in Section 1013, below, the District Board may revoke any permit issued pursuant to the provisions of this Code upon a determination by the District Board that:

The permittee has failed to report factually the wastewater constituents, characteristics, or volume of the permitted wastewater discharge;

The permittee has failed to report significant or substantial changes in the operations conducted upon the premises to which the permit pertains, or significant or substantial changes in wastewater constituents, characteristics, or volumes pertaining to said premises; or

The permittee has refused, or failed to permit, reasonable access to the premises to which the permit pertains; or

The permittee has violated, caused to be violated, or allowed to be violated, any term, condition, or provision of the permit.

SECTION 1009. Public Nuisance.

Any discharge or threatened discharge, or any condition which is in any manner in violation of the provisions of this Code, or of any permit issued pursuant to this Code or any order or directive of the District Manager authorized by this Code, shall be, and the same is hereby declared to be, unlawful and a public nuisance. Any person creating a public nuisance is guilty of a misdemeanor. In the event of a public nuisance, the Board may direct the District's counsel to commence an action for appropriate legal and/or equitable relief in the Superior Court, or may refer the matter to the District Attorney for prosecution. In such event and as a condition of reconnection or as a condition of continued sewer service, there shall be paid to the District, by the person in violation, a sum of money equal to reasonable attorney's fees, costs of suit and all other expenses reasonably occasioned to the District as a result of said violation. "All other expenses" mentioned above, shall include, but not be limited to, a return to the District of a reasonable charge for the payment of the time expended by District employees as a result of the violation.

SECTION 1010. Correction of Violations.

In order to enforce the provisions of any District ordinance, the District may correct any violation thereof. The cost of such correction (including, but not limited to, any fines or other costs imposed on the District by any Federal or State agency or court) shall be payable by the person violating the ordinance or by the owner or tenant of the property upon which the violation occurred. Such cost may be added to any sewer service charge payable in connection with the property. The District shall have such remedies for the collection of such costs as it has for the collection of sewer service charges, in addition to any other remedies provided for herein or by law.

SECTION 1011. Injunction.

Whenever a discharge of wastewater is in violation of the provisions of any District ordinance or otherwise causes or threatens to cause a condition of contamination, pollution, or nuisance, or in the case of non-discharge violations or other such non-compliance with a permit, compliance schedule or any standard, condition or requirement set forth in any District ordinance, rule or regulation, or in any case of tampering with any sewer facility so as to render such facility out of compliance with any District-approved plans, specifications or permit conditions, the District may petition the Superior Court for the issuance of a restraining order or a preliminary or permanent injunction, or any or all of these, as may be deemed appropriate by the District Manager.

SECTION 1012. District Abatement and Enforcement Expenses, Losses or Damages.

- (a) Any person violating any of the provisions of the ordinances, rules or regulations of the District, or any permit imposed pursuant thereto shall become liable to the District for each, every, any and all expenses, losses or damages occasioned by the District by reason of such violation. For the purposes of this provision, "expenses, losses or damages" shall include, but not be limited to, reasonable attorney's fees incurred by the District for negotiations, consultations, litigation or otherwise, and shall include reimbursement to the District for the costs to it of the hours expended by the employees of the District by reason of such violation and all other costs and expenses so occasioned.
- (b) The cost of abating a public nuisance and/or enforcing the Code shall be imposed as a special assessment and lien on the subject property or as a personal obligation of the owner of the subject property and/or the person responsible for creating, causing, committing, or maintaining the public nuisance or violating the Code. If there is more than one responsible party, each responsible party shall be jointly and severally liable for the costs. Costs incurred by the District are recoverable even if a public nuisance or Code is corrected by the property owner or other responsible party.
- (c) A schedule of District abatement and enforcement expenses, losses, and damages shall be established by the Board of Directors.
- (d) To collect abatement and enforcement costs under these procedures, the District shall invoice the noticed party for the costs incurred by the District, except that an invoice is not necessary for administrative citations and other fixed penalties where notice of the penalty and an opportunity for appeal of the underlying violation has been provided. The invoice shall notify the noticed party of the following:
- (i) A description of the abatement or enforcement action taken by the District, (where applicable) a description of the property subject to the abatement or enforcement, and the total amount of the costs incurred by the District.
 - (ii) That, should the noticed party fail to pay the invoiced costs within thirty (30) days from the date of service of the invoice, the invoiced costs may be collected in any or all of the following ways: by a collection agency as a personal obligation, through judicial action initiated by the District's attorneys, or as a special assessment and lien attached to the subject property.
 - (iii) That the noticed party has a right to administrative review of the accounting of the costs incurred by the District by filing a written request for such review with the District Manager within fifteen (15) days of the date of the invoice, and that a failure to request administrative review will be deemed a waiver of a right to review of the amount of the costs.
 - (iv) That before a special assessment is placed on the subject property, the costs will be confirmed by the Board of Directors and a notice will be issued at least fifteen (15) days before the Board of Directors meeting.
 - (v) That the invoice may be recorded as a Notice of Costs or Penalties in the San Mateo County Recorder's Office.
- (e) A noticed party shall have the right to administrative review of the accounting of the costs incurred by the District by filing a written request to the District for such review within fifteen (15) days of the date of the invoice. A failure to timely request administrative review will be deemed a waiver of a right to review of the amount of the costs.
- (f) If a request for administrative review is timely filed, a copy of the invoice and request for administrative review shall be delivered to the District Manager or his/her designee, which may include the appointment of a hearing officer, who shall set a date and time to review the accounting report and invoice with the requesting party. The administrative review shall be an informal proceeding where the

enforcement department and requesting party may present any evidence they deem pertinent to the amount of the costs. The scope of review shall be limited to the amount of the costs unless there has been no opportunity for a hearing on the underlying violation.

(g) The District Manager may affirm or reduce the costs if the District Manager determines that they are not supported by the evidence or upon a showing that the costs were unnecessary or unreasonable. The District Manager will not pass upon the validity of the underlying enforcement action or the amount of any penalties unless there has been no opportunity for a hearing of the underlying action. The District Manager's decision shall be memorialized in writing. The District Manager may approve a payment plan for the costs.

(h) The requesting party shall have thirty (30) days from the date of the District Manager's decision to pay the costs, unless a payment plan is approved, in which case the costs shall be paid in accordance with the payment plan.

(i) There is no right to administrative review if the costs have already been approved by a court of competent jurisdiction. There is no right to administrative review to confirm costs under this section if they have been previously upheld in an abatement or other administrative hearing.

SECTION 1013. Hearing.

Prior to seeking a civil penalty under Section 1003, terminating service under Section 1007, revoking a permit under Section 1008, correcting a violation under Section 1010, seeking a temporary restraining order or injunction under Section 1011, taking action to abate a nuisance under section 1009 or referring a violation for criminal prosecution under Sections 1006 or 1009, the Board shall conduct a hearing to consider the proposed action. The person or persons affected by the proposed action shall be given at least ten (10) days notice of the hearing and shall be given the opportunity to present evidence and testimony relating to the matter. Such affected person or persons shall be notified of the decision made by the Board and such decision shall be final. Notwithstanding the foregoing, unless otherwise required by law, neither a hearing nor prior notice to affected persons shall be required in cases in which immediate action must be taken in order to prevent injury to persons or serious damage to property as a result of a violation hereunder. In the event the District seeks to impose an administrative penalty under Section 1004, the notice and hearing provisions specified therein shall apply.

SECTION 1014. Remedies Cumulative.

The enforcement procedures set forth herein are in addition to and not in limitation of the enforcement procedures otherwise provided for by law. The District may utilize any available local, State or Federal enforcement procedures in addition to or in lieu of the procedures provided for hereunder.”

ARTICLE XI

VARIANCES AND APPEALS

SECTION 1100. Variances.

Notwithstanding any other provision of this Code, the District Board may grant a variance from the terms, conditions, or charges as set forth herein where special circumstances make it reasonable to do so.

SECTION 1101. Appeals.

(01) Any customer, permittee, applicant, or other person aggrieved by any decision, action, finding, determination, order, or directive of the District Manager, made or authorized pursuant to the provisions of this Code, or any permit issued pursuant to this Code or interpreting or implementing same, may file a written request with the District Manager for reconsideration thereof within ten (10) days of such decision, action, finding, determination, or order, setting forth in detail the facts supporting such customer's or person's request for reconsideration. The District Manager shall render a formal decision within ten (10) days of the receipt of such request or reconsideration.

(02) Any customer, permittee, applicant, or other person aggrieved by the final determination of the District Manager may appeal such determination to the District Board within ten (10) days of notification by the District Manager of his final determination. Written notification of such appeal shall be filed with the Secretary of the District within ten (10) days after notification of the final determination of the District Manager, and shall set forth in detail the facts and reasons supporting the appeal. Hearing on the appeal shall be heard by the District Board within thirty (30) days from the date of filing the Notice of Appeal. The appellant, the District Manager, and such other persons as the District Board may deem appropriate, shall be heard at the hearing on such appeal. Upon conclusion of the hearing, the District Board may affirm, reverse or modify the final determination of the District Manager as the District Board deems just and equitable, and in furtherance of the provisions, purposes and intent of this Code. The District Board's determination on the appeal shall be final.

ARTICLE XII

VALIDITY

SECTION 1200. Severability.

If any section, subsection, sentence, clause or phrase of this Code is for any reason held to be invalid, unconstitutional or unenforceable, such holding shall not affect the validity of the remaining portions of this Code. To this end, the provisions of this Code are severable.

SECTION 1201. Declaration.

The District Board hereby declares that it would have based the provisions of this Code, and each section, subsection, sentence, clause and phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be declared invalid, unconstitutional or unenforceable.

ARTICLE XIII

CODE OF GENERAL REGULATIONS IN FORCE

SECTION 1300. Full Force and Effect.

This Code of General Regulations shall be in full force and effect from and after its passage, approval and publication as provided by law.

SECTION 1301. Passed and Adopted.

Passed and adopted by this District Board of the West Bay Sanitary District, County of San Mateo, State of California, on the 22nd day of November, 1982, by the following vote:

Ayes: Boyce, Halbo, Inglis

Nayes: None

Absent: Wear

Abstain: None

John Inglis, Jr.
President of the District
Board of the West Bay
Sanitary District, County of
San Mateo, State of
California

Attest:

Finn T. Halbo
Secretary of the District Board
of the West Bay Sanitary District
County of San Mateo, State of
California

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APPENDIX "A"

AN ORDINANCE OF THE WEST BAY SANITARY DISTRICT ADOPTING MANDATORY ORGANIC WASTE DISPOSAL REDUCTION REGULATIONS

SECTION 1. PURPOSE AND FINDINGS

The Board of the West Bay Sanitary District finds and declares:

WHEREAS, State recycling law, Assembly Bill 939 of 1989, the California Integrated Waste Management Act of 1989 (California Public Resources Code Section 40000, et seq., as amended, supplemented, superseded, and replaced from time to time), requires cities and counties to reduce, reuse, and recycle (including composting) Solid Waste generated in their Jurisdictions to the maximum extent feasible before any incineration or landfill disposal of waste, to conserve water, energy, and other natural resources, and to protect the environment.

WHEREAS, State recycling law, Assembly Bill 341 of 2011 (approved by the Governor of the State of California on October 5, 2011, which amended Sections 41730, 41731, 41734, 41735, 41736, 41800, 42926, 44004, and 50001 of, and added Sections 40004, 41734.5, and 41780.01 and Chapter 12.8 (commencing with Section 42649) to Part 3 of Division 30 of, and added and repealed Section 41780.02 of, the Public Resources Code, as amended, supplemented, superseded and replaced from time to time), places requirements on businesses and Multi-Family property owners that generate a specified threshold amount of Solid Waste to arrange for recycling services and requires Jurisdictions to implement a Mandatory Commercial Recycling program.

WHEREAS, State organics recycling law, Assembly Bill 1826 of 2014 (approved by the Governor of the State of California on September 28, 2014, which added Chapter 12.9 (commencing with Section 42649.8) to Part 3 of Division 30 of the Public Resources Code, relating to Solid Waste, as amended, supplemented, superseded, and replaced from time to time), requires businesses and Multi-Family property owners that generate a specified threshold amount of Solid Waste, Recycling, and Organic Waste per week to arrange for recycling services for that waste, requires Jurisdictions to implement a recycling program to divert Organic Waste from businesses subject to the law, and requires Jurisdictions to implement a Mandatory Commercial Organics Recycling program.

WHEREAS, SB 1383, the Short-lived Climate Pollutant Reduction Act of 2016, requires CalRecycle to develop regulations to reduce organics in landfills as a source of methane. The regulations place requirements on multiple entities including Jurisdictions, residential households, Commercial Businesses and business owners, Commercial Edible Food Generators, haulers, Self-Haulers, Food Recovery Organizations, and Food Recovery Services to support achievement of Statewide Organic Waste disposal reduction targets.

WHEREAS, SB 1383, the Short-lived Climate Pollutant Reduction Act of 2016, requires Jurisdictions to adopt and enforce an ordinance or enforceable mechanism to implement relevant provisions of SB 1383 Regulations. This ordinance will also help reduce food insecurity by requiring Commercial Edible Food Generators to arrange to have the maximum amount of their Edible Food, that would otherwise be disposed, be recovered for human consumption.

WHEREAS, Even if the District delegates responsibility for enforcement to another public entity, the District itself will remain ultimately responsible for compliance of this ordinance as required in 14 CCR Section 18981.2 (c).

SECTION 2. DEFINITIONS

- (a) “Blue Container” has the same meaning as in 14 CCR Section 18982(a)(5) and shall be used for the purpose of storage and collection of Source Separated Recyclable Materials or Source Separated Blue Container Organic Waste.
- (b) “Black Container” has the same meaning as in 14 CCR Section 18982(a)(28) and shall be used for the purpose of storage and collection of Black Container Waste.
- (c) “Black Container Waste” means Solid Waste that is collected in a Black Container that is part of a three-container Organic Waste collection service that prohibits the placement of Organic Waste or Source Separated Recyclables in the Black Container as specified in 14 CCR Sections 18984.1(a) and (b), or as otherwise defined in 14 CCR Section 17402(a)(6.5).
- (d) “CalRecycle” means California's Department of Resources Recycling and Recovery, which is the Department designated with responsibility for developing, implementing, and enforcing SB 1383 Regulations on Jurisdictions (and others).
- (e) “California Code of Regulations” or “CCR” means the State of California Code of Regulations. CCR references in this ordinance are preceded with a number that refers to the relevant Title of the CCR (e.g., “14 CCR” refers to Title 14 of CCR).
- (f) “Commercial Business” or “Commercial” means a firm, partnership, proprietorship, joint-stock company, corporation, or association, whether for-profit or nonprofit, strip mall, industrial facility, or a multifamily residential dwelling, or as otherwise defined in 14 CCR Section 18982(a)(6). A Multi-Family Residential Dwelling that

consists of fewer than five (5) units is not a Commercial Business for purposes of implementing this ordinance.

- (g) “Commercial Edible Food Generator” includes a Tier One or a Tier Two Commercial Edible Food Generator as defined in this ordinance. For the purposes of this definition, Food Recovery Organizations and Food Recovery Services are not Commercial Edible Food Generators pursuant to 14 CCR Section 18982(a)(7).
- (h) “Compliance Review” means a review of records by the District or its designated entity to determine compliance with this ordinance.
- (i) “Community Composting” means any activity that composts green material, agricultural material, food material, and vegetative food material, alone or in combination, and the total amount of feedstock and Compost on-site at any one time does not exceed 100 cubic yards and 750 square feet, as specified in 14 CCR Section 17855(a)(4); or, as otherwise defined by 14 CCR Section 18982(a)(8).
- (j) “Compost” has the same meaning as in 14 CCR Section 17896.2(a)(4), which stated, as of the effective date of this ordinance, that “Compost” means the product resulting from the controlled biological decomposition of organic Solid Wastes that are Source Separated from the municipal Solid Waste stream, or which are separated at a centralized facility.
- (k) “Container Contamination” or “Contaminated Container” means a container, regardless of color, that contains Prohibited Container Contaminants, or as otherwise defined in 14 CCR Section 18982(a)(55).
- (l) “C&D” means construction and demolition debris.
- (m) “Designated Source Separated Organic Waste Facility”, as defined in 14 CCR Section 18982(14.5), means a Solid Waste facility that accepts a Source Separated Organic Waste collection stream as defined in 14 CCR Section 17402(a)(26.6) and complies with one of the following:
 - (1) The facility is a “transfer/processor,” as defined in 14 CCR Section 18815.2(a)(62), that is in compliance with the reporting requirements of 14 CCR Section 18815.5(d), and meets or exceeds an annual average Source Separated organic content Recovery rate of 50 percent between January 1, 2022 and December 31, 2024 and 75 percent on and after January 1, 2025 as calculated pursuant to 14 CCR Section 18815.5(f) for Organic Waste received from the Source Separated Organic Waste collection stream.
 - (A) If a transfer/processor has an annual average Source Separated organic content Recovery rate lower than the rate required in Paragraph 1 of this definition for two (2) consecutive reporting periods, or three (3) reporting periods within three (3) years, the facility shall not qualify as a “Designated Source Separated Organic Waste Facility”.

- (2) The facility is a “composting operation” or “composting facility” as defined in 14 CCR Section 18815.2(a)(13), that pursuant to the reports submitted under 14 CCR Section 18815.7 demonstrates that the percent of the material removed for landfill disposal that is Organic Waste is less than the percent specified in 14 CCR Section 17409.5.8(c)(2) or 17409.5.8(c)(3), whichever is applicable, and, if applicable, complies with the digestate handling requirements specified in 14 CCR Section 17896.5. The definition of composting operation includes in-vessel digestion as regulated in 14 CCR Section 17896.
- (A) If the percent of the material removed for landfill disposal that is Organic Waste is more than the percent specified in 14 CCR Section 17409.5.8(c)(2) or 17409.5.8(c)(3), for two (2) consecutive reporting periods, or three (3) reporting periods within three (3) years, the facility shall not qualify as a “Designated Source Separated Organic Waste Facility.” For the purposes of this ordinance, the reporting periods shall be consistent with those defined in 14 CCR Section 18815.2(a)(49).
- (n) i. “Designee” means an entity that the District contracts with or otherwise arranges to carry out any of the District’s responsibilities of this ordinance as authorized in 14 CCR Section 18981.2. A Designee may be a government entity, a hauler, a private entity, or a combination of those entities.
- ii. “Designee for Edible Food Recovery” means the County of San Mateo’s Office of Sustainability with which the District has a Memorandum of Understanding for the purposes of Edible Food Recovery including, but not limited to, inspection, investigation, and enforcement of the Edible Food Recovery provisions of this ordinance. Contact information for the Designee for Edible Food Recovery can be found on the County of San Mateo’s Office of Sustainability website.
- (o) “District Enforcement Official” means the District manager, county administrative official, chief operating officer, executive director, or other executive in charge or their authorized Designee(s) who is/are partially or whole responsible for enforcing the ordinance. See also “Designee for Edible Food Recovery.”
- (p) “Edible Food” means food intended for and fit for human consumption and collected or received from a Tier One or Tier Two Commercial Edible Food Generator. For the purposes of this ordinance “Edible Food” is not Solid Waste if it is recovered and not discarded. Nothing in this ordinance or in 14 CCR, Division 7, Chapter 12 requires or authorizes the Recovery of Edible Food that does not meet the food safety requirements of the California Retail Food Code.
- (q) “Edible Food Recovery” means actions to collect, receive, and/or re-distribute Edible Food for human consumption from Tier One and Tier Two Commercial Edible Food Generators that otherwise would be disposed.

- (r) "Enforcement Action" means an action of the District or County of San Mateo's Office of Sustainability to address non-compliance with this ordinance including, but not limited to, issuing administrative citations, fines, penalties, or using other remedies.
- (s) "Excluded Waste" means hazardous substance, hazardous waste, infectious waste, designated waste, volatile, corrosive, medical waste, infectious, regulated radioactive waste, and toxic substances. Excluded wastes also includes construction materials, dirt, rock and concrete, electronic waste and batteries, fluorescent lights, hazardous waste, liquids and grease, medicines and sharps and treated wood.

These include material that facility collectors and operator(s), which receive materials from the District and its generators, reasonably believe(s) would, as a result of or upon acceptance, transfer, processing, or disposal, be a violation of local, State, or Federal law, regulation, or ordinance, including: land use restrictions or conditions, waste that cannot be disposed of in Class III landfills or accepted at the facility by permit conditions, waste that in the District's, or its Designee's reasonable opinion would present a significant risk to human health or the environment, cause a nuisance or otherwise create or expose the District, or its Designee, to potential liability; but not including de minimis volumes or concentrations of waste of a type and amount normally found in Single-Family or Multi-Family Solid Waste after implementation of programs for the safe collection, processing, recycling, treatment, and disposal of batteries and paint in compliance with Sections 41500 and 41802 of the California Public Resources Code. Excluded Waste does not include household batteries placed in a sealed clear plastic bag placed on top of the black can, or any other universal wastes if such materials are defined as allowable materials for collection through the District's collection programs and the generator or customer has properly placed the materials for collection pursuant to instructions provided by the District or its Designee for collection services.

- (t) "Food Distributor" means a company that distributes food to entities including, but not limited to, Supermarkets and Grocery Stores.
- (u) "Food Facility" has the same meaning as in Section 113789 of the Health and Safety Code.
- (v) "Food Recovery" means actions to collect, receive and or re-distribute edible food for human consumption from Tier One and Tier Two Commercial Edible Food Generators, that otherwise would be disposed.
- (w) "Food Recovery Organization" means an entity that engages in the collection or receipt of Edible Food from Commercial Edible Food Generators and distributes that Edible Food to the public for Food Recovery either directly or through other entities or as otherwise defined in 14 CCR Section 18982(a)(25), including, but not limited to:

- (1) A food bank as defined in Section 113783 of the Health and Safety Code;
- (2) A nonprofit charitable organization as defined in Section 113841 of the Health and Safety code; and,
- (3) A nonprofit charitable temporary food facility as defined in Section 113842 of the Health and Safety Code.

A Food Recovery Organization is not a Commercial Edible Food Generator for the purposes of this ordinance and implementation of 14 CCR, Division 7, Chapter 12 pursuant to 14 CCR Section 18982(a)(7).

If the definition in 14 CCR Section 18982(a)(25) for Food Recovery Organization differs from this definition, the definition in 14 CCR Section 18982(a)(25) shall apply to this ordinance.

- (x) “Food Recovery Service” means a person or entity that collects and transports Edible Food from a Tier One or Tier Two Commercial Edible Food Generator to a Food Recovery Organization or other entities for Edible Food Recovery. A Food Recovery Service is not a Commercial Edible Food Generator for the purposes of this ordinance and implementation of 14 CCR, Division 7, Chapter 12 pursuant to 14 CCR Section 18982(a)(7).
- (y) “Food Scraps” means all food such as, but not limited to, fruits, vegetables, meat, poultry, seafood, shellfish, bones, rice, beans, pasta, bread, cheese, and eggshells. Food Scraps excludes fats, oils, and grease when such materials are Source Separated from other Food Scraps.
- (z) “Food Service Provider” means an entity primarily engaged in providing food services to institutional, governmental, commercial, or industrial locations of others based on contractual arrangements with these types of organizations.
- (aa) “Food-Soiled Paper” is compostable paper material that has come in contact with food or liquid, such as, but not limited to, compostable paper plates, paper coffee cups, napkins, pizza boxes, and milk cartons and should be placed in the green compost container with food scraps.
- (bb) “Food Waste” means Food Scraps, Food-Soiled Paper, and bio-plastics labeled “BPI Certified Compostable”.
- (cc) “Green Container” has the same meaning as in 14 CCR Section 18982(a)(29) and shall be used for the purpose of storage and collection of Source Separated Green Container Organic Waste.
- (dd) “Greenhouse gas (GHG)” means carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFC), perfluorocarbons (PFC) and other fluorinated greenhouse gases.

- (ee) “Greenhouse gas emission reduction” or “greenhouse gas reduction” means a calculated decrease in greenhouse gas emissions relative to a project baseline over a specified period of time, resulting from actions designed to achieve such a decrease.
- (ff) “Grocery Store” means a store primarily engaged in the retail sale of canned food; dry goods; fresh fruits and vegetables; fresh meats, fish, and poultry; and any area that is not separately owned within the store where the food is prepared and served, including a bakery, deli, and meat and seafood departments, or as otherwise defined in 14 CCR Section 18982(a)(30).
- (gg) “High Diversion Organic Waste Processing Facility” means a facility that is in compliance with the reporting requirements of 14 CCR Section 18815.5(d) and meets or exceeds an annual average Mixed Waste organic content Recovery rate of 50 percent between January 1, 2022 and December 31, 2024, and 75 percent after January 1, 2025, as calculated pursuant to 14 CCR Section 18815.5(e) for Organic Waste received from the “Mixed waste organic collection stream” as defined in 14 CCR Section 17402(a)(11.5); or, as otherwise defined in 14 CCR Section 18982(a)(33).
- (hh) “Inspection” means a site visit where the District or its designee, reviews records, containers, and an entity’s collection, handling, recycling, or landfill disposal of Organic Waste or Edible Food handling to determine if the entity is complying with requirements set forth in this ordinance, or as otherwise defined in 14 CCR Section 18982(a)(35).

“Inspection” for the purposes of Edible Food Recovery, means actions to review contracts and other records related to the recovery of edible food and may occur off-site via email and other forms of electronic communication, as well as the on-site review of an entity’s records and collection, handling and other procedures for the recovery of edible food to determine if the entity is complying with the requirements of this ordinance.

- (ii) “Large Event” means an event, including, but not limited to, a sporting event or a flea market, that charges an admission price, or is operated by a local agency, and serves an average of more than 2,000 individuals per day of operation of the event, at a location that includes, but is not limited to, a public, nonprofit, or privately owned park, parking lot, golf course, street system, or other open space when being used for an event. If the definition in 14 CCR Section 18982(a)(38) differs from this definition, the definition in 14 CCR Section 18982(a)(38) shall apply to this ordinance.
- (jj) “Large Venue” means a permanent venue facility that annually seats or serves an average of more than 2,000 individuals within the grounds of the facility per day of operation of the venue facility. For purposes of this ordinance and implementation of 14 CCR, Division 7, Chapter 12, a venue facility includes, but is not limited to, a public, nonprofit, or privately owned or operated stadium, amphitheater, arena,

hall, amusement park, conference or civic center, zoo, aquarium, airport, racetrack, horse track, performing arts center, fairground, museum, theater, or other public attraction facility. For purposes of this ordinance and implementation of 14 CCR, Division 7, Chapter 12, a site under common ownership or control that includes more than one Large Venue that is contiguous with other Large Venues in the site, is a single Large Venue. If the definition in 14 CCR Section 18982(a)(39) differs from this definition, the definition in 14 CCR Section 18982(a)(39) shall apply to this ordinance.

- (kk) “Local Education Agency” means a school district, charter school, or county office of education that is not subject to the control of city or county regulations related to Solid Waste, or as otherwise defined in 14 CCR Section 18982(a)(40).
- (ll) “Mixed Waste Organic Collection Stream” or “Mixed Waste” means Organic Waste collected in a black container that is required by 14 CCR Sections 18984.1, 18984.2 or 18984.3 to be taken to a High Diversion Organic Waste Processing Facility or as otherwise defined in 14 CCR Section 17402(a)(11.5). This definition is only applicable to select commercial and MF customers provided with a two container collection system. Three container collection system customers will use the black container waste definition instead.
- (mm) “Multi-Family Residential Dwelling” or “Multi-Family” means of, from, or pertaining to residential premises with five (5) or more dwelling units. Multi-Family premises do not include hotels, motels, or other transient occupancy facilities, which are considered Commercial Businesses. Under the SB 1383 Regulations and in this Ordinance, Multi-Family Residential Dwellings with five (5) or more units are included under the definition of a Commercial Business per 14 CCR Section 18982(a)(6).
- (nn) “Non-Compostable Paper” includes but is not limited to paper that is coated in a plastic material that will not breakdown in the composting process, or as otherwise defined in 14 CCR Section 18982(a)(41).
- (oo) “Non-Organic Recyclables” means non-putrescible and non-hazardous recyclable wastes including but not limited to bottles, cans, metals, plastics and glass, or as otherwise defined in 14 CCR Section 18982(a)(43).
- (pp) “Notice of Violation (NOV)” means a notice that a violation has occurred that includes a compliance date to avoid an action to seek penalties, or as otherwise defined in 14 CCR Section 18982(a)(45) or further explained in 14 CCR Section 18995.4.
- (qq) “Organic Waste” means Solid Wastes containing material originated from living organisms and their metabolic waste products, including but not limited to food, green material, landscape and pruning waste, organic textiles and carpets, lumber, wood, Paper Products, Printing and Writing Paper, manure, biosolids, digestate,

and sludges or as otherwise defined in 14 CCR Section 18982(a)(46). Biosolids and digestate are as defined by 14 CCR Section 18982(a).

- (rr) “Organic Waste Generator” means a person or entity that is responsible for the initial creation of Organic Waste, or as otherwise defined in 14 CCR Section 18982(a)(48).
- (ss) “Paper Products” include, but are not limited to, paper janitorial supplies, cartons, wrapping, packaging, file folders, hanging files, corrugated boxes, tissue, and toweling, or as otherwise defined in 14 CCR Section 18982(a)(51).
- (tt) “Printing and Writing Papers” include, but are not limited to, copy, xerographic, watermark, cotton fiber, offset, forms, computer printout paper, white wove envelopes, manila envelopes, book paper, note pads, writing tablets, newsprint, and other uncoated writing papers, posters, index cards, calendars, brochures, reports, magazines, and publications, or as otherwise defined in 14 CCR Section 18982(a)(54).
- (uu) “Prohibited Container Contaminants”
 - (1) For those generators provided with a three container collection system (blue, green and black): “Prohibited Container Contaminants” means the following: (i) discarded materials placed in the Blue Container that are not identified as acceptable Source Separated Recyclable Materials for the District’s Blue Container; (ii) discarded materials placed in the Green Container that are not identified as acceptable Source Separated Green Container Organic Waste for the District’s Green Container; (iii) discarded materials placed in the Black Container that are acceptable Source Separated Recyclable Materials and/or Source Separated Green Container Organic Wastes that belong in the District’s Green or Blue Container and (iv) Excluded Waste placed in any container.
 - (2) For those (limited commercial and MF) generators provided with two-container (blue/black) collection service for Source Separated Recyclable Materials and mixed materials): “Prohibited Container Contaminants” means the following: (i) discarded materials placed in a Blue Container that are not identified as acceptable Source Separated Recyclable Materials for the District’s Blue Container; (ii) discarded materials placed in the Black Container that are identified as acceptable Source Separated Recyclable Materials, which are to be separately collected in the District’s Blue Container; and, (iii) Excluded Waste placed in any container.
- (vv) “Recovered Organic Waste Products” means products made from California, landfill-diverted recovered Organic Waste processed in a permitted or otherwise authorized facility, or as otherwise defined in 14 CCR Section 18982(a)(60).
- (ww) “Recovery” means any activity or process described in 14 CCR Section 18983.1(b), or as otherwise defined in 14 CCR Section 18982(a)(49).

- (xx) “Regional Agency” means the South Bayside Waste Management Authority (SBWMA) as a regional agency as defined in Public Resources Code Section 40181.
- (yy) “Remote Monitoring” means the use of the internet of things (IoT) and/or wireless electronic devices to visualize the contents of Blue Containers, Green Containers, and Black Containers for purposes of identifying the quantity of materials in containers (level of fill) and/or presence of Prohibited Container Contaminants.
- (zz) “Renewable Gas” means gas derived from Organic Waste that has been diverted from a California landfill and processed at an in-vessel digestion facility that is permitted or otherwise authorized by 14 CCR to recycle Organic Waste, or as otherwise defined in 14 CCR Section 18982(a)(62).
- (aaa) “Restaurant” means an establishment primarily engaged in the retail sale of food and drinks for on-premises or immediate consumption, or as otherwise defined in 14 CCR Section 18982(a)(64).
- (bbb) “SB 1383” means Senate Bill 1383 of 2016 approved by the Governor on September 19, 2016, which added Sections 39730.5, 39730.6, 39730.7, and 39730.8 to the Health and Safety Code, and added Chapter 13.1 (commencing with Section 42652) to Part 3 of Division 30 of the Public Resources Code, establishing methane emissions reduction targets in a Statewide effort to reduce emissions of short-lived climate pollutants as amended, supplemented, superseded, and replaced from time to time.
- (ccc) “SB 1383 Regulations” or “SB 1383 Regulatory” means or refers to, for the purposes of this ordinance, the Short-Lived Climate Pollutants: Organic Waste Reduction regulations developed by CalRecycle and adopted in 2020 that created 14 CCR, Division 7, Chapter 12 and amended portions of regulations of 14 CCR and 27 CCR.
- (ddd) SBWMA means the South Bayside Waste Management Authority, a regional agency, as defined in Public Resources Section 40181, serving its member agencies on recycling and waste issues.
- (eee) “Self-Hauler” means a person, who hauls Solid Waste, Organic Waste or recyclable material he or she has generated to another person. Self-hauler also includes a person who back-hauls waste, or as otherwise defined in 14 CCR Section 18982(a)(66). Back-haul means generating and transporting Organic Waste to a destination owned and operated by the generator using the generator’s own employees and equipment, or as otherwise defined in 14 CCR Section 18982(a)(66)(A). “Self-Hauler” for the purposes of Edible food recovery, means a commercial edible food generator who holds a contract with and hauls edible food to a Food Recovery Organization or other site for redistribution according to the requirements of this ordinance.

- (fff) “Single-Family” means of, from, or pertaining to any residential premises with fewer than five (5) units.
- (ggg) “Solid Waste” has the same meaning as defined in State Public Resources Code Section 40191, which defines Solid Waste as all putrescible and nonputrescible solid, semisolid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, dewatered, treated, or chemically fixed sewage sludge which is not hazardous waste, manure, vegetable or animal solid and semi-solid wastes, and other discarded solid and semisolid wastes, with the exception that Solid Waste does not include any of the following wastes:
- (1) Hazardous waste, as defined in the State Public Resources Code Section 40141.
 - (2) Radioactive waste regulated pursuant to the State Radiation Control Law (Chapter 8 (commencing with Section 114960) of Part 9 of Division 104 of the State Health and Safety Code).
 - (3) Medical waste regulated pursuant to the State Medical Waste Management Act (Part 14 (commencing with Section 117600) of Division 104 of the State Health and Safety Code). Untreated medical waste shall not be disposed of in a Solid Waste landfill, as defined in State Public Resources Code Section 40195.1. Medical waste that has been treated and deemed to be Solid Waste shall be regulated pursuant to Division 30 of the State Public Resources Code.
- (hhh) “Source Separated” means materials, including commingled recyclable materials, that have been separated or kept separate from the Solid Waste stream, at the point of generation, for the purpose of additional sorting or processing those materials for recycling or reuse in order to return them to the economic mainstream in the form of raw material for new, reused, or reconstituted products, which meet the quality standards necessary to be used in the marketplace, or as otherwise defined in 14 CCR Section 17402.5(b)(4). For the purposes of the ordinance, Source Separated shall include separation of materials by the generator, property owner, property owner’s employee, property manager, or property manager’s employee into different containers for the purpose of collection such that Source Separated materials are separated from Black container Waste or other Solid Waste for the purposes of collection and processing.
- (iii) “Source Separated Blue Container Organic Waste” means Source Separated Organic Wastes that can be placed in a Blue Container including clean paper and cardboard.
- (jjj) “Source Separated Green Container Organic Waste” means Source Separated Organic Waste that can be placed in a Green Container that is specifically intended

for the separate collection of Organic Waste, excluding Source Separated Blue Container Organic Waste, carpets, Non-Compostable Paper, and textiles. Acceptable materials include food scraps, food soiled paper, plants and bio-plastics labeled BPI Certified Compostable.

(kkk) “Source Separated Recyclable Materials” means Source Separated Non-Organic Recyclables and Source Separated Blue Container Organic Waste and includes clean paper and cardboard, glass bottles, cans and plastic bottles, tubs and containers.

(lll) “State” means the State of California.

(mmm) “Supermarket” means a full-line, self-service retail store with gross annual sales of two million dollars (\$2,000,000), or more, and which sells a line of dry grocery, canned goods, or nonfood items and some perishable items, or as otherwise defined in 14 CCR Section 18982(a)(71).

(nnn) “Tier One Commercial Edible Food Generator” means a Commercial Edible Food Generator that is one of the following:

- (1) Supermarket.
- (2) Grocery Store with a total facility size equal to or greater than 10,000 square feet.
- (3) Food Service Provider.
- (4) Food Distributor.
- (5) Wholesale Food Vendor.

If the definition in 14 CCR Section 18982(a)(73) of Tier One Commercial Edible Food Generator differs from this definition, the definition in 14 CCR Section 18982(a)(73) shall apply to this ordinance.

(ooo) “Tier Two Commercial Edible Food Generator” means a Commercial Edible Food Generator that is one of the following:

- (1) Restaurant with 250 or more seats, or a total facility size equal to or greater than 5,000 square feet.
- (2) Hotel with an on-site Food Facility and 200 or more rooms.
- (3) Health facility with an on-site Food Facility and 100 or more beds.
- (4) Large Venue.
- (5) Large Event.

- (6) A State agency with a cafeteria with 250 or more seats or total cafeteria facility size equal to or greater than 5,000 square feet.
- (7) A Local Education Agency facility with an on-site Food Facility.

If the definition in 14 CCR Section 18982(a)(74) of Tier Two Commercial Edible Food Generator differs from this definition, the definition in 14 CCR Section 18982(a)(74) shall apply to this ordinance.

- (ppp) "West Bay Sanitary District" or "District" is the entity responsible for ensuring solid waste, recycling and organics service is provided in accordance with SB 1383 guidelines.
- (qqq) "Wholesale Food Vendor" means a business or establishment engaged in the merchant wholesale distribution of food, where food (including fruits and vegetables) is received, shipped, stored, prepared for distribution to a retailer, warehouse, distributor, or other destination, or as otherwise defined in 14 CCR Section 189852(a)(76).

SECTION 3. REQUIREMENTS FOR SINGLE-FAMILY GENERATORS

Single-Family Organic Waste Generators shall comply with the following requirements except Single-Family generators that meet the Self-Hauler requirements in Section 9 of this ordinance:

- (a) Shall subscribe to the District's Organic Waste collection services for all Organic Waste generated as described below in Section 3(b). The District shall have the right to review the number and size of a generator's containers to evaluate adequacy of capacity provided for each type of collection service for proper separation of materials and containment of materials; and, Single-Family generators shall adjust its service level for its collection services as requested by the District. Generators may additionally manage their Organic Waste by preventing or reducing their Organic Waste, managing Organic Waste on site, and/or using a Community Composting site pursuant to 14 CCR Section 18984.9(c).
- (b) Shall participate in the District's three container Organic Waste collection service(s) by placing designated materials in designated containers as described below, and shall not place Prohibited Container Contaminants in collection containers.

Generator shall place Source Separated Green Container Organic Waste, including Food Waste, in the Green Container; Source Separated blue container organic waste and recyclable Materials in the Blue Container; and Black container Waste in the Black container, per the District's and collector guidelines. Generators shall not place materials designated for the Black container into the Green Container or Blue Container.

SECTION 4. REQUIREMENTS FOR COMMERCIAL BUSINESSES

Note that Commercial Businesses includes Multi-Family Residential Dwellings of five (5) and more units.

Generators that are Commercial Businesses, including Multi-Family Residential Dwellings, shall:

- (a) Subscribe to the District's three container collection services and comply with requirements of those services as described below in Section 4(b), except Commercial Businesses that meet the Self-Hauler requirements in Section 9 of this ordinance. The District shall have the right to review the number and size of a generator's containers and frequency of collection to evaluate adequacy of capacity provided for each type of collection service for proper separation of materials and containment of materials; and, Commercial Businesses shall adjust their service level for their collection services as requested by the District.
- (b) Participate in the District's Organic Waste collection service(s) by placing designated materials in designated containers as described below. Commercial businesses that meet the self-hauler requirements in Section 9 of this ordinance are excluded from this requirement.
 - (A) Generator shall place Source Separated Green Container Organic Waste, including Food Waste, in the Green Container; Source Separated Blue container organic waste and source separated Recyclable Materials in the Blue Container; and Black container Waste in the Black container. Generator shall not place materials designated for the Black container into the Green Container or Blue Container.
 - (B) Generators that are offered two container service (this will be limited to a specified number of commercial and MF generators on an invitation only basis, based on waste quantities and type, and availability of new organics to energy processing system) shall place only source separated blue container organic waste and source separated recyclable materials in a blue container and all other materials (mixed waste) in a black container.
- (c) Supply and allow access to an adequate number, size and location of collection containers with sufficient labels or colors (conforming with Sections 4(d)(1) and 5(d)(2) below) for employees, contractors, tenants, and customers, consistent with Jurisdiction's Blue Container, Green Container, and Black container collection service or, if self-hauling, per the Commercial Businesses' instructions to support its compliance with its self-haul program, in accordance with Section 9.
- (d) Excluding Multi-Family Residential Dwellings, provide containers for the collection of Source Separated Green Container Organic Waste and Source Separated Recyclable Materials in all indoor and outdoor areas where disposal containers are

provided for customers, for materials generated by that business. Such containers do not need to be provided in restrooms. If a Commercial Business does not generate any of the materials that would be collected in one type of container, then the business does not have to provide that particular container in all areas where disposal containers are provided for customers. Pursuant to 14 CCR Section 18984.9(b), the containers provided by the business shall have either:

- (1) A body or lid that conforms with the container colors provided through the collection service provided by the District, with either lids conforming to the color requirements or bodies conforming to the color requirements or both lids and bodies conforming to color requirements. A Commercial Business is not required to replace functional containers, including containers purchased prior to January 1, 2022, that do not comply with the requirements of the subsection prior to the end of the useful life of those containers, or prior to January 1, 2036, whichever comes first.
 - (2) Container labels that include language or graphic images, or both, indicating the primary material accepted and the primary materials prohibited in that container, or containers with imprinted text or graphic images that indicate the primary materials accepted and primary materials prohibited in the container. Pursuant 14 CCR Section 18984.8, the container labeling requirements are required on new containers commencing January 1, 2022.
- (e) Multi-Family Residential Dwellings are not required to comply with container placement requirements or labeling requirement in Section 4(d) pursuant to 14 CCR Section 18984.9(b).
 - (f) To the extent practical through education, training, inspection, and/or other measures, excluding Multi-Family Residential Dwellings, prohibit employees from placing materials in a container not designated for those materials per the District's Blue Container, Green Container, and Black container collection service or, if self-hauling, per the Commercial Businesses' instructions to support its compliance with its self-haul program, in accordance with Section 9.
 - (g) Excluding Multi-Family Residential Dwellings, annually inspect Blue Containers, Green Containers, and Black containers for contamination and inform employees if containers are contaminated and of the requirements to keep contaminants out of those containers pursuant to 14 CCR Section 18984.9(b)(3).
 - (h) Annually provide information to employees, contractors, tenants, and customers about Organic Waste Recovery requirements and about proper sorting of Source Separated Green Container Organic Waste and Source Separated Recyclable Materials.
 - (i) Provide education information before or within fourteen (14) days of occupation of the premises to new tenants that describes requirements to keep Source Separated Green Container Organic Waste and Source Separated Recyclable

Materials separate from Black container Waste (when applicable) and the location of containers and the rules governing their use at each property.

- (j) Provide or arrange access for the District or its agent to their properties during all Inspections conducted in accordance with Section 10 of this ordinance to confirm compliance with the requirements of this ordinance.
- (k) Accommodate and cooperate with the District's Remote Monitoring program for Inspection of the contents of containers for Prohibited Container Contaminants, which may be implemented at a later date, to evaluate generator's compliance with Section 4(b). Should a remote monitoring program be used by the District it shall involve installation of Remote Monitoring equipment on or in the Blue Containers, Green Containers, and Black containers.
- (l) At Commercial Business's option and subject to any approval required from the District, implement a Remote Monitoring program for Inspection of the contents of its Blue Containers, Green Containers, and Black containers for the purpose of monitoring the contents of containers to determine appropriate levels of service and to identify Prohibited Container Contaminants. Generators may install Remote Monitoring devices on or in the Blue Containers, Green Containers, and Black containers subject to written notification to or approval by the District or its Designee.
- (m) If a Commercial Business wants to self haul, meet the Self-Hauler requirements in Section 9 of this ordinance.
- (n) Nothing in this Section prohibits a generator from preventing or reducing waste generation, managing Organic Waste on site, or using a Community Composting site pursuant to 14 CCR Section 18984.9(c).
- (o) Commercial Businesses that are Tier One or Tier Two Commercial Edible Food Generators shall comply with Edible Food Recovery requirements, pursuant to the Edible Food Recovery provisions of this ordinance in Section 6.

SECTION 5. WAIVERS FOR GENERATORS

(a) De Minimis Waivers: The District may waive a Commercial Business' obligation (including Multi-Family Residential Dwellings) to comply with some or all of the Organic Waste requirements of this ordinance if the Commercial Business provides documentation that the business generates below a certain amount of Organic Waste material as described in Section 5(a)(2) below. Commercial Businesses requesting a de minimis waiver shall:

- (1) Submit an application specifying the services that they are requesting a waiver from and provide documentation as noted below in (2) (A) or (B).
- (2) Provide documentation that either:

- (A) The Commercial Business' total Solid Waste collection service is two cubic yards or more per week and Organic Waste subject to collection in the Green Container comprises less than 20 gallons per week per applicable container of the business' total waste; or,
 - (B) The Commercial Business' total Solid Waste collection service is less than two cubic yards per week and Organic Waste subject to collection in the Green Container comprises less than 10 gallons per week per applicable container of the business' total waste.
- (3) Notify the District if circumstances change such that Commercial Business's Organic Waste exceeds threshold required for waiver, in which case waiver will be rescinded.
 - (4) Provide written verification of eligibility for de minimis waiver every 5 years, if the District has approved de minimis waiver.
- (b) Physical Space Waivers: The District may waive a Commercial Business' or property owner's obligations (including Multi-Family Residential Dwellings) to comply with some or all of the recyclable materials and/or Organic Waste collection service requirements if the District has evidence from its own staff, a hauler, licensed architect, or licensed engineer demonstrating that the premises lacks adequate space for the collection containers required for compliance with the Organic Waste collection requirements of Section 4.

A Commercial Business or property owner may request a physical space waiver through the following process:

- (1) Submit an application form specifying the type(s) of collection services for which they are requesting a compliance waiver.
- (2) Provide documentation that the premises lacks adequate space for Blue Containers and/or Green Containers including documentation from its hauler, licensed architect, or licensed engineer.
- (3) Provide written verification to the District that it is still eligible for physical space waiver every five years, if the District has approved application for a physical space waiver.

SECTION 6. REQUIREMENTS FOR TIER ONE AND TIER TWO COMMERCIAL EDIBLE FOOD GENERATORS

- (a) Tier One Commercial Edible Food Generators must comply with the requirements of this Section 6 commencing January 1, 2022, and Tier Two Commercial Edible Food Generators must comply commencing January 1, 2024, pursuant to 14 CCR Section 18991.3.

- (b) Large Venue or Large Event operators not providing food services, but allowing for food to be provided by others, shall require Food Facilities operating at the Large Venue or Large Event to comply with the requirements of this Section commencing January 1, 2024.
- (c) Tier One and Tier Two Commercial Edible Food Generators shall comply with the following requirements:
 - (1) Arrange to recover the maximum amount of Edible Food that would otherwise be disposed.
 - (2) Use the CalRecycle Model Food Recovery Agreement or the contractual elements contained in the Requirements for Food Recovery Organizations and Food Recovery Services section of this Ordinance to contract with, or otherwise enter into a written agreement with Food Recovery Organizations or Food Recovery Services for:
 - (A) The collection of Edible Food for Edible Food Recovery from the Tier One or Tier Two Commercial Edible Food Generator's premises; or,
 - (B) the acceptance of Edible Food that the Tier One or Tier Two Commercial Edible Food Generator self-hauls to the Food Recovery Organization.
 - (3) Contract with Food Recovery Organizations and Food Recovery Services able to demonstrate a positive reduction in greenhouse gas emissions from their Edible Food Recovery activity. A list of Food Recovery Organizations and Food Recovery Services is available on the County of San Mateo Office of Sustainability website.
 - (4) Shall not intentionally spoil Edible Food that is capable of being recovered by a Food Recovery Organization or a Food Recovery Service.
 - (5) Allow the District's enforcement entity or their Designee for Edible Food Recovery to access the premises and inspect procedures and review records related to Edible Food Recovery and/or provide them electronically if requested by the District or the Designee for Edible Food Recovery.
 - (6) Keep records that include the following information:
 - (A) A list of each Food Recovery Organization or a Food Recovery Service that collects or receives Edible Food from the Tier One or Tier Two Commercial Edible Food Generator pursuant to a contract or written agreement as required by this Ordinance.
 - (B) A copy of all contracts or written agreements established under the provisions of this Ordinance.

- (C) A record of the following information for each of those Food Recovery Services or Food Recovery Organizations:
 - (i) The name, address and contact information of the Food Recovery Service or Food Recovery Organization.
 - (ii) The types of food that will be collected by or self-hauled to the Food Recovery Service or Food Recovery Organization.
 - (iii) The established schedule or frequency that food will be collected or self-hauled.
 - (iv) The quantity of food, measured in pounds recovered per month, collected or self-hauled to a Food Recovery Service or Food Recovery Organization for Food Recovery.

- (7) No later than June 30th of each year commencing no later than July 1, 2022 for Tier One Commercial Edible Food Generators and July 1, 2024 for Tier Two Commercial Edible Food Generators, they shall provide an annual Edible Food Recovery report to the Designee for Edible Food Recovery that includes, but is not limited to, the following information: a list of all contracts with Food Recovery Organizations and Food Recovery Services, the amount and type of Edible Food donated to Food Recovery Organizations and Food Recovery Services, the schedule of Edible Food pickup by Food Recovery Organizations and Food Recovery Services, a list of all types of Edible Food categories they generate, such as “baked goods,” that are not accepted by the Food Recovery Organizations and Food Recovery Services with whom they contract, the contact information for the manager and all staff responsible for Edible Food Recovery, and certification that all staff responsible for Edible Food Recovery have obtained a food handler card through an American National Standards Institute (ANSI) accredited training provider that meets ASTM International E2659-09 Standard Practice for Certificate Programs, such as ServSafe. With the exception of the food safety and handling training certification, Tier One and Tier Two Commercial Edible Food Generators may coordinate with their Edible Food Recovery contractors to supply this information. The Designee for Edible Food Recovery will assist in the preparation of these reports by providing guidance and a template located on the County of San Mateo Office of Sustainability website.

- (8) Mandate their Edible Food Recovery staff learn and follow the donation guidelines and attend trainings conducted by Food Recovery Organizations or Food Recovery Services with which they contract regarding best practices and requirements for the timely identification, selection, preparation, and storage of Edible Food to ensure the maximum amount of Edible Food is recovered and to avoid supplying food for collection that is

moldy, has been improperly stored, or is otherwise unfit for human consumption.

- (9) Tier One and Tier Two Commercial Edible Food Generators who self-haul Edible Food shall require those transporting Edible Food for recovery to obtain a food handler card through an American National Standards Institute (ANSI) accredited training provider that meets ASTM International E2659-09 Standard Practice for Certificate Programs, such as ServSafe and follow the best practices and standards for proper temperature control, methods, and procedures for the safe handling and transport of food.
- (d) Nothing in this Ordinance shall be construed to limit or conflict with the protections provided by the California Good Samaritan Food Donation Act of 2017, the Federal Good Samaritan Act, or share table and school food donation guidance pursuant to Senate Bill 557 of 2017 (approved by the Governor of the State of California on September 25, 2017, which added Article 13 [commencing with Section 49580] to Chapter 9 of Part 27 of Division 4 of Title 2 of the Education Code, and to amend Section 114079 of the Health and Safety Code, relating to food safety, as amended, supplemented, superseded and replaced from time to time).

SECTION 7. REQUIREMENTS FOR FOOD RECOVERY ORGANIZATIONS AND SERVICES

- (a) Food Recovery Services operating in the District and collecting or receiving Edible Food directly from Tier One and/or Tier Two Commercial Edible Food Generators via a contract or written agreement established under the requirements of this Ordinance, shall maintain the following records:
 - (1) The name, address, and contact information for each Tier One and Tier Two Commercial Edible Food Generator from which the service collects Edible Food.
 - (2) The quantity in pounds of Edible Food by type collected from each Tier One and Tier Two Commercial Edible Food Generator per month.
 - (3) The quantity in pounds of Edible Food by type transported to each Food Recovery Organization or redistribution site per month.
 - (4) The name, address, and contact information for each Food Recovery Organization or redistribution site that the Food Recovery Service transports Edible Food to for Edible Food Recovery.
- (b) Food Recovery Organizations operating in the District and collecting or receiving Edible Food directly from Tier One and/or Tier Two Commercial Edible Food Generators via a contract or written agreement established under the requirements of this Ordinance, or receiving Edible Food from Food Recovery Services or from other Food Recovery Organizations, shall maintain the following records:

- (1) The name, address, and contact information for each Tier One and Tier Two Commercial Edible Food Generator, Food Recovery Service, or other Food Recovery Organization from which the organization collects or receives Edible Food.
 - (2) The quantity in pounds of Edible Food by type collected or received from each Tier One or Tier Two Commercial Edible Food Generator, Food Recovery Service, or other Food Recovery Organization per month.
 - (3) The name, address, and contact information for other Food Recovery Organizations or redistribution sites that the Food Recovery Organization transports Edible Food to for Edible Food Recovery.
- (c) Food Recovery Organizations and Food Recovery Services operating in the District shall inform Tier One and Tier Two Commercial Edible Food Generators from which they collect or receive Edible Food about California and Federal Good Samaritan Food Donation Act protection in written communications, such as in their contract or agreement established as required by this Ordinance.
- (d) Commencing no later than July 1, 2022, Food Recovery Organizations and Food Recovery Services operating in the District and collecting or receiving Edible Food from Tier One and Tier Two Commercial Edible Food Generators or any other source shall report to the Designee for Edible Food Recovery the following: a detailed Edible Food activity report of the information collected as required under this Ordinance, including weight in pounds by type and source of Edible Food, the schedule/frequency of pickups/drop-offs of Edible Food from/to each Edible Food source or redistribution site, brief analysis of any necessary process improvements or additional infrastructure needed to support Edible Food Recovery efforts, such as training, staffing, refrigeration, vehicles, etc., and an up to date list of Tier One and Tier Two Commercial Edible Food Generators with whom they have contracts or agreements established as required under this Ordinance. The Designee for Edible Food Recovery will assist in the preparation of these reports by providing guidance and a template located on the County of San Mateo Office of Sustainability website. This Edible Food activity report shall be submitted quarterly, or at the discretion of the Designee for Edible Food Recovery, less frequently, and shall cover the activity that occurred since the period of the last submission.
- (e) Food Recovery Organizations and Food Recovery Services operating in the District shall contact the Designee for Edible Food Recovery to discuss the requirements of this Ordinance before establishing new contracts or agreements with Tier One or Tier Two Commercial Edible Food Generators and in order to maintain existing contracts or agreements for the recovery of Edible Food with Tier One and Tier Two Commercial Edible Food Generators.
- (f) In order to provide the required records to the State, the District, or the Designee for Edible Food Recovery, and Tier One or Tier Two Commercial Edible Food Generators, contracts between Food Recovery Organizations and Food Recovery

Services operating in the District and Tier One and Tier Two Commercial Edible Food Generators shall either:

- (1) Use the Model Food Recovery Agreement developed by the State of California's Department of Resources Recycling and Recovery (CalRecycle,) and include a clause requiring the Food Recovery Organization or Food Recovery Service to report to the Tier One and Tier Two Commercial Edible Food Generators with whom they have contracts the annual amount of Edible Food recovered and to inform them of the tax benefits available to those who donate Edible Food to non-profits
- (2) Or include in their contracts the following elements:
 - (A) List/description of allowable foods the Food Recovery Organization/Food Recovery Service will receive.
 - (B) List/description of foods not accepted by the Food Recovery Organization/Food Recovery Service.
 - (C) Conditions for refusal of food.
 - (D) Food safety requirements, training, and protocols.
 - (E) Transportation and storage requirements and training.
 - (F) A protocol for informing the Tier One or Tier Two Commercial Edible Food Generators of a missed or delayed pickup.
 - (G) Notice that donation dumping is prohibited.
 - (H) Provisions to collect sufficient information to meet the record-keeping requirements of this Ordinance.
 - (I) Fees/financial contributions/acknowledgement of terms for the pickup and redistribution of Edible Food.
 - (J) Terms and conditions consistent with the CalRecycle Model Food Recovery Agreement.
 - (K) Information supplying the Tier One or Tier Two Commercial Edible Food Generators with the annual amount of Edible Food recovered and informing them of the tax benefits that may be available to those who donate Edible Food to non-profits.
 - (L) Contact name, address, phone number, and email for both responsible parties, including the current on-site staff responsible for Edible Food Recovery.

- (M) Food Recovery Organizations accepting self-hauling of Edible Food from Tier One and Tier Two Commercial Edible Food Generators must provide a schedule, including days of the week and acceptable times for drop-offs, and information about any limitation on the amount of food accepted, and/or the packaging requirements or other conditions of transport, such as, but not limited to, maintaining proper temperature control, and other requirements for the safe handling and transport of food, the self-hauler must follow for the Edible Food to be accepted.
- (g) Food Recovery Organizations and Food Recovery Services operating in the District shall demonstrate that all persons, including volunteers and contracted workers using their own vehicle, involved in the handling or transport of Edible Food, have obtained a food handler card through an American National Standards Institute (ANSI) accredited training provider that meets ASTM International E2659-09 Standard Practice for Certificate Programs, such as ServSafe.
- (h) Food Recovery Organizations and Food Recovery Services operating in the District shall use the appropriate temperature control equipment and methods and maintain the required temperatures for the safe handling of Edible Food recovered from Tier One and Tier Two Commercial Edible Food Generators for the duration of the transportation of the Edible Food for redistribution, including Edible Food transported by private vehicles.
- (i) In order to ensure recovered Edible Food is eaten and to prevent donation dumping, Food Recovery Organizations and Food Recovery Services operating in the District shall provide documentation that all redistribution sites which are not themselves Food Recovery Organizations to which they deliver Edible Food have a feeding or redistribution program in place to distribute, within a reasonable time, all the Edible Food they receive. Such documentation may include a website address which explains the program or pamphlets/brochures prepared by the redistribution site.
- (j) Food Recovery Organizations and Food Recovery Services operating in the District unable to demonstrate a positive reduction in GHG emissions for their Edible Food Recovery operational model cannot contract with Tier One and Tier Two Commercial Edible Food Generators in the District for the purpose of recovering Edible Food as defined in this Ordinance. Food Recovery Organizations and Food Recovery Services contracting to recover Edible Food from a Tier One and Tier Two Commercial Edible Food Generator for redistribution shall consult with the District's Designee for Edible Food Recovery to document that their overall operational model will achieve a greenhouse gas emissions reduction. Such review may analyze route review, miles traveled for pick-up and redistribution, amount of food rescued, and the likelihood of consumption after redistribution.

- (k) Food Recovery Organizations and Food Recovery Services operating in the District shall visually inspect all Edible Food recovered or received from a Tier One and Tier Two Commercial Edible Food Generator. If significant spoilage is found, or if the food is otherwise found to be unfit for redistribution for human consumption, Food Recovery Organizations and Food Recovery Services shall immediately notify the Designee for Edible Food Recovery using the process found on the County of San Mateo Office of Sustainability's website. The notice shall include:
- (1) The type and amount, in pounds, of spoiled food or food unfit for redistribution for human consumption, or provide a photographic record of the food, or both.
 - (2) The date and time such food was identified.
 - (3) The name, address and contact information for the Tier One or Tier Two Commercial Edible Food Generator which provided the food.
 - (4) The date and time the food was picked up or received.
 - (5) A brief explanation of why the food was rejected or refused.
- (l) Contracts between Tier One or Tier Two Commercial Edible Food Generators and Food Recovery Organizations or Food Recovery Services shall not include any language prohibiting Tier One or Tier Two Commercial Edible Food Generators from contracting or holding agreements with multiple Food Recovery Organizations or Food Recovery Services listed on the County of San Mateo Office of Sustainability website.
- (m) Food Recovery Organizations and Food Recovery Services operating in the District shall conduct trainings and develop educational material such as donation guidelines and handouts to provide instruction and direction to Tier One and Tier Two Commercial Edible Food Generators with whom they contract regarding best practices and requirements for the timely identification, selection, preparation, and storage of Edible Food to ensure the maximum amount of Edible Food is recovered and to avoid the collection of food that is moldy, has been improperly stored, or is otherwise unfit for human consumption.
- (n) Edible Food Recovery Capacity Planning
- (1) Food Recovery Services and Food Recovery Organizations. In order to support Edible Food Recovery capacity planning assessments or other such studies, Food Recovery Services and Food Recovery Organizations operating in the District shall provide information and consultation to the District and its Designee for Edible Food Recovery upon request, regarding existing, or proposed new or expanded, Edible Food Recovery capacity that could be accessed by the District and its Tier One and Tier Two Commercial Edible Food Generators. A Food Recovery Service or Food Recovery

Organization contacted by the District or its Designee for Edible Food Recovery shall respond to such requests for information within 60 days.

- (o) Allow the District's enforcement entity or their Designee for Edible Food Recovery to access the premises and inspect procedures and review records related to Edible Food Recovery and/or provide them electronically if requested by the District or the Designee for Edible Food Recovery.

SECTION 8. REQUIREMENTS FOR HAULERS AND FACILITY OPERATORS

(a) Requirements for Haulers

- (1) Exclusive Franchised hauler providing residential, Commercial, or industrial Organic Waste collection services to generators within the District's boundaries shall meet the following requirements and standards as a condition of approval of a contract, agreement, or other authorization with the District to collect Organic Waste:

- (A) Through written notice to the District annually on or before June 30th, identify, for customers with three container collection, the facilities to which they will transport Organic Waste including facilities for Source Separated Recyclable Materials and Source Separated Green Container Organic Wastes and black container waste.

Through written notice to the District annually on or before June 30th, identify, for customers with two container collection system, the facilities to which they will transport Source Separated Recyclable Materials and black container waste,

- (B) For customers with three container collection, transport Source Separated Blue Container Waste to a facility that recovers those materials and Source Separated Green Container Organic Waste to a facility, operation, activity, or property that recovers Organic Waste as defined in 14 CCR, Division 7, Chapter 12, Article 2.

For customers with two container collection, transport Source Separated Blue Container Waste to a facility that recovers those materials and black container waste to a high diversion organic waste processing facility.

- (C) Obtain approval from the District to haul Organic Waste, unless it is transporting Source Separated Organic Waste to a Community Composting site.

- (2) Franchised hauler with authorization to collect Organic Waste shall comply with education, equipment, signage, container labeling, container color, contamination monitoring, reporting, and other requirements contained

within its franchise agreement, permit, license, or other agreement entered into with the District.

- (b) Requirements for Facility Operators and Community Composting Operations
 - (1) Owners of facilities, operations, and activities that recover Organic Waste, including, but not limited to, Compost facilities, in-vessel digestion facilities, and publicly-owned treatment works shall, upon the District's request, provide information regarding available and potential new or expanded capacity at their facilities, operations, and activities, including information about throughput and permitted capacity necessary for planning purposes. Entities contacted by the District shall respond within 60 days.
 - (2) Community Composting operators, upon the District's request, shall provide information to the District to support Organic Waste capacity planning, including, but not limited to, an estimate of the amount of Organic Waste anticipated to be handled at the Community Composting operation. Entities contacted by the District shall respond within 60 days.

SECTION 9. SELF-HAULER REQUIREMENTS

- (a) Self-Haulers shall source separate all recyclable materials and Organic Waste (materials that the District otherwise requires generators to separate for collection in the District's organics and recycling collection program) generated on-site from Solid Waste in a manner consistent with 14 CCR Sections 18984.1 and 18984.2, or shall haul Organic Waste to a High Diversion Organic Waste Processing Facility as specified in 14 CCR Section 18984.3.
- (b) Self-Haulers shall haul their Source Separated Recyclable Materials to a facility that recovers those materials; and haul their Source Separated Green Container Organic Waste to a Solid Waste facility, operation, activity, or property that processes or recovers Source Separated Organic Waste. Alternatively, Self-Haulers may haul Organic Waste to a High Diversion Organic Waste Processing Facility.
- (c) Self-Haulers that are Commercial Businesses (including Multi-Family Residential Dwellings) shall keep a record of the amount of Organic Waste delivered to each Solid Waste facility, operation, activity, or property that processes or recovers Organic Waste; this record shall be subject to Inspection by the District. The records shall include the following information:
 - (1) Delivery receipts and weight tickets from the entity accepting the waste.
 - (2) The amount of material in cubic yards or tons transported by the generator to each entity.

- (3) If the material is transported to an entity that does not have scales on-site, or employs scales incapable of weighing the Self-Hauler's vehicle in a manner that allows it to determine the weight of materials received, the Self-Hauler is not required to record the weight of material but shall keep a record of the entities that received the Organic Waste.
- (d) Self-Haulers that are Commercial Businesses (including Multi-Family Self-Haulers) shall provide information collected in Section 9(c) to the District if requested.
- (e) A residential Organic Waste Generator that self hauls Organic Waste is not required to record or report information in Section 9(c) and (d).

SECTION 10. INSPECTIONS AND INVESTIGATIONS BY THE DISTRICT AND/OR ITS DESIGNEE

- (a) The District's representatives and/or its designated entity, including the Designee for Edible Food Recovery are authorized to conduct Inspections and investigations, at random or otherwise, of any collection container, collection vehicle loads, or transfer, processing, or disposal facility for materials collected from generators, or Source Separated materials to confirm compliance with this ordinance by Organic Waste Generators, Commercial Businesses (including Multi-Family Residential Dwellings), property owners, Tier One and Tier Two Commercial Edible Food Generators, haulers, Self-Haulers, Food Recovery Services, and Food Recovery Organizations, subject to applicable laws.

This Section does not allow the District to enter the interior of a private residential property for Inspection.

For the purposes of inspecting Commercial Business containers for compliance with Section 4(b) of this ordinance, the District may conduct container Inspections for Prohibited Container Contaminants using Remote Monitoring, and Commercial Businesses shall accommodate and cooperate with the Remote Monitoring pursuant to Section 4(k) of this ordinance.

- (b) Regulated entity shall provide or arrange for access during all Inspections (with the exception of residential property interiors) and shall cooperate with the District's employee or its designated entity or Designee for Edible Food Recovery during such Inspections and investigations. Such Inspections and investigations may include confirmation of proper placement of materials in containers, Edible Food Recovery activities, records, or any other requirement of this ordinance described herein. Failure to provide or arrange for: (i) access to an entity's premises; (ii) installation and operation of Remote Monitoring equipment; or (ii) access to records for any Inspection or investigation is a violation of this ordinance and may result in penalties described.

- (c) Any records obtained by the District or Designee for Edible Food Recovery during its Inspections, Remote Monitoring, and other reviews shall be subject to the requirements and applicable disclosure exemptions of the Public Records Act as set forth in Government Code Section 6250 et seq.
- (d) The District's representatives, its designated entity, and/or Designee for Edible Food Recovery are authorized to conduct any Inspections, Remote Monitoring, or other investigations as reasonably necessary to further the goals of this ordinance, subject to applicable laws.
- (e) The District and Designee for Edible Food shall receive written complaints from persons regarding an entity that may be potentially non-compliant with SB 1383 Regulations, including receipt of anonymous complaints.

SECTION 11. ENFORCEMENT

- (a) Violation of any provision of this ordinance shall constitute grounds for issuance of a Notice of Violation and assessment of a fine by a District Enforcement Official, Designee for Edible Food Recovery, or representative. Enforcement Actions under this ordinance are issuance of an administrative citation and assessment of a fine. The District's procedures on imposition of administrative fines set forth in Article X, Section 1004 of the Code of General Regulations are hereby incorporated in their entirety, as modified from time to time, and shall govern the imposition, enforcement, collection, and review of administrative citations issued to enforce this ordinance and any rule or regulation adopted pursuant to this ordinance, except as otherwise indicated in this ordinance.
- (b) Other remedies allowed by law may be used, including civil action or prosecution as misdemeanor or infraction. The District or Designee for Edible Food Recovery may pursue civil actions in the California courts to seek recovery of unpaid administrative citations. The District or Designee for Edible Food Recovery may choose to delay court action until such time as a sufficiently large number of violations, or cumulative size of violations exist such that court action is a reasonable use of District or Designee for Edible Food Recovery staff and resources.
- (c) Responsible Entity for Enforcement
 - (1) Enforcement pursuant to this ordinance may be undertaken by the District's Enforcement Official, which may be the District manager or their designee, legal counsel, or combination thereof, or Designee for Edible Food Recovery.
 - (A) The District's Enforcement Official(s) and Designee for Edible Food Recovery (for Edible Food Recovery provisions) will interpret ordinance; determine the applicability of waivers, if violation(s) have

occurred; implement Enforcement Actions; and, determine if compliance standards are met.

- (B) The District's Enforcement Official(s) and Designee for Edible Food Recovery (for Edible Food Recovery provisions) may issue Notices of Violation(s).

(d) Process for Enforcement

- (1) The District's Enforcement Officials or Designee for Edible Food Recovery and/or their Designee will monitor compliance with the ordinance randomly and through Compliance Reviews, Route Reviews, investigation of complaints, and an Inspection program (that may include Remote Monitoring). Section 10 establishes the District's and Designee for Edible Food Recovery's right to conduct Inspections and investigations.
- (2) The District or Designee for Edible Food Recovery may issue an official notification to notify regulated entities of its obligations under the ordinance.
- (3) For incidences of Prohibited Container Contaminants found in containers, the District will issue a Notice of Violation to any generator found to have Prohibited Container Contaminants in a container. Such notice will be provided via a cart tag or other communication immediately upon identification of the Prohibited Container Contaminants or within 30 days after determining that a violation has occurred. If the District observes Prohibited Container Contaminants in a generator's containers on more than two (2) consecutive occasion(s), the District may assess contamination processing fees or contamination penalties on the generator.

For the purposes of Edible Food Recovery, for incidences of Prohibited Container Contaminants found in containers, the District or its Designee for Edible Food Recovery will issue a Notice of Violation to any Tier One or Tier Two Commercial Edible Food Generator found to have Prohibited Container Contaminants, such as Edible Food, in a container, or to any Food Recovery Organization or Food Recovery Service found to have Prohibited Container Contaminants, such as Edible Food recovered from a Tier One or Tier Two Edible Food Generator, in a container, which has not been documented by a complaint of spoilage as required in this Ordinance. Such notice will be provided by email communication immediately upon identification of the Prohibited Container Contaminants or within 3 days after determining that a violation has occurred. If the District or its Designee for Edible Food Recovery observes Prohibited Container Contaminants, such as Edible Food, in a Food Recovery Organization's or Food Recovery Service's containers on more than two (2) consecutive occasion(s), the District or its Designee for Edible Food Recovery may assess contamination processing fees or contamination penalties on the Edible Food Recovery Organization, or Food Recovery Service.

- (4) With the exception of violations of generator contamination of container contents addressed under Section 11(d)(3), the District or Designee for Edible Food Recovery shall issue a Notice of Violation requiring compliance within 60 days of issuance of the notice. For the purposes of Edible Food Recovery, the Designee for Edible Food Recovery may issue a Notice of Violation requiring compliance within 7 days of issuance of the Notice.
- (5) Absent compliance by the respondent within the deadline set forth in the Notice of Violation, the District or Designee for Edible Food Recovery (for the Edible Food Recovery provisions) shall commence an action to impose penalties via an administrative citation and fine, pursuant to its Administrative citation and fine procedures.

For the purposes of Edible Food Recovery, the Designee for Edible Food Recovery shall commence an action to impose penalties, via an administrative citation and fine, pursuant to the Edible Food Recovery Penalties provisions contained in this Ordinance.

Notices shall be sent to “owner” at the official address of the owner maintained by the tax collector for the District or if no such address is available, to the owner at the address of the dwelling or Commercial property or to the party responsible for paying for the collection services, depending upon available information

(e) Penalty Amounts for Types of Violations

The penalty levels for violations unrelated to the Edible Food Recovery requirement are as follows:

- (1) For a first violation, the amount of the base penalty shall be \$50 to \$100 per violation.
- (2) For a second violation, the amount of the base penalty shall be \$100 to \$200 per violation.
- (3) For a third or subsequent violation, the amount of the base penalty shall be \$250 to \$500 per violation.

The penalty levels for Edible Food Recovery violations are as follows:

- (1) For a first violation, the amount of the base penalty shall be \$100 to \$200 per violation.
- (2) For a second violation, the amount of the base penalty shall be \$200-\$500 per violation.
- (3) For a third or subsequent violation, the amount of the base penalty shall be \$500 to \$2000 per violation.

(f) Compliance Deadline Extension Considerations

The District or Designee for Edible Food Recovery (the County for edible food generator and food recovery organization and services requirements) may extend the compliance deadlines set forth in a Notice of Violation issued in accordance with Section 11 if it finds that there are extenuating circumstances beyond the control of the respondent that make compliance within the deadlines impracticable, including the following:

- (1) Acts of God such as earthquakes, wildfires, flooding, and other emergencies or natural disasters;
- (2) Delays in obtaining discretionary permits or other government agency approvals; or,
- (3) Deficiencies in Organic Waste recycling infrastructure or Edible Food Recovery capacity and the District is under a corrective action plan with CalRecycle pursuant to 14 CCR Section 18996.2 due to those deficiencies.

(g) Appeals Process

Persons receiving an administrative citation containing a penalty for an uncorrected violation may request a hearing to appeal the citation. A hearing will be held only if it is requested within the time prescribed and consistent with the District's or Designee for Edible Food Recovery's procedures in the District's or Designee for Edible Food Recovery's codes for appeals of administrative citations. Evidence may be presented at the hearing. The District or Designee for Edible Food Recovery will appoint a hearing officer who shall conduct the hearing and issue a final written order.

(h) Education Period for Non-Compliance

Beginning January 1, 2022 and through December 31, 2023, the District or Designee for Edible Food Recovery (for edible food generator and food recovery organization and service requirements) may conduct Inspections, Remote Monitoring, Route Reviews or waste evaluations, and Compliance Reviews, depending upon the type of regulated entity, to determine compliance, and if the District or Designee for Edible Food Recovery determines that Organic Waste Generator, Self-Hauler, hauler, Tier One Commercial Edible Food Generator, Food Recovery Organization, Food Recovery Service, or other entity is not in compliance, it shall provide educational materials and/or, for the purposes of Edible Food Recovery, training to the entity describing its obligations under this ordinance and a notice that compliance is required by January 1, 2022, and that violations may be subject to administrative civil penalties starting on January 1, 2024.

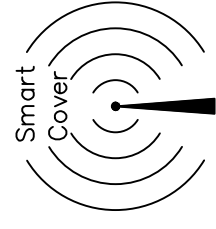
(i) Civil Penalties for Non-Compliance

Beginning January 1, 2024, if the District or Designee for Edible Food Recovery (Designee for Edible Food determination only for Tier 1 and Tier 2 Commercial Edible food generator and food recovery organization and service requirements) determines that an Organic Waste Generator, Self-Hauler, hauler, Tier One or Tier Two Commercial Edible Food Generator, Food Recovery Organization, Food Recovery Service, or other entity is not in compliance with this ordinance, it shall document the noncompliance or violation, issue a Notice of Violation, and take Enforcement Action pursuant to Section 11, as needed.



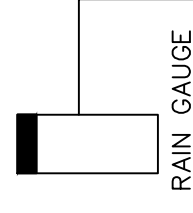
Sewer System Management Plan

4A Collection Systems Maps



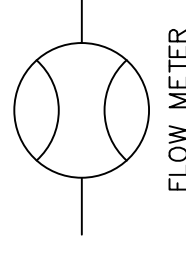
Smartcover Sites

- 1) A10031 - (Illinois/Purdue PS)
- 2) B10039 - Ursula Way
- 3) B11115 - (University PS)
- 4) B13067 - (Hamilton/Henderson PS)
- 5) B15045 - Bayfront Levee
- 6) C11016 - Laurel / Newbridge
- 7) C11054 - 941 Laurel Ave
- 8) C13096 - Van Buren
- 9) C13186 - Sonoma Avenue
- 10) C14036 - (Flood School Basketball Court Area)
- 11) C14101 - Greenoaks Drive
- 12) C15038 - Bohanon Drive
- 13) C16008 - Haven Avenue
- 14) E14085 - 1460 El Camino Real
- 15) E14139 - 1145 Merrill Street
- 16) F15057 - Isabella Avenue (Circus Club)
- 17) F15075 - Isabella Avenue (Upstream Side of Siphon)
- 18) F16039 - 95 Atherton Avenue
- 19) F16061 - Elena Siphon (Upstream Side of Siphon)
- 20) G16011 - Barry Lane (Upstream Side of Siphon)
- 21) H16069 - 395 Atherton Avenue
- 22) H17022 - 360 Fletcher Drive
- 23) I11003 - (Stowe Lane PS)
- 24) I11069 - 39 Bishop Lane
- 25) I12088 - 5 Wildwood Lane
- 26) I14105 - 1020 Sharon Park Drive
- 27) I16026 - 2 Bellbrook Way
- 28) I16033 - 398 Walsh Road
- 29) I16067 - 440 Walsh Road
- 30) J12023 - Andeta Easement (Webb Ranch)
- 31) J15005 - 520 Sand Hill Circle (Golf Course)
- 32) K10027 - 3300 Alpine Road (Church Preschool)
- 33) K11107 - 131 Escanyo Easement
- 34) K12038 - 260 Mimosa Way
- 35) K12008 - 140 Lucero Way
- 36) M11011 - (Sausal Vista PS)
- 37) N09063 - 20 Valley Oak



Rain Gauge

- 1) B12121 - (Menlo Industrial PS)
- 2) I11062 - (Stowe Lane PS)
- 3) M13003 - (Village Square PS)

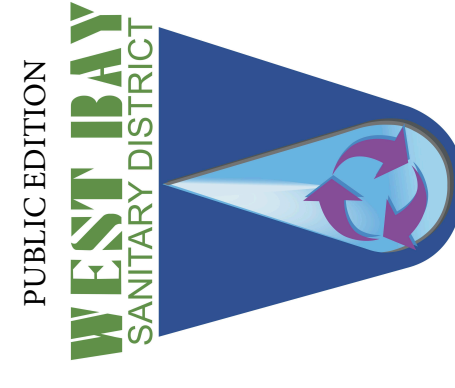


Flowmeter Sites

- 1) B13043 - Chilco Street
- 2) B15041 - Main Flowmeter (next to MPPS)
- 3) B15047 - Levee (next to MPPS)
- 4) B16004 - Haven Avenue
- 5) C12089 - Hollyburne Avenue
- 6) C13029 - Hill Avenue
- 7) C14019 - (Kelly Park, 54")
- 8) C15014 - Jefferson Easement
- 9) D15128 - Middlefield Road
- 10) E12158 - Willow Road
- 11) E14053 - Oak Grove Avenue
- 12) E15047 - (Burns Easement)
- 13) F16032 - Atherton Avenue
- 14) H12065 - 1945 Oak Avenue
- 15) H15134 - Walsh Road
- 16) H16023 - Atherton Avenue
- 17) I12086 - Alpine Road
- 18) J15031 - Sharon Heights Recycled Water Facility
- 19) K10023 - Alpine Road

Pump Stations

- 1) A10029 - Illinois - 335 Demeter St
- 2) B11117 - University - 1595 O'Brien Dr
- 3) B12121 - Menlo Industrial - 1002 Hamilton Ct
- 4) B12123 - Willow - 1298 Willow Rd
- 5) B13079 - Hamilton Henderson - 595 Hamilton Ave
- 6) B16010 - Flow Equalization - 1700 Marsh Rd
- 7) D12171 - Vintage Oaks 2 - 190 Seminary Rd
- 8) E12139 - Vintage Oaks 1 - 100 Seminary Rd
- 9) H12085 - Phil Scott Pump Station - 2006 Sand Hill Rd
- 10) I11062 - Stowe Lane - 17 Stowe Ln
- 11) M09031 - Los Trancos - 63 Los Trancos Rd
- 12) M11016 - Sausal Vista - 250 Georgia Ln
- 13) Sheet N11 - Corte Madera Storage - 401 Portola Rd
- 14) M13003 - Village Square - 884 Portola Rd



AUGUST 2021

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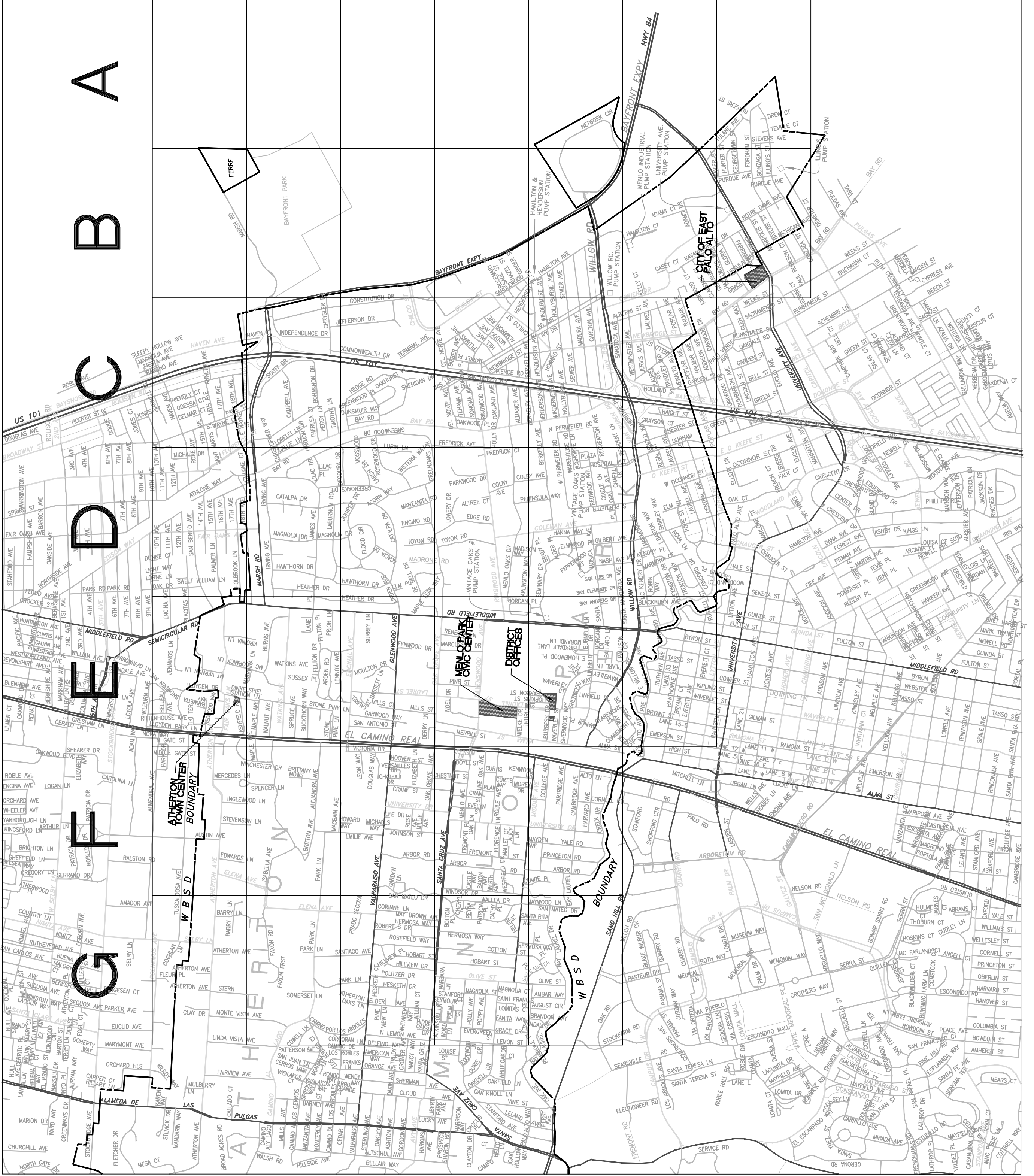
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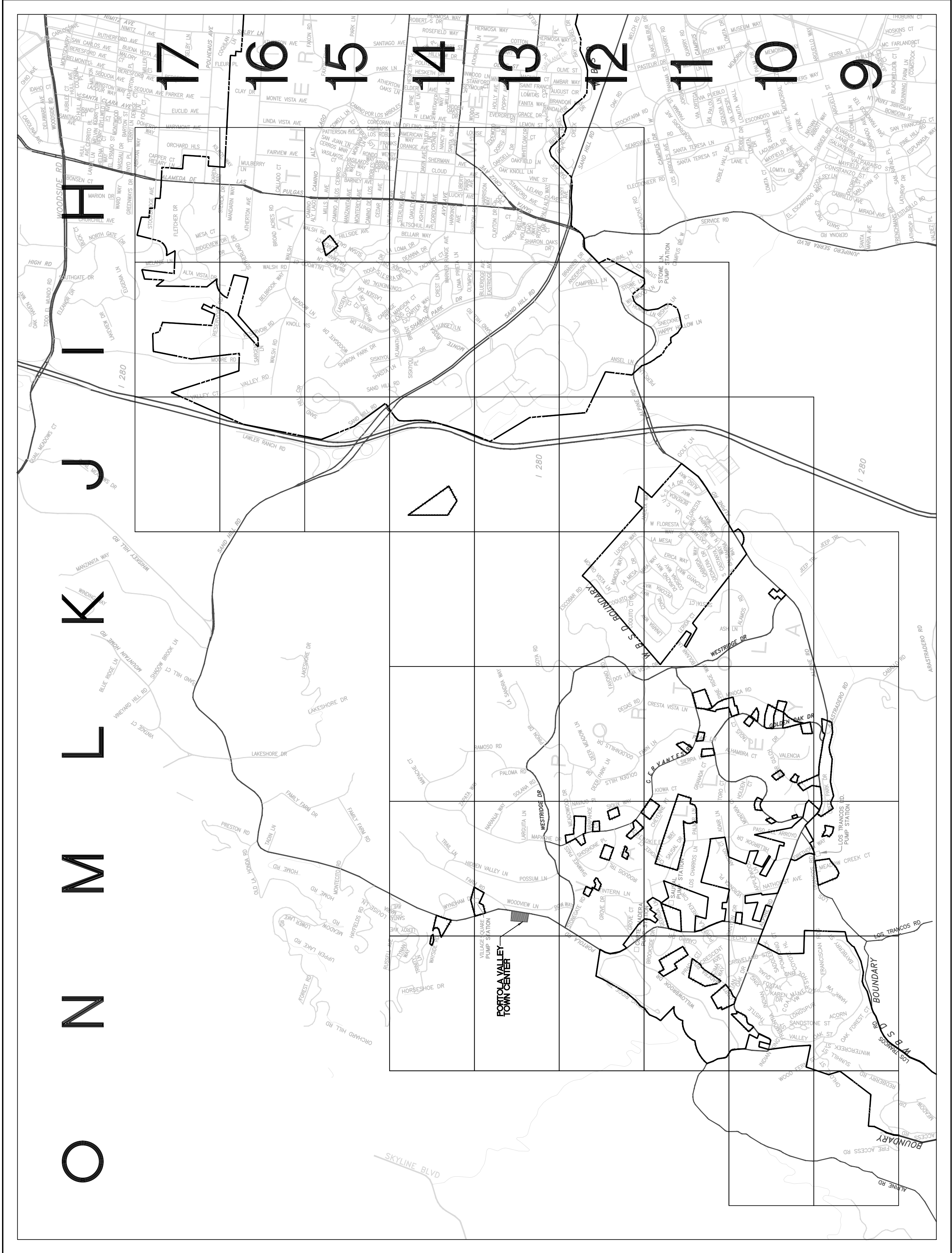
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PORTOLA VALLEY
TOWN CENTER

BOUNDARY

BOUNDARY

BOUNDARY

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I 280

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SKYLINE BLVD

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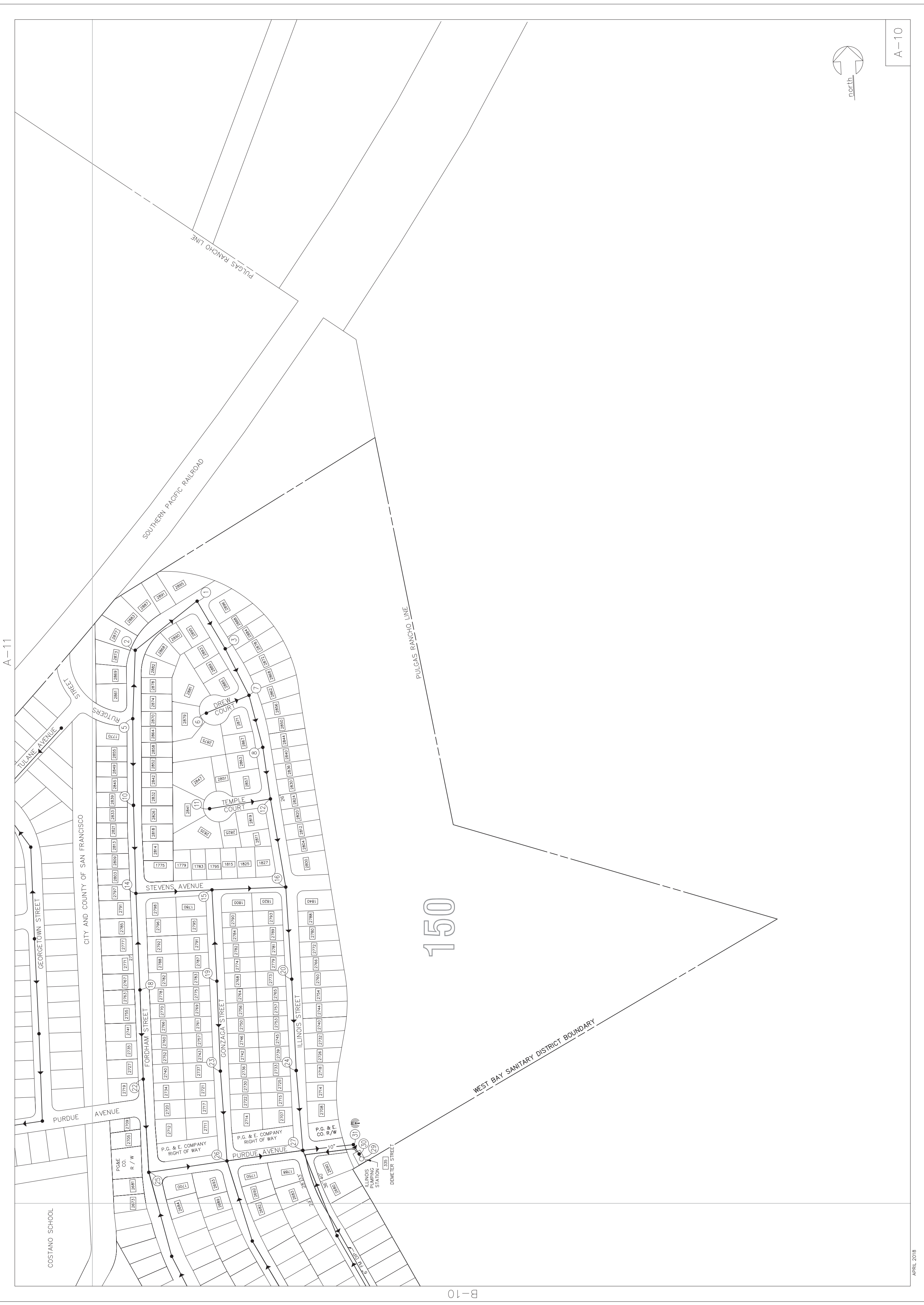
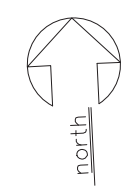
STREET NAME	SHEET	A	STREET NAME	SHEET	B	STREET NAME	SHEET	C	STREET NAME	SHEET
ACACIA DR	D-14		BARTON PL	D-11		CAMINO LOS CERROS	G-15,H-15		CAMINO LOS CERROS	G-15,H-15
ACORN CT, PORTOLA VALLEY	N-9		BARTON WAY	D-11		CAMINO POR LOS ARBOLES	G-14,G-15		CAMPBELL AVE	C-15
ACORN WAY, ATHERTON	D-14		BERKDALE LANE	E-12		CAMPBELL LN	I-12		CAMPBELL LN	I-12
ADAMS CT	B-11		BURNELL LANE	E-12		CAMPO BELLO CT	H-13		CAMPO BELLO LN	H-13
ADAMS DR	B-11		BASSETT LN	E-14		CAMPO BELLO LN	H-13		CAMPO BELLO LN	H-13
ALAMEDA DE LAS PULGAS	H-13,H-14,H-15,H-16,H-17		BAY BERRY	N-9		CAMPO RD	N-11		CANYON RD	N-11
ALBERNI ST	B-11,B-12		BAY LAUREL DR	F-12,G-12,G-13,H-13		CANYON RD	N-10		CANYON RD	N-10
ALDER PL	D-12		BAY RD	B-11,C-11,C-12,C-13,C-14,C-15,C-16,D-16		CARLTON AVE	B-12,C-12		CARLTON AVE	B-12,C-12
ALEJANDRA AVE	E-15,F-15		BAYSHORE FREEWAY	B-10		CARLTON AVE	B-12,C-12		CARLTON AVE	B-12,C-12
ALEXIS CT	I-14		BAYWOOD AVE	C-11,C-12,C-13,C-14,C-15,C-16		CARMEL WAY	0-7		CARMEL WAY	0-7
ALICE LN	F-13		BEACON ST	D-11,E-11		CARRIAGE CT	I-14		CARRIAGE CT	I-14
ALISO WAY	J-11		BEAR GULCH DR	C-11,D-11		CARTER WAY	I-14		CARTER WAY	I-14
ALMA ST	E-12,E-13,E-14		BEAR PAW	L-10,M-9,M-10		CASCADE CT	H-14,I-14		CASCADE CT	H-14,I-14
ALMANOR AVE	B-13,C-13		BELBROOK WAY	N-10		CASCADE DR	H-15,I-14		CASCADE DR	H-15,I-14
ALPINE AVE	C-13		BELLAR WAY	I-16		CASEY CT	B-11		CASEY CT	B-11
ALPINE RD	H-12,I-11,I-12,J-10,J-11,K-9,K-10,L-9,M-9,M-10,N-10,O-10		BERENDA WAY	H-14		CASTLE WAY	F-13		CASTLE WAY	F-13
ALTA VISTA DR	I-16,I-17		BERKELEY AVE	J-11		CATALPA DR	D-14,D-15		CATALPA DR	D-14,D-15
ALTREE CT	D-13		BIEBER AVE	C-13,D-12		CATHY PL	F-13,G-13		CATHY PL	F-13,G-13
ALTSCHUL AVE	H-14,H-15		BELTMOORE LN	C-13		CEDAR AVE	H-14,H-15		CEDAR AVE	H-14,H-15
AMBAR WAY	G-12,G-13		BISHOP LN	H-15,I-15		CENTRAL AVE	C-11,D-11		CENTRAL AVE	C-11,D-11
AMERICAN WAY	H-14		BLACKBURN	I-11		CERROS MANOR	H-15		CERROS MANOR	H-15
ANDERSON WAY	I-12		BLAKE ST	D-11		CERVANTES RD	L-11,M-11,M-12		CERVANTES RD	L-11,M-11,M-12
ANDETA WAY	K-11		BLUE OAKS CT	F-12,F-13		CHATEAU	F-14		CHATEAU	F-14
ANNAPOLIS ST	B-10		BLUERIDGE AVE	0-8		CHEROKEE CT	M-11		CHEROKEE CT	M-11
ANSEL LN	I-12		BOHANNON DR	I-13		CHEROKEE WAY	M-11,M-12		CHEROKEE WAY	M-11,M-12
ANTONIO CT	M-10		BOLIVAR LN	C-15		CERRY AVE	E-13		CERRY AVE	E-13
APPLEWOOD LN	M-10		BOLTON PL	K-11,I-11		CERYL PL	F-13,G-13		CERYL PL	F-13,G-13
ARAFARHOE CT	M-12		BRADLEY AVE	G-13		CHESTER ST	C-11,C-12		CHESTER ST	C-11,C-12
ARASTRADERO RD	L-9		BRADY PL	C-11		CHESTNUT LN	F-14		CHESTNUT LN	F-14
ARBOLE GRANDE CT	H-15		BRANDON WAY	D-12		CHESTNUT ST	F-13, F-14		CHESTNUT ST	F-13, F-14
ARBOR RD	F-12,F-13,F-14		BRANNER DR	G-12,G-13		CHEYENNE POINT	M-11		CHEYENNE POINT	M-11
ARDEN AVE	E-15		BRENT CT	H-12,I-12,I-13		CHILCO ST	B-13,B-14,C-12,C-13		CHILCO ST	B-13,B-14,C-12,C-13
ARLINGTON WAY	D-13		BRITTANY MEADOWS	I-14		CHRISTOPHER	C-15		CHRISTOPHER	C-15
ARNOLD WAY	C-11		BRITTON AVE	F-15		CHRYSLER DR	B-15,C-15		CHRYSLER DR	B-15,C-15
ASHFIELD RD	E-16		BROAD ACRES RD	F-15		CIMA WAY	N-10		CIMA WAY	N-10
ASHTON AVE	H-14		BROOKSIDE DR	H-15,H-16		CLAIRE PL	F-12,F-13		CLAIRE PL	F-12,F-13
ATHERTON AVE	E-16,F-16,G-16,H-16		BUCK MEADOW DR	N-11		CLAREMONT PL	E-12		CLAREMONT PL	E-12
ATHERTON OAKS LN	G-14		BUCKEYE CT	0-8,0-9		CLAREMONT WAY	E-12		CLAREMONT WAY	E-12
ATKINSON LN	G-13,G-14		BUCKTHORN WAY	N-10		CLARENCE CT	B-11		CLARENCE CT	B-11
AUGUST CR	G-12,G-13		BURGESS DR	E-15		CLAY DR	G-16		CLAY DR	G-16
AVY AVE	H-14,I-14		BURNS AVE	E-12		CLAYTON DR	H-13		CLAYTON DR	H-13
						CLELAND PL	D-11		CLELAND PL	D-11
						CLOUD AVE	H-13,H-14		CLOUD AVE	H-13,H-14
						COAL MINE VIEW	D-11		COAL MINE VIEW	D-11
BALLARD LANE	E-12		CALLADO WAY	H-16		COLBY AVE	N-9,N-10		COLBY AVE	N-9,N-10
BARBARA LN	G-13		CALLIE LANE	C-15		COLEMAN AVE	D-12,D-13		COLEMAN AVE	D-12,D-13
BARNEY AVE	H-14,H-15		CAMBRIDGE AVE	F-12		COLEMAN PL	D-12,D-13		COLEMAN PL	D-12
BARRON ST	E-12,E-13		CAMINO AL LAGO	G-15,H-15						
BARRY LN	F-16,G-15,G-16		CAMINO DE LOS ROBLES	G-15,H-15						

STREET NAME	SHEET	STREET NAME	SHEET	STREET NAME	SHEET
COLLEGE AVE	E-12,F-12,F-13	EASTRIDGE AVE	H-13,I-13	FREMONT ST	F-13
COMMON WEALTH DR	C-14,C-15	ECHO LN	N-10	FREONTIA	N-10
CONCORD DR	D-11	EDGE RD	D-13,D-14	G	
CONIL WAY	K-11	EDGEWOOD LN	G-13,H-13	GABARDA WAY	K-11
CONSTITUTION DR	B-14,B-15	EDWARDS LN	F-16	GARDEN LN	F-14
CONTINENTAL DR	I-14,J-15	EIGHTEENTH AVE	C-16,D-16	GARLAND DR	G-12,G-13
COQUITO CT	K-12	EL CAMINO REAL	E-12,E-13,E-14,E-15,E-16,F-12	GARLAND PL	G-13
COQUITO WAY	K-11,K-12	EL NIDO ROAD	O-7	GARWOOD WAY	E-14,E-15
CORINNE LANE	G-14	ELDER AVE	G-14	GEORGETOWN ST	A-11
CORNELL RD	F-12	ELDER CT	G-14	GEORGIA LN	M-11,N-11
CORONA WAY	K-11	ELENA AVE	F-15,F-16,G-14,G-15	GETRUDE CT	B-11
CORTE MADERA RD	N-10,N-11	ELISABETH LN	F-14	GILBERT ST	D-11,D-12
COTTON PL	G-12	ELM ST	D-11	GINGER ST	B-13
COTTON ST	G-12,G-13,G-14	ELMWOOD PL	D-12	GLENWOOD AVE	D-14,E-14
COWELL LN	G-15,H-15	EMILIE AVE	F-14,F-15	GLORIA CR	D-13
COYOTE HILL	N-10	EMMET WAY	B-10,B-11	GLORIA WAY	B-11
CRANE ST	F-13,F-14	ENCINAL AVE	D-14,E-14,E-15	GOLDEN OAK DR	L-9,L-10,M-9,M-10
CREEK DR	F-12	ENCINO RD	D-14	GONZAGA ST	A-10,B-10
CREEK PARK DR	M-9,L-9	ENTRADA DR	D-12,D-13	GORDON AVE	H-14
CRESCENT AVE	N-10,N-11	ERICA WAY	K-11	GRACE DR	G-13
CREST LN	I-14	ESCANYO WAY	K-11	GRAYSON CT	C-11,C-12
CROCUS CT	H-13	EVELYN ST	F-13	GREENOAKS DR	C-14,C-15,D-14,D-15
CRONER AVE	G-14,H-14	EVERGREEN ST	G-13	GREENWOOD DR	C-14
CURTIS ST	F-13	FAIR OAKS AVE	D-16	GREENWOOD PL	C-14,C-15
CURTIS WAY	F-13	FAIR OAKS LN	D-16,E-16	GROVE DR	M-11,M-12,N-11,N-12
D		FAIRVIEW AVE	H-15,H-16	GEVELAND ST	N-10
DAKIN AVE	H-14	FANITA WAY	G-13	H	
DE BELL DR	D-14	FARRINGTON WAY	B-10,B-11	HAIGHT ST	C-11
DEANNA DR	H-14,J-14	FAXON FORREST	G-15	HALLMARK CR	H-15,I-15
DEDALERA DR	K-11,K-10	FAXON RD	G-15	HAMILTON AVE	B-12,B-13,C-13
DEL NORTE AVE	C-14	FELTON DR	E-15	HAMILTON CT	B-11,B-12
DELFINO WAY	G-14	FENNWOOD DR	E-14	HANNA WAY	D-12
DEODORA DR	C-15,D-15	FIFTEENTH AVE	D-16	HAPPY HOLLOW	I-11
DERRY LN	E-14	FIRETHORN WAY	M-9,M-10	HARKINS AVE	H-14
DINKELSPIL LN	E-15,E-16	FLETCHER DR	H-17,I-17,I-16	HARMON DR	C-15
DORIS DR	G-13,H-13	FLOOD CR	D-14,D-15	HARRISON WAY	H-13
DOUGLAS WAY	E-14,F-14	FLORENCE LN	F-13	HARVARD AVE	F-12
DOYLE STREET	E-13	FLORENCE ST	C-16	HAVEN AVE	B-16,C16
DREW CT	A-10	FORDHAM ST	A-10,B-10	HAWK VIEW	N-9
DUNSMUIR WAY	C-14,C-15	FOREST LN	E-15	HAWTHORNE DR	D-14,D-15
DURAZNO WAY	K-11	FOXTAIL	N-10	HAZEL ST	B-13
DURHAM ST	C-11,C-12	FOXWOOD RD	O-7	HAZELWOOD	B-11
E		FRANCISCAN RIDGE	N-9	HEATHER DR	D-14,D-15
EAST BAYSHORE	C-11	FRANKS LN	H-14,H-15	HEDGE RD	C-14,C-15
EAST CREEK DR	E-12	FREDRICK AVE	C-13,C-14	HELEN PL	G-13
EAST CREEK PL	E-12	FREDRICK CT	C-13	HENDERSON AVE	B-13,C-13
EAST FLORESTA WAY	J-11,K-11	FREMONT PL	F-13	HENDERSON PL	B-13
				HERITAGE CT	D-16

STREET NAME	SHEET	STREET NAME	SHEET	STREET NAME	SHEET	STREET NAME	SHEET
HERITAGE PL	C-12	KIOWA CT	M-11	MADISON WAY	D-13		
HERMOSA PL	G-13	KIRKWOOD CT	B-11	MADRONE RD	D-14		
HERMOSA WAY	G-12,G-13,G-14	KLAMATH DR	I-14	MAGNOLIA CT	G-13		
HESKETH CT	G-14	KNOLL VISTA	I-15,I-16	MAGNOLIA DR	D-15		
HESKETH DR	G-14			MAGNOLIA ST	G-13		
HIDDEN OAKS DR	G-14	LA CUESTA DR	J-11,K-11	MALONEY LN	E-13,E-14		
HILL	C-13	LA LOMA DR	H-14	MANDARIN WAY	H-16		
HILLBROOK DR	M-10	LA MESA CT	K-11	MANOR PL	E-12		
HILLSIDE AVE	H-15	LA MESA DR	K-10,K-11,K-12	MANSION CT	I-14		
HILLVIEW DR	G-14	LABURNUM RD	D-15	MANZANITA AVE	H-15		
HILLVIEW PL	G-14	LAKE RD	O-7,P-7	MANZANITA RD	D-14		
HOBART ST	G-13,G-14	LANE PL	D-15,E-15	MAPLE AVE	E-15,F-15,F-16		
HOLDEN CT	L-10,M-10	LARCH DR	C-14,D-14	MAPLE LEAF WAY	D-14		
HOLLAND ST	C-11,C-12	LASSEN CT	I-15	MARCUSSEN DR	E-13,E-14		
HOLLY AVE	G-13	LASSEN DR	I-14,I-15	MARIANNA LN	E-16		
HOLLYBURNE AVE	B-12,C-12	LAUREL AVE	B-11,C-11,D-11	MARKET PLACE	C-13,C-14		
HOMER LN	I-11	LAUREL PL	E-14	MARMONA CT	D-11		
HOMEWOOD PL	E-12	LAUREL ST	E-12,E-13,E-14	MARMONA DR	D-11		
HOOPER ST	E-14,F-14	LEE CT	F-14	MARSH RD	D-11		
HOPKINS ST	E-12,E-13	LELAND AVE	H-12,H-13	MAY BROWN AVE	G-14		
HORSESHOE BEND	N-9,N-10	LEMON AVE	G-14	MAYWOOD LN	F-12,F-13		
HOWARD ST	C-12,C-13	(N) LEMON ST	G-13,G-14	MC KENDRY DR	D-11		
HOWARD WAY	F-14,F-15	LENNOX AVE	E-15	MC KENDRY PL	D-11		
HUNTER ST	A-11	LEON WAY	E-14,F-14	MCCORMICK LN	E-15, E-16		
		LERRIDA CT	K-11	MEADOW LN	I-15,I-16		
		LEXINGTON DR	D-11	MEADOWCREEK CT	M-9		
ILLINOIS ST	A-10,B-10	LIBERTY PARK AVE	H-14	MEADOWOOD DR	I-12,M-12		
INDEPENDENCE DR	B-15,C-15	LILAC DR	C-15,D-15	MELANIE LN	H-17,I-17		
INDIAN CROSSING	N-10	LINARIA WAY	K-11	MENALTO AVE	B-11,C-11,D-11		
INGLEWOOD LN	F-16	LINDA VISTA AVE	G-15,G-16	MENLO AVE	E-13,F-13		
IRIS LANE	C-13,C-14	LINDEN AVE	D-14,D-15	MENLO OAKS DR	C-13,D-13		
IRVING AVE	D-15	LINFIELD DR	E-12	MERCEDES LN	F-16		
ISABELLA AVE	E-15,F-15	LINFIELD PL	E-12	MERRILL ST	E-13,E-14		
IVY DR	B-12,B-13,C-13	LIVE OAK AVE	E-13,F-13	MESA CT	H-16,H-17		
		LOMA PRIETA LN	I-14	MICHAELS WAY	F-14		
JAMES AVE	D-15	LIMITAS CT	G-13	MICHIGAN AVE	B-10		
JEFFERSON CT	B-14	LONG SPUR	N-9,N-10	MIDDLE AVE	E-13,F-13,G-13		
JEFFERSON DR	B-14,B-15	LORELEI LANE	C-15,C-16	MIDDLE CT	G-13		
JERVIS AVE	B-12,C-11,C-12	LOS ROBLES CT	H-15	MIDDLEFIELD RD	D-14,D-15,D-16,E-11,E-12,E-13,E-14,E-15,E-16		
JOHNSON AVE	F-13,F-14	LOS TRANCOS RD	M-9,N-9,O-9,O-7,P-7	MIEKE DR	E-13		
JORDAN BLVD	I-13	LOUISE ST	H-13,H-14	MILLIE AVE	F-14		
JUNIPER DR	D-15	LOWERY DR	D-13,D-14	MILLS AVE	H-15		
JUNIPERO SERRA	H-12	LUCKY WAY	K-12	MILLS CT	E-14		
		LUPIN LANE	H-13,H-14	MILLS ST	E-14		
				MIMOSA WAY	K-12		
KAREN WAY	H-16	MACBAIN AVE	F-15	MINOCA RD	I-10,I-11		
KAVANAUGH DR	B-10,B-11	MADERA AVE	B-12,C-12	MIRA WAY	K-11		
KELLY CT	B-11,B-12			MODOC	B-13,C-13		
KENT PL	E-12						
KENWOOD DR	F-13						

<u>STREET NAME</u>	<u>SHEET</u>	<u>STREET NAME</u>	<u>SHEET</u>	<u>STREET NAME</u>	<u>SHEET</u>	
MONTA VISTA AVE	G-15,G-16	PALMER LN	M-11	REYNA PL	G-13	
MONTANA LN	H-15	PALO ALTO WAY	H-13	RIDGEVIEW DR	H-16,H-17,I-17	
MONTE ROSA DR	I-13,I-14	PARK LN	F-15,G-14,G-15	RINGWOOD AVE	C-13,D-13,E-13	
MONTEREY AVE	H-15	PARKWOOD DR	C-13,C-14,D-13	RIORDAN PL	D-12	
MORANDI LN	E-12	PARTRIDGE AVE	E-12,F-12	ROBERT S DR	G-14	
MOREY DR	F-13	PASO DEL ARROYO	M-10	ROBIN WAY	D-11	
MORGAN LN	E-12	PATRICIA PL	G-13	ROBLE AVE	E-13,F-13	
MORRO VISTA DR	K-12	PATTERSON AVE	H-15	ROLISON RD	C-16	
MOSSWOOD WAY	C-14,C-15	PAULSON CR	E-12	RONDO WAY	H-15	
MOULTON DR	E-14	PEAK LN	L-10,L-11	ROSE AVE	F-14	
MOUNT VERNON LN	E-16	PEARL LN	E-12	ROSEFIELD WAY	G-14	
MULBERRY LN	H-16	PECORA WAY	K-11,K-12	ROSEMARY ST	B-13	
N						
N BALSAMINA WAY	J-11,K-11	PEGGY LANE	C-15	ROSEWOOD DR	C-14,D-14	
N CASTANYA WAY	K-11	PEMBROKE PL	G-13	ROYAL OAK CT	H-13	
NANCY WAY	H-14	PENINSULA AVE	D-12,D-13	RURAL LN	I-12	
NASH AVE	D-12	PEPPERWOOD CT	D-12	RUSSELL CT	D-11	
NATHORST AVE	M-10,N-10	PERRY AVE	H-12	RUTGERS STREET	A-10,A-11	
NEWBRIDGE ST	C-11,C-12,C-13	PIERCE RD	C-12,C-13,C-14	S		
NOEL DR	E-13	PINE ST	E-13,E-14	SADDLEBACK	N-10	
NOTRE DAME AVE	B-10	PINEVIEW LN	G-14	SAGA LN	I-13	
NOVA LN	D-11	PLUMAS AVE	C-13	SAGE ST	B-13	
O						
OAK AVE	H-12,H-13,G-13	POLHEMUS	H-17	SAN ANDREAS DR	D-12	
OAK FORREST CT	N-9	POLITZER DR	G-14	SAN ANTONIO ST	E-14,E-15	
OAK GROVE AVE	D-14,E-14,F-14	POMONIO	N-10	SAN CLEMENTA DR	D-12	
OAK GROVE CT	D-13,D-14	POPE ST	D-11	SAN JUAN LN	H-15	
OAK HOLLOW WAY	H-13	POPLAR AVE	B-11,C-11	SAN LUIS DR	D-12	
OAK KNOLL LN	H-13	POPPY AVE	G-13	SAN MATEO DR	F-12,F-13,F-14,G-13	
OAK LN	F-13	PORTOLA GREEN CR	N-10,N-11	SAND HILL CR	I-15,J-15	
OAKDELL DR	G-13,H-13	PORTOLA RD	M-13,N-10,N-11,N-12,N-13,N-14	SAND HILL RD	H-12,H-13,I-13,I-14,I-14,J-15,J-16	
OAKFIELD LN	H-13	PRADO CT	N-11	SAND STONE	N-9,N-10	
OAKHURST PL	C-14	PRADO SECOYA	G-14	SANDLEWOOD ST	B-13	
OAKLAND AVE	C-13	PRINCETON RD	F-12	SANTA CRUZ AVE	E-13,F-13,F-14,G-14,H-12,H-13,H-14	
OAKLEY AVE	H-14	PRIOR LN	E-15	SANTA MARGARITA AVE	D-12,E-12	
OAKWOOD PL	C-13,C-14	PROSPECT ST	H-14	SANTA MARIA AVE	N-14	
O'BRIEN DR	B-11,B-12	PURDUE AVE	A-10,A-11	SANTA MONICA AVE	D-12,E-12	
ODELL PL	E-16	Q			SANTA RITA AVE	G-12,G-13
OHLONE	N-9,O-9	QUAIL	N-10	SANTIAGO AVE	G-14,G-15	
O'KEEFE ST	C-11,C-12	QUAIL CT	C-13	SARATOGA AVE	B-12,C-12	
OLIVE ST	G-12,G-13,G-14	R			SARGENT LN	I-16
OLIVER CT	H-15	RALMAR AVE	B-11	SAUSAL DR	M-10,M-11	
OLYMPIC AVE	I-13	RAMONA RD	O-7,P-7	SAXON WAY	F-13	
ORANGE AVE	H-14	RANDELL PL	G-13	SCOTT DR	C-15	
ORCHARD HILLS	H-17	RAVENSWOOD AVE	E-13	SELBY LN	G-16	
P						
PAGE ST	C-16	REBECCA LN	E-13,E-14	SEMINARY DR	D-12,D-13,E-12	
PALM CT	G-13	REDBERRY RD	O-8,O-9	SEVIER AVE	B-12,C-12	
		REDWOOD WAY	E-16	SEYMOUR LN	G-13,G-14	
		REGAL CT	C-11	SHARON CT	H-13	
		RESERVOIR RD	I-16	SHARON OAKS DR	H-13	

STREET NAME	SHEET	STREET NAME	SHEET	STREET NAME	SHEET
SHARON PARK DR	H-13,I-13,I-14	THERESA CT	C-15	WHITE OAK CT	H-13
SHARON RD	H-13	THISTLE	N-10	WHITE OAK DR	G-13,H-13
SHASTA LN	I-14,I-15	THURLOW ST	E-13	WHITNEY CT	I-15
SHAWNEE PASS	M-12	TIMOTHY LANE	C-15	WHITNEY DR	I-15
SHERMAN AVE	H-13,H-14	TINTERN LANE	M-12	WILDWOOD LN	I-12
SHERWOOD WAY	E-12	TIOGA DR	H-14,H-15,I-14,I-15	WILLIAM CT	G-14
SHERLEY WAY	D-11	TORO CT	L-10,M-10	WILLOW PL	E-12
SIERRA DR	I-14,I-15	TOUDOR DR	E-15	WILLOW RD	B-12,C-12,D-12,E-11,E-12
SIERRA LN	I-11	TOYON RD	D-13,D-14	WILLOWBROOK DR	N-10,N-11,O-10
SIESTA CT	K-11	TRENTON WAY	D-11	WINCHESTER DR	E-15,E-16,F-15,F-16
STOUX WAY	M-11,M-12	TRINITY DR	H-15,I-14,I-15	WINDERMERE AVE	B-13,C-12,C-13
SISKIYOU DR	I-14,I-15	TULANE AVE	A-11	WINDSOR DR	F-13
SISKIYOU PL	I-14			WINDSOR WAY	F-13
SNECKNER CT	I-11			WINTERCREEK	N-9,O-9
SOMERSET LN	G-15	UNIVERSITY AVE	A-11,B-10,B-11	WISTERIA WAY	C-14,D-14
SONOMA AVE	C-13	UNIVERSITY DR	F-12,F-13,F-14	WOODFERN	O-9
SONOMA PL	C-13	URSULA WAY	B-10,B-11	WOODLAND AVE	D-11,E-11
S. BALSAMINA WAY	K-10			WOODLAND CT	D-11
S. CASTANYA WAY	K-10,K-11	VALENCIA CT	I-9,I-10	WOOD LN	G-13,G-14
SPENCER LN	F-15,F-16	VALLEY CT	I-16,J-16,J-17		X
SPIROS WAY	H-15	VALLEY OAK	N-9,N-10		
SPRUCE AVE	E-15	VALLEY RD	I-16,J-16	XAVIER ST	A-11
ST FRANCIS PL	G-13	VALPARAISO AVE	E-14,F-14,G-14,H-14,H-15		Y
STANFORD AVE	G-13,H-12,H-13	VAN BUREN RD	C-12,C-13,C-14	YALE RD	F-12,F-13
STANFORD CT	G-13	VASILAKOS CT	H-15		Z
STERLING AVE	H-14	VASILAKOS WAY	H-15	ZACHARY CT	H-14
STERN LN	G-15,G-16	VERONICA PL	M-10		
STEVENS AVE	A-10	VERSAILLES DR	F-14		
STEVENSON LN	F-16	VICTORIA DR	E-14		
STEVICK DR	H-16,H-17	VINE ST	H-12,H-13		
STILLMAN AVE	I-12,I-13	VIRGINIA LN	E-16		
STOCKBRIDGE AVE	H-17				
STONE PINE LN	E-15	WALLEA DR	F-13		
STONE LN	I-11,I-12	WALNUT AVE	E-15		
SUNHILL	O-9	WALNUT ST	C-11,D-11		
SUNRISE CT	H-13	WALSH RD	H-15,H-16,I-16,J-16		
SUNSET CT	I-14	WARNER RANGE AVE	I-14		
SUNSET LN	I-14	WATKINS AVE	E-15		
SURREY LN	D-14,E-14	WAVERLEY CT	E-12		
SUSAN GALE CT	H-15	WAVERLEY ST	E-12		
SUTHERLAND DR	H-16,I-16	WAYNE COURT EAST	C-16		
		WAYSIDE RD	N-14		
		WENDY WAY	H-14		
		WERTH AVE	F-13		
TAGUS CT	I-10	W. FLORESTA WAY	K-11		
TALLWOOD CT	H-15,H-16,I-15	WESTFIELD DR	F-13		
TAN OAK AVE	N-10	WESTMINSTER AVE	B-12,C-12		
TEHAMA AVE	C-13	WESTRIDGE DR	K-10		
TEMPLE CT	A-10	WHITAKER WAY	G-14		
TERMINAL AVE	B-13,C-13,C-14				

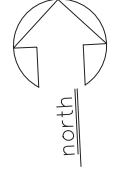


A-11

150

B-10

DUMBARTON BRIDGE
84



A-11

PULGAS RANCHO LINE

PULGAS RANCHO LINE

SOUTHERN PACIFIC RAILROAD R/W

CITY AND COUNTY OF SAN FRANCISCO

WEST BAY DISTRICT BOUNDARY

P.M.C. 11

150

COSTANO SCHOOL

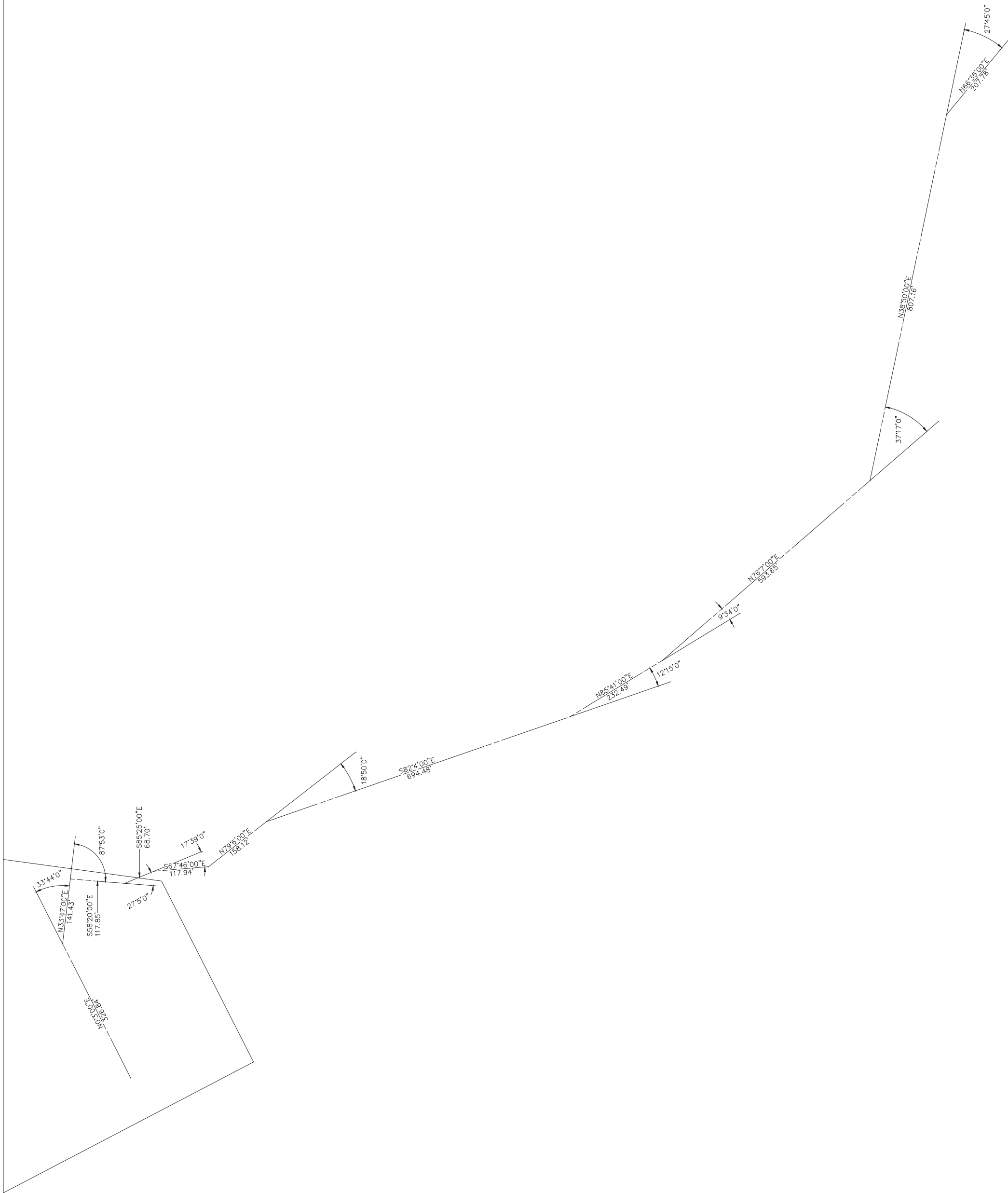
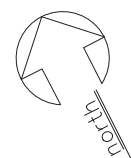
ADAMS DRIVE

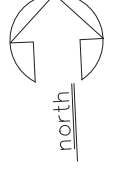
UNIVERSITY AVENUE
PURDUE AVENUE
HUNTER STREET
XAVIER STREET
LULANE AVENUE
GEORGETOWN STREET
STEVENS STREET
RUGGERS STREET
FORDHAM STREET

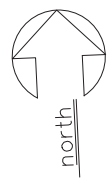
APRIL 2018

A-10

B-11



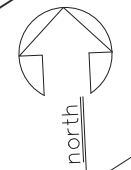






B-12

B-10



DUMBARTON BRIDGE
(TO TRACY)

f
FACEBOOK WAY
1 FACEBOOK WAY
MPK 10-19

f
FACEBOOK WAY
1 FACEBOOK WAY
MPK 20

140

150



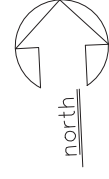


f
 FACEBOOK WAY
 MPK 22

f
 FACEBOOK WAY
 MPK 21

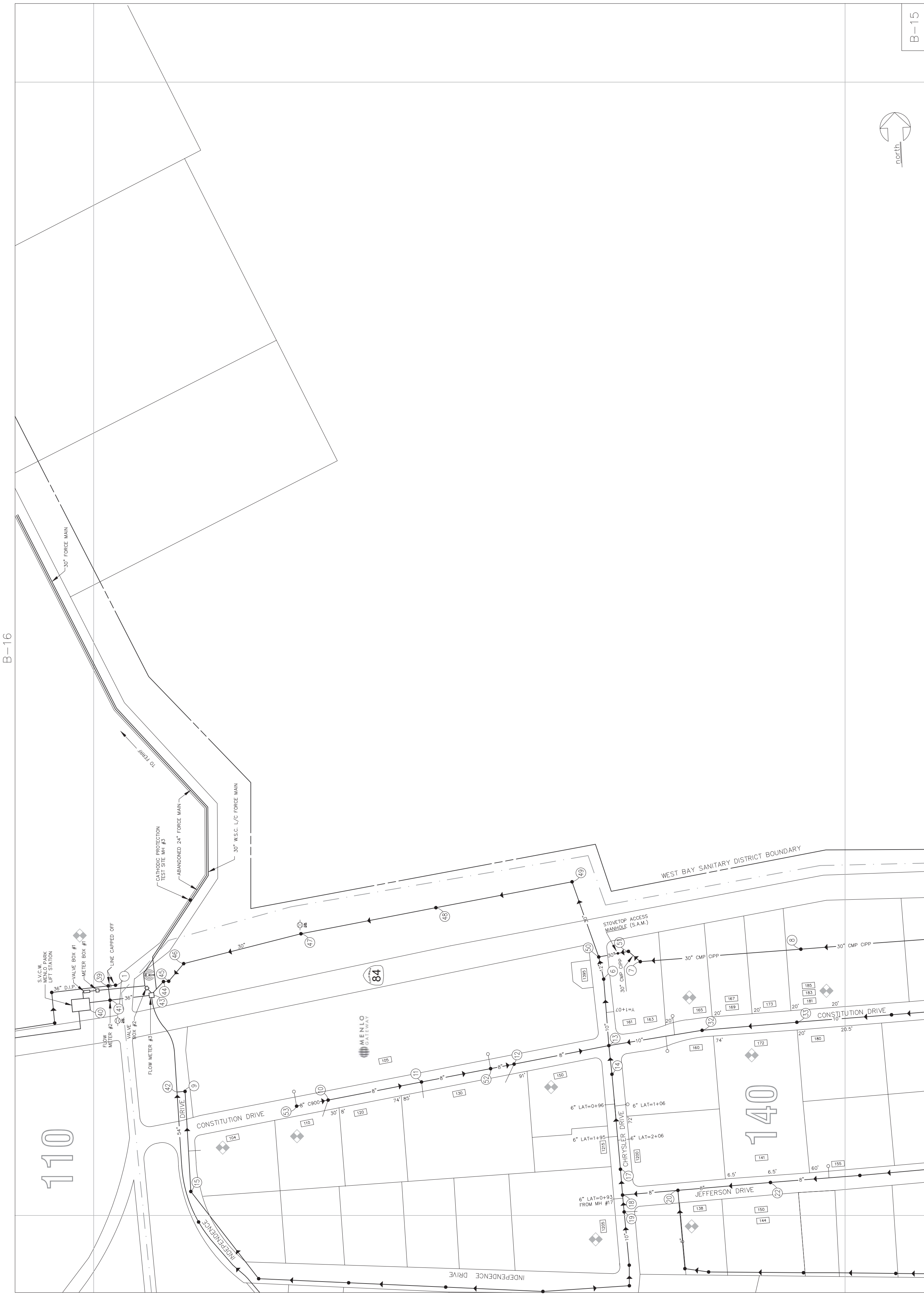
NOTE
 ALL REDUCED
 12\"/>

*** NOTE ***
 ALL MANHOLES STARTING WITH B13083 THROUGH
 AND INCLUDING B13096 ARE 8\"/>

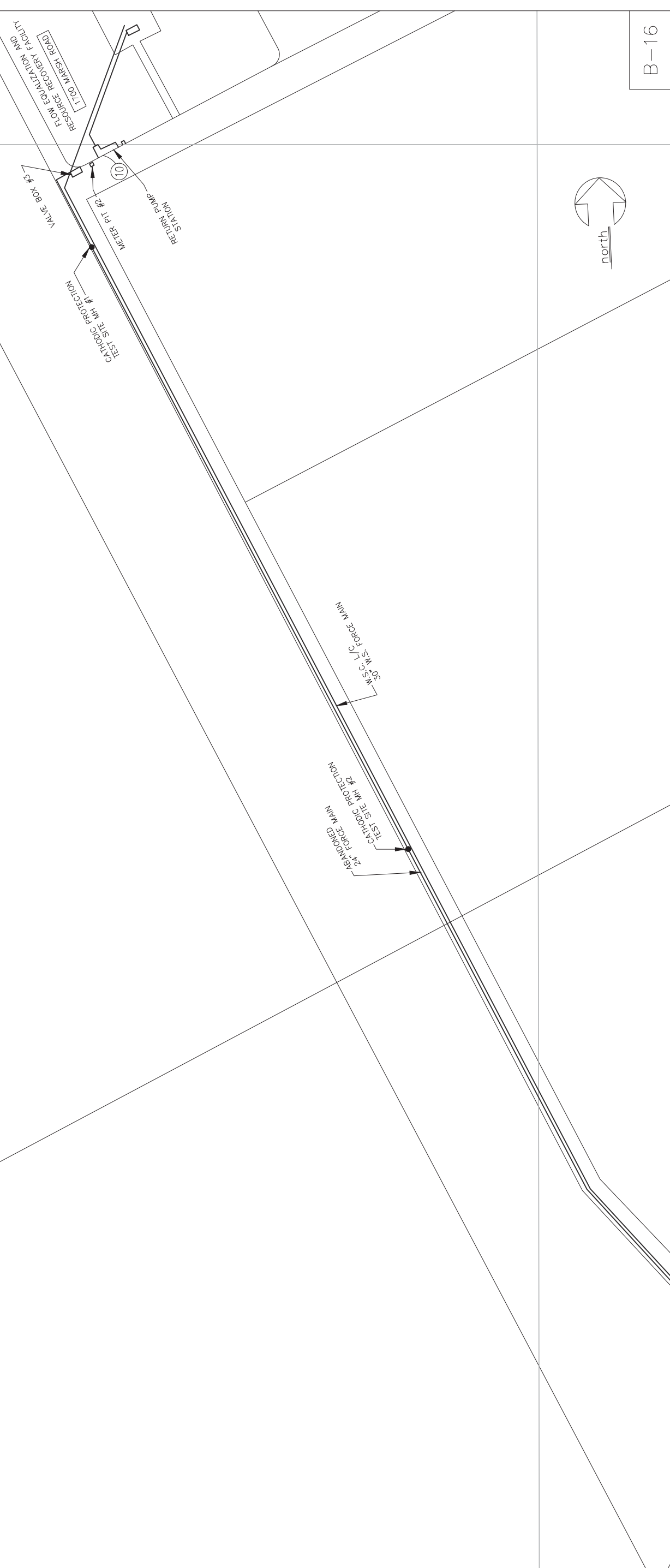
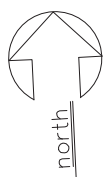


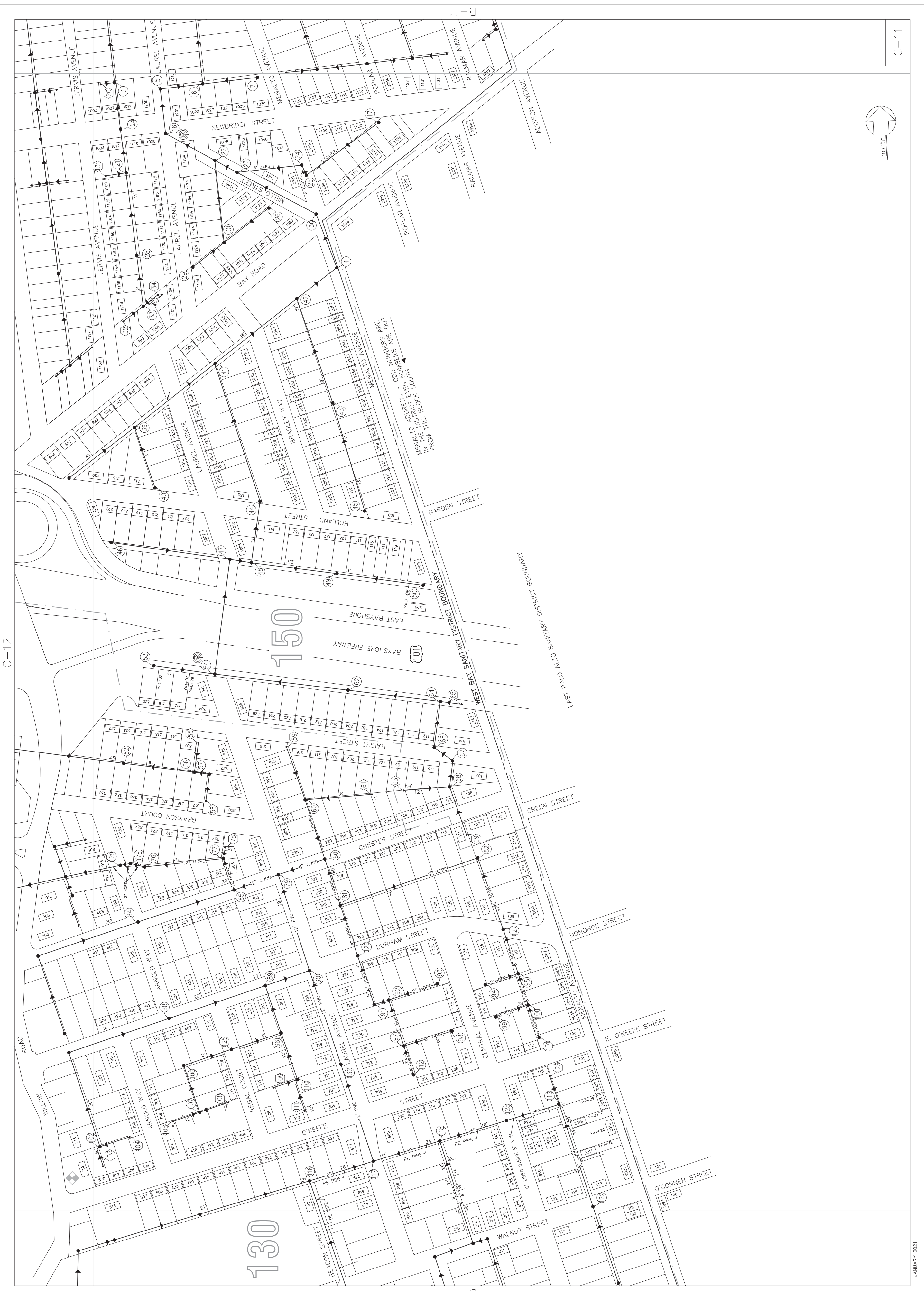


B-16



B-14





150

130

MENALTO ADDRESSES - ODD NUMBERS ARE OUT
 IN THE DISTRICT/EVEN NUMBERS ARE OUT
 FROM THIS BLOCK SOUTH

EAST PLATO SANITARY DISTRICT BOUNDARY
 WEST BAY SANITARY DISTRICT BOUNDARY

BAYSHORE FREEWAY
 101

EAST BAYSHORE

BRADLEY WAY

HOLLAND STREET

GARDEN STREET

LAUREL AVENUE

LAUREL AVENUE

LAUREL AVENUE

LAUREL AVENUE

LAUREL AVENUE

LAUREL AVENUE

LAUREL AVENUE

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C-13

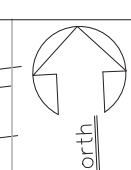
C-11

B-12

C-12

D-12

JUNE 2021



NOTE**
STARTS FROM
MH# C1281 AND EC
182,183,184,185,186,
187,188 AND 189

120

130

150

V. A. HOSPITAL

O'KEEFE STREET

DURHAM STREET

CHESTER STREET

GRAYSON COURT

HAIGHT STREET

WILLOW ROAD

ARNOLD WAY

PERIMETER RD

RECREATION AVE

N PERIMETER RD

WARHOUSE RD

BAY ROAD

MADERA AVENUE

SEVIER AVENUE

HOLLYBURNE AVENUE

VAN BUREN ROAD

WILLOW ROAD

SARATOGA AVENUE

WESTMINSTER AVENUE

NEWBRIDGE STREET

JERVIS AVENUE

HOLLAND STREET

BAY ROAD

MADERA AVENUE

SEVIER AVENUE

HOLLYBURNE AVENUE

WILLOW ROAD

CARLANTON AVENUE

MADERA AVENUE

SEVIER AVENUE

HOLLYBURNE AVENUE

WILLOW ROAD

NEWBRIDGE STREET

HENDERSON AVENUE

WILLOW ROAD

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B-13

C-13

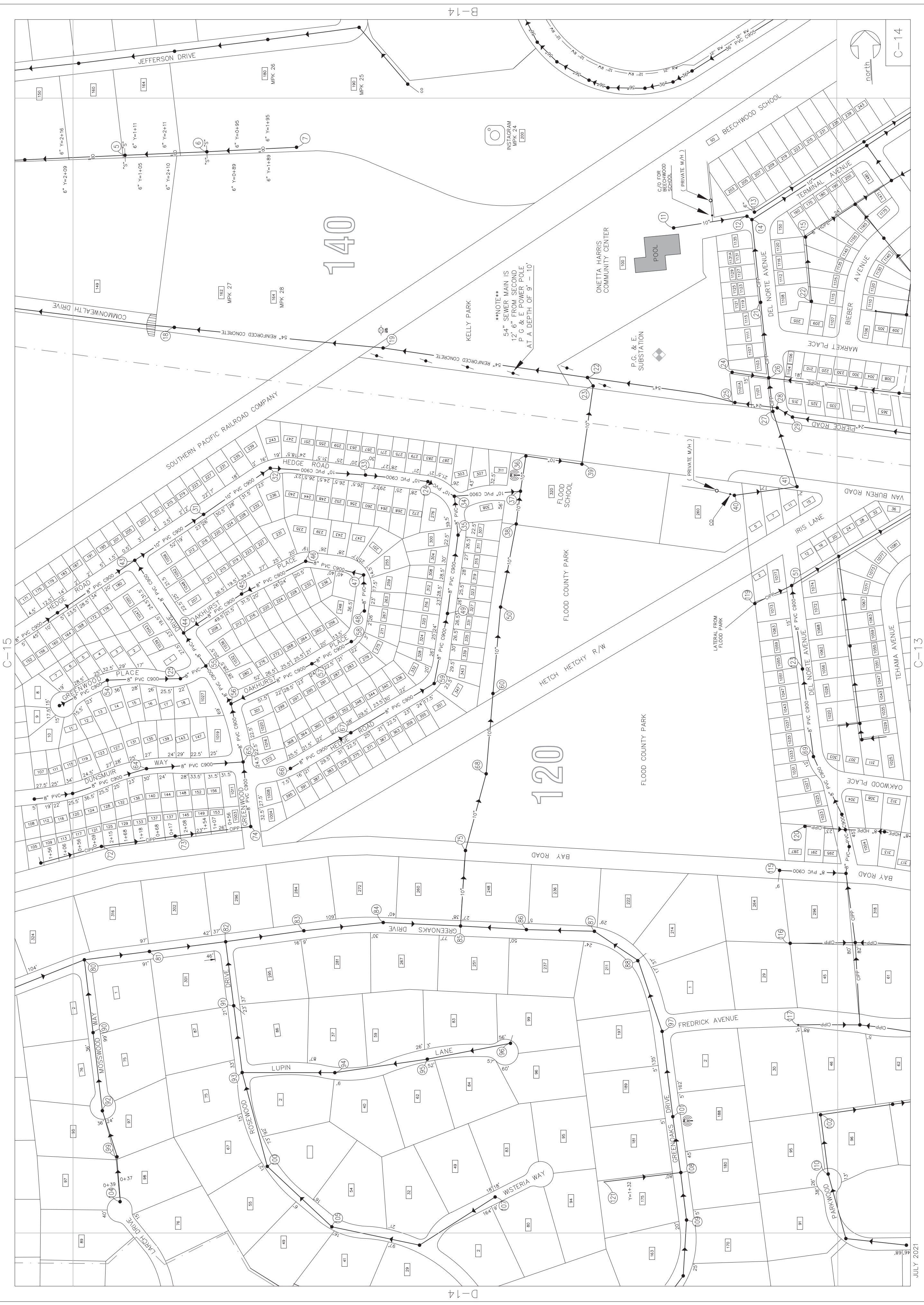
C-14

C-12

D-13

JULY 2021

ENCAS IN 30"
CORRUGATED STEEL
BETWEEN MH# C13035
AND MH# C13019
AT A DEPTH OF 18"



B-14

C-14

140

120

C-15

C-13

NOTE
 54" SEWER MAIN IS
 12" 6" FROM SECOND
 P G & E POWER POLE
 AT A DEPTH OF 9' - 10'

JULY 2021

D-14



C-16

C-14

D-15

B-15

C-15

NOTE: ASPHALT THICKNESS =
8 INCHES ON LILAC DRIVE

HOTEL NINA

MENLO GATEWAY

PRIVATE SYSTEM

SOUTHERN PACIFIC RAILROAD COMPANY

GREENWOOD

DUNSMUIR

BAYSHORE FREEWAY 101

JEFFERSON DRIVE

COMMONWEALTH DRIVE

CHRYSLER

HIGH POINT MH

MARSH ROAD OVERPASS

SCOTT DRIVE

BOHANNON DRIVE

SOUTHERN PACIFIC RAILROAD COMPANY

LORELEI LANE

CALLIE LANE

BAY ROAD

GREENOAKS

LILAC

DEODORA DRIVE

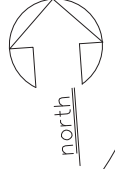
LARCH DRIVE

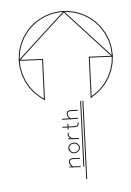
D-15

B-15

C-15







D-12

E-11

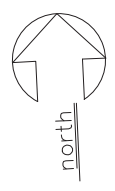


* ALL VINTAGE OAKS MAINS ARE 6" PVC SDR 26
FORCE MAIN IS 6" PVC C-900 CLASS 150

NOTE ***
BOTH 37' MARGARITA
SANCTUARY & COMMON
AREA LAVELLE ARE TO BE
NO 1/2" C/O



NOTE: ASPHALT THICKNESS =
8 INCHES ON LOWERY DRIVE

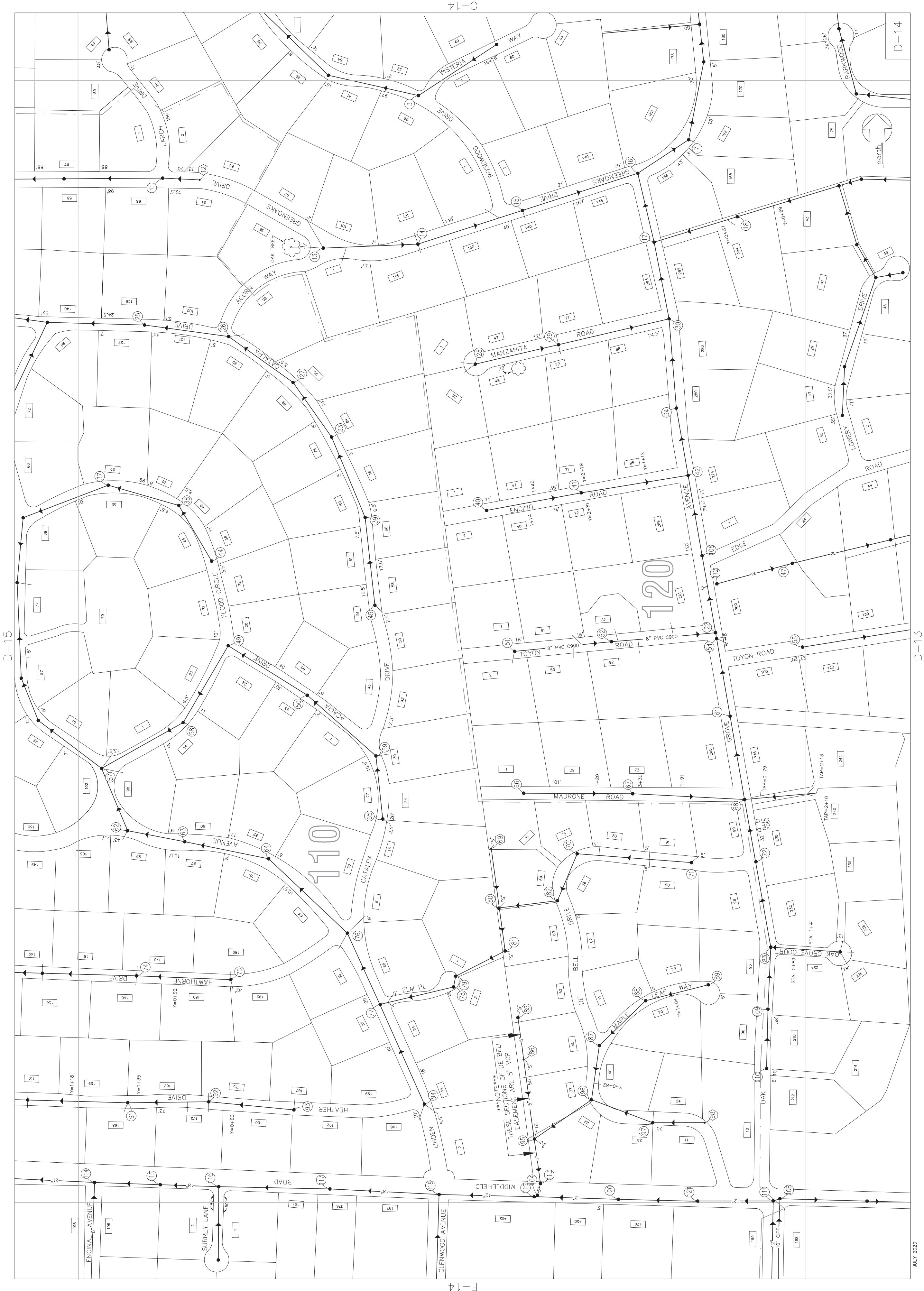


120

130

MENLO ATHERTON HIGH SCHOOL

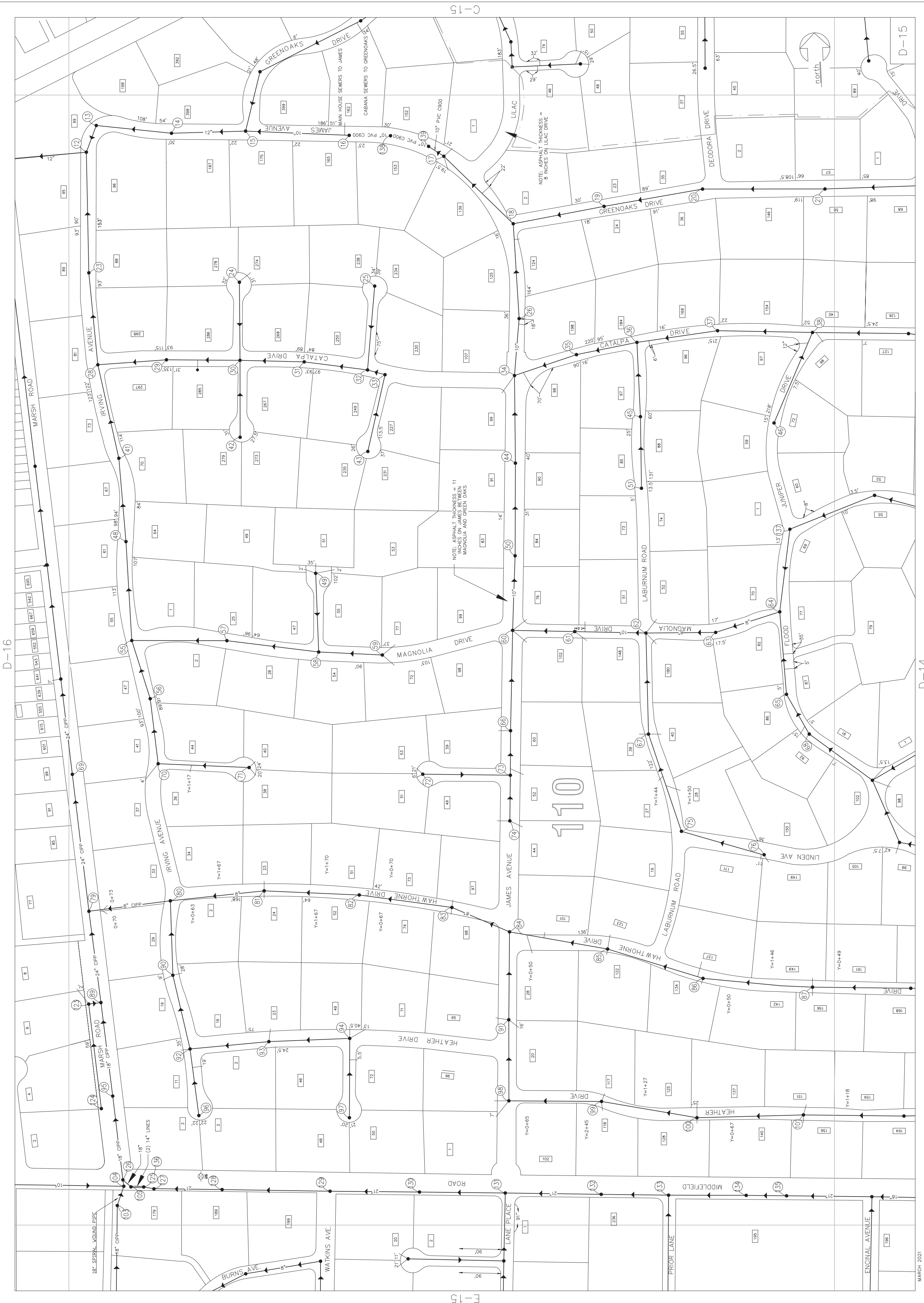
V.O. PUMP
STATION #1



NOTE
 THESE SECTIONS OF DE BELL
 EASEMENT ARE 5" VCP

120

110

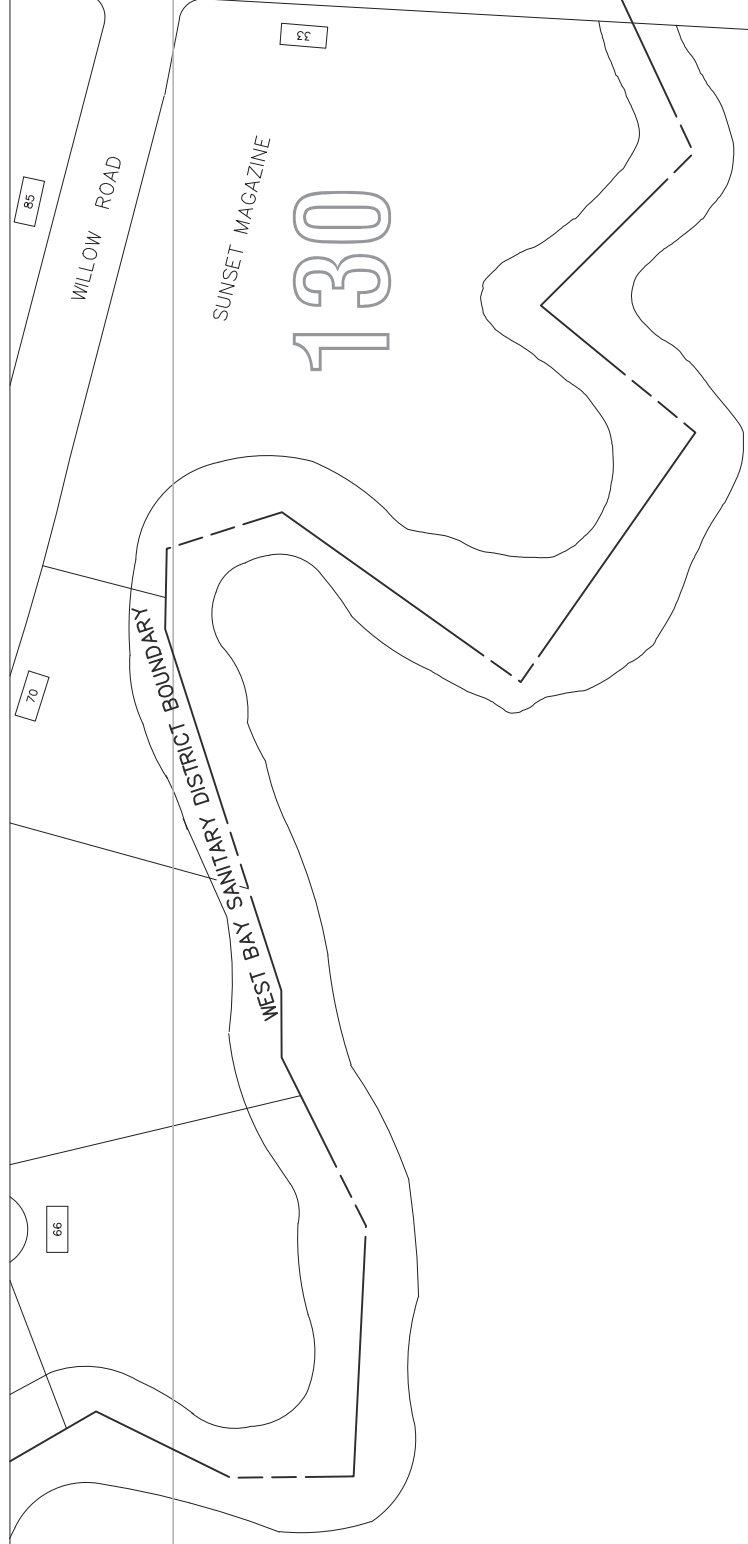
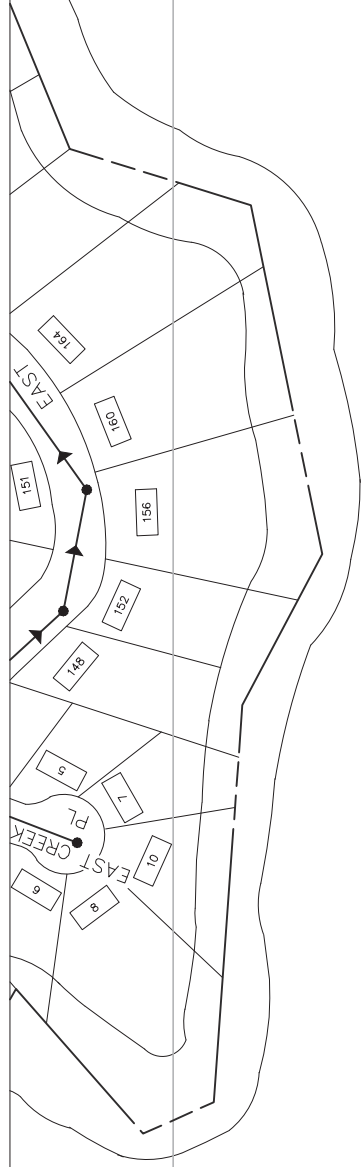


WYE LOCATIONS IN MARSH ROAD

- MH #3
- MH #18
- MH #5
- MH #21
- MH #7
- MH #22
- MH #10
- MH #23
- MH #13
- MH #24
- MH #16
- MH #17
- MH #19
- MH #15
- MH #11
- MH #12
- MH #14
- MH #1
- MH #2
- MH #4
- MH #6
- MH #8
- MH #9
- MH #13
- MH #14
- MH #15
- MH #16
- MH #17
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- MH #89
- MH #90
- MH #91
- MH #92
- MH #93
- MH #94
- MH #95
- MH #96
- MH #97
- MH #98
- MH #99
- MH #100

NOTE
 4 P.C. BECS
 4 P.C. BECS
 DIRECTLY OVER
 6" C.I.P.P. AT
 STATION 10+00
 MH # 016028







E-13

E-11

D-12

E-12

F-12

JUNE 2021

NOTE: ALL 18\"/>

NOTE: ALL 8\"/>





MENLO ATHON HIGH SCHOOL

130

120

100

BURGESS PARK

DUCK POND

NOTE: ALL 16\"/>

NOTE: ALL 16\"/>

D-13

E-13

E-14

E-12

F-13

FEBRUARY 2021

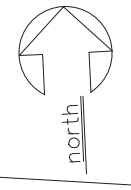


E-15

E-13

D-14

E-14



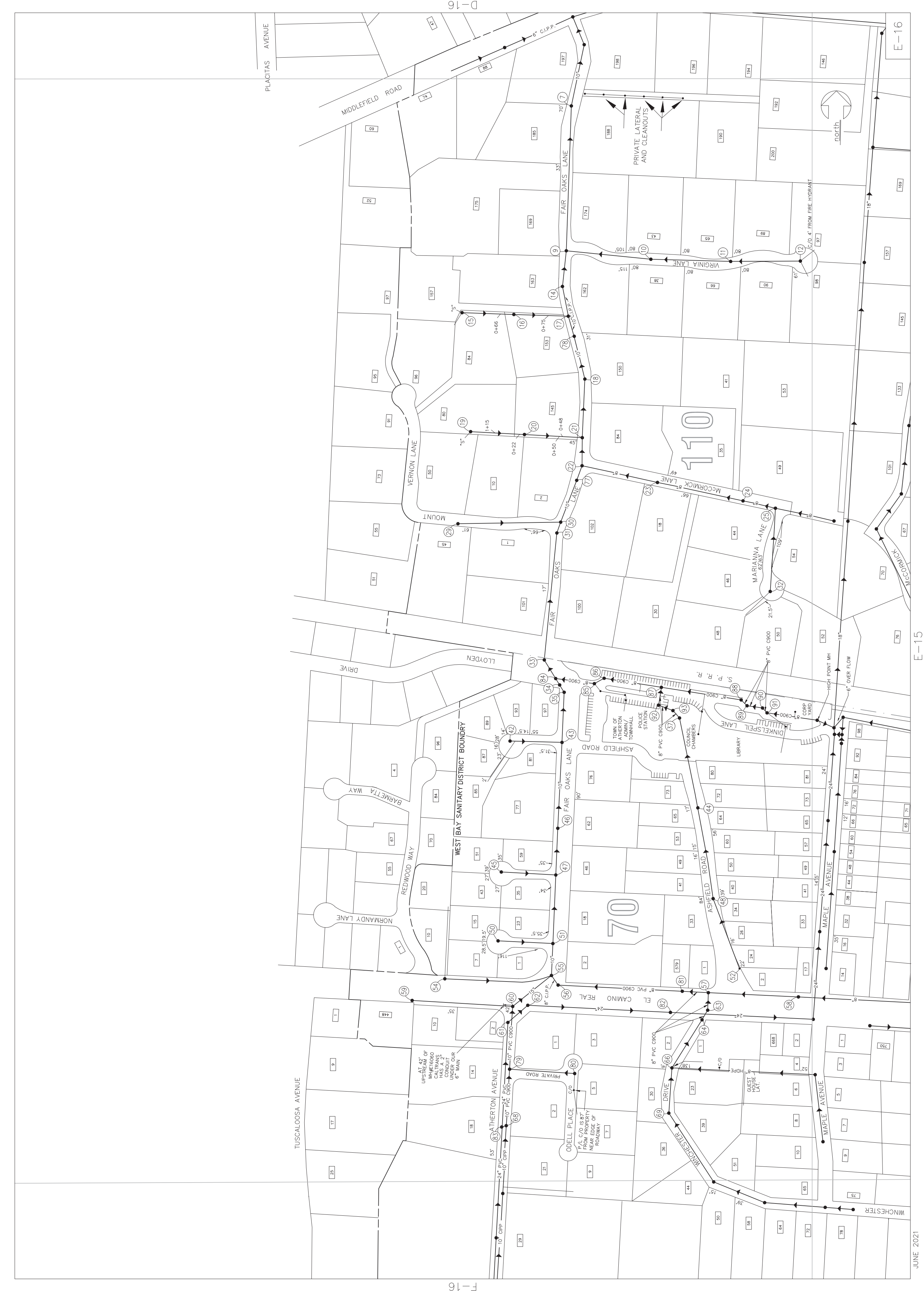
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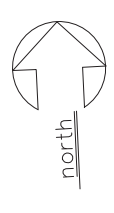
JUNE 2021



110

70

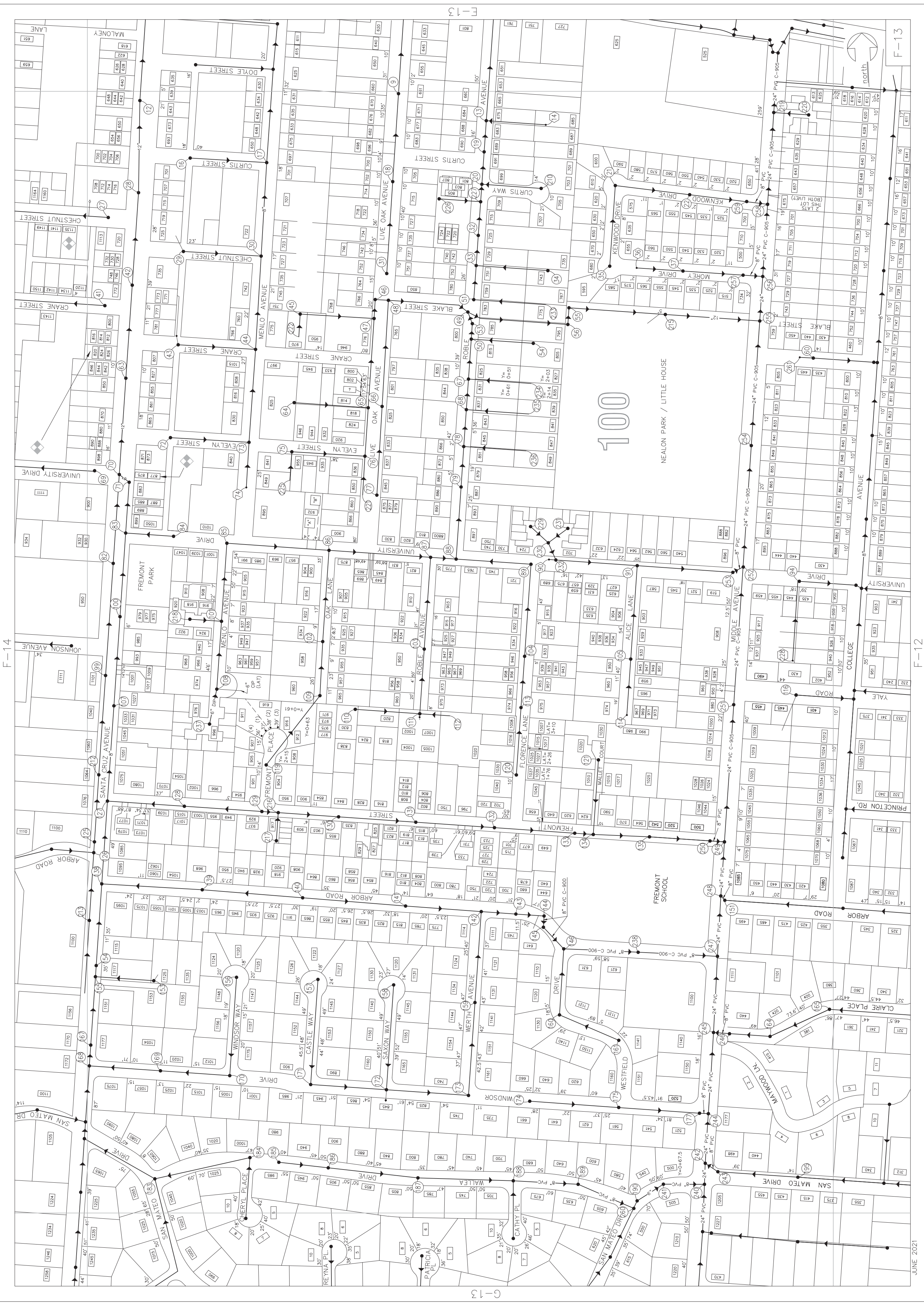




WEST BAY SANITARY DISTRICT BOUNDARY



NOTE: SEMERS TOWARDS
F-12-115 F-12-069



F-14

F-13

G-13

G-14

JUNE 2021



F-15

F-13

G-14

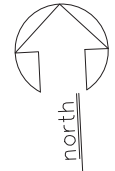
E-14

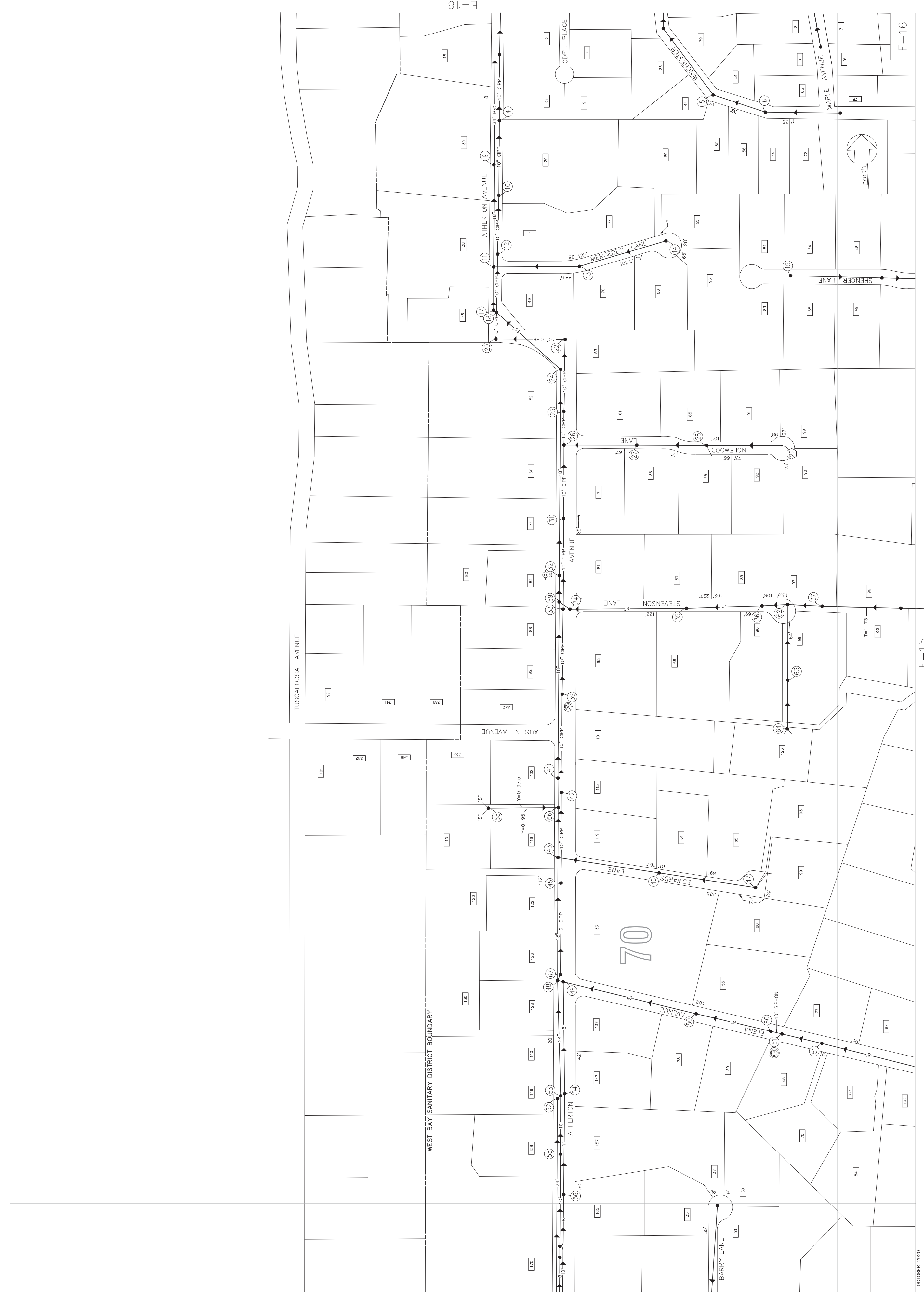
MARCH 2021



** NOTE **
 C/O IN 2ND
 DRIVEWAY WEST OF
 VALPARAISO

6" CO
 Y=1+36





WEST BAY SANITARY DISTRICT BOUNDARY

TUSCALOOSA AVENUE

AUSTIN AVENUE

ATHERTON AVENUE

70

BARRY LANE

ELENA AVENUE

EDWARDS LANE

STEVENSON LANE

INGLEWOOD LANE

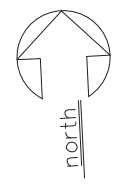
SPENCER LANE

MERCEDES LANE

MAPLE AVENUE

ODELL PLACE





F-12



G-13

H-12



F-13

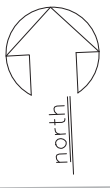
G-13

G-14

G-12

H-13

JULY 2021



F-14

G-14

G-15

G-13

F-13

G-14



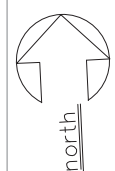
G-16

G-14

F-15

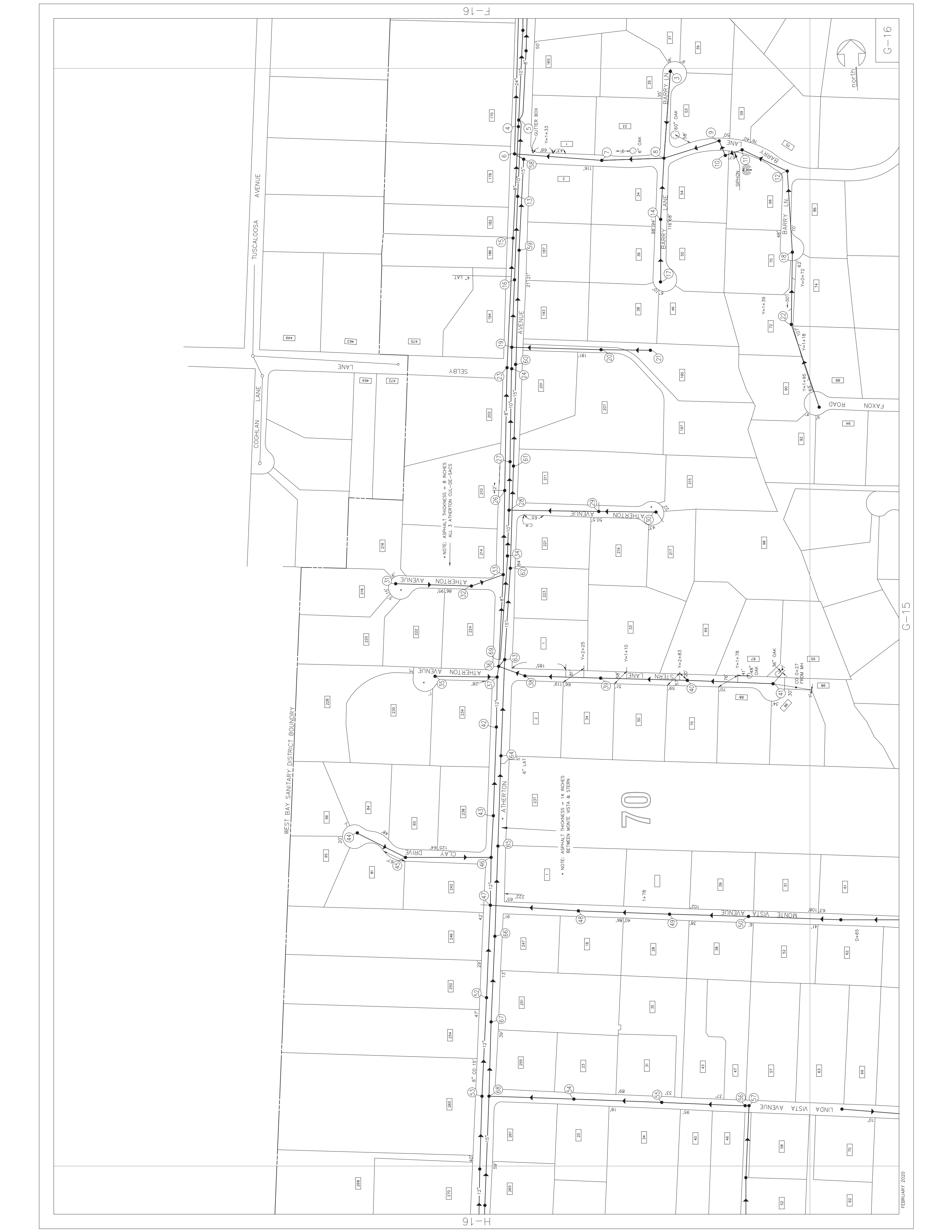
H-15

G-15



Y=14.35
6"=100'

JUNE 2021

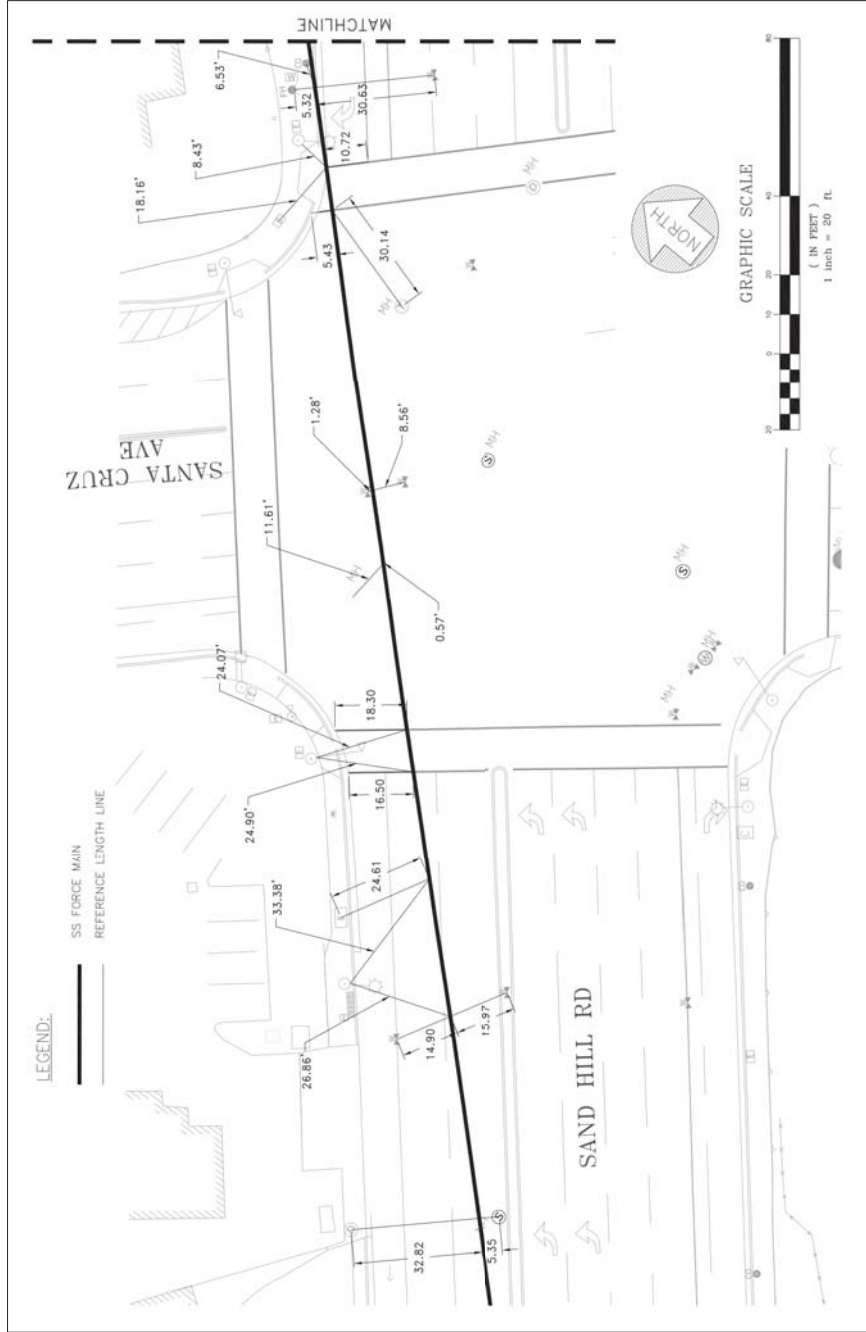
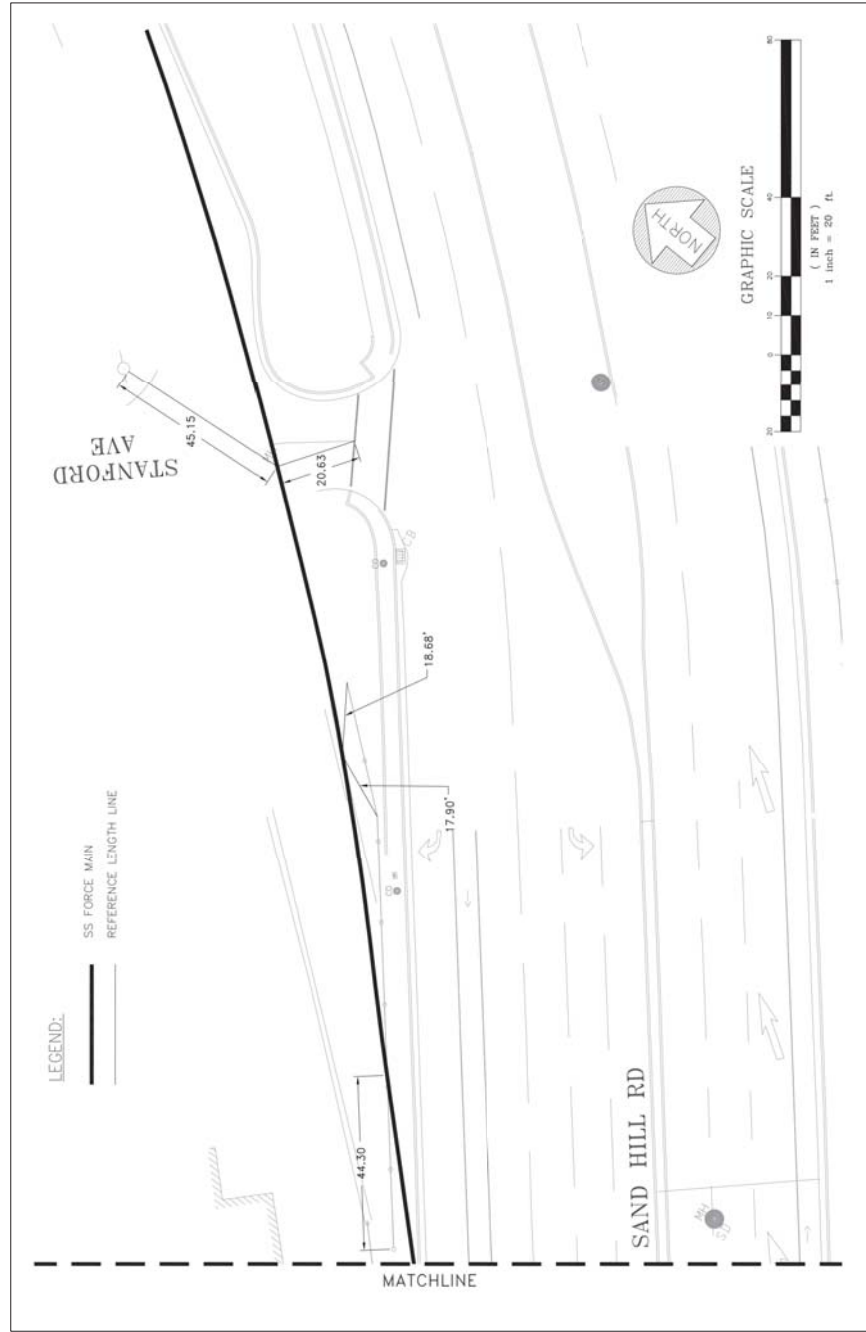
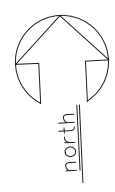


F-15

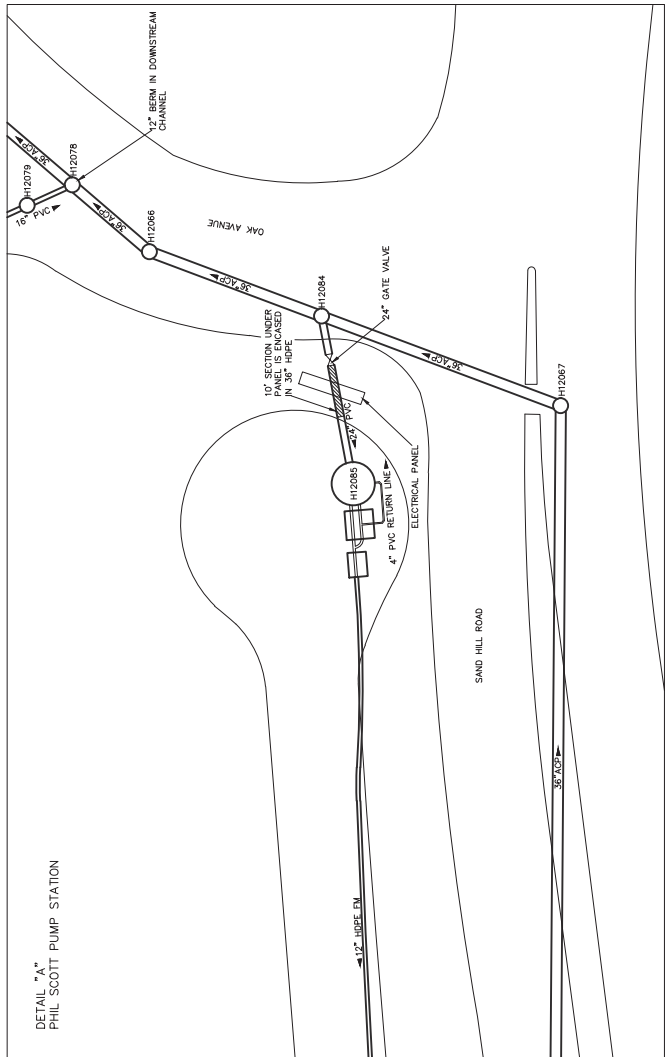
G-16

G-15

FEBRUARY 2020



INTERSECTION DETAILS





H-14

H-12

1-13

H-13

1-13



G-14



north

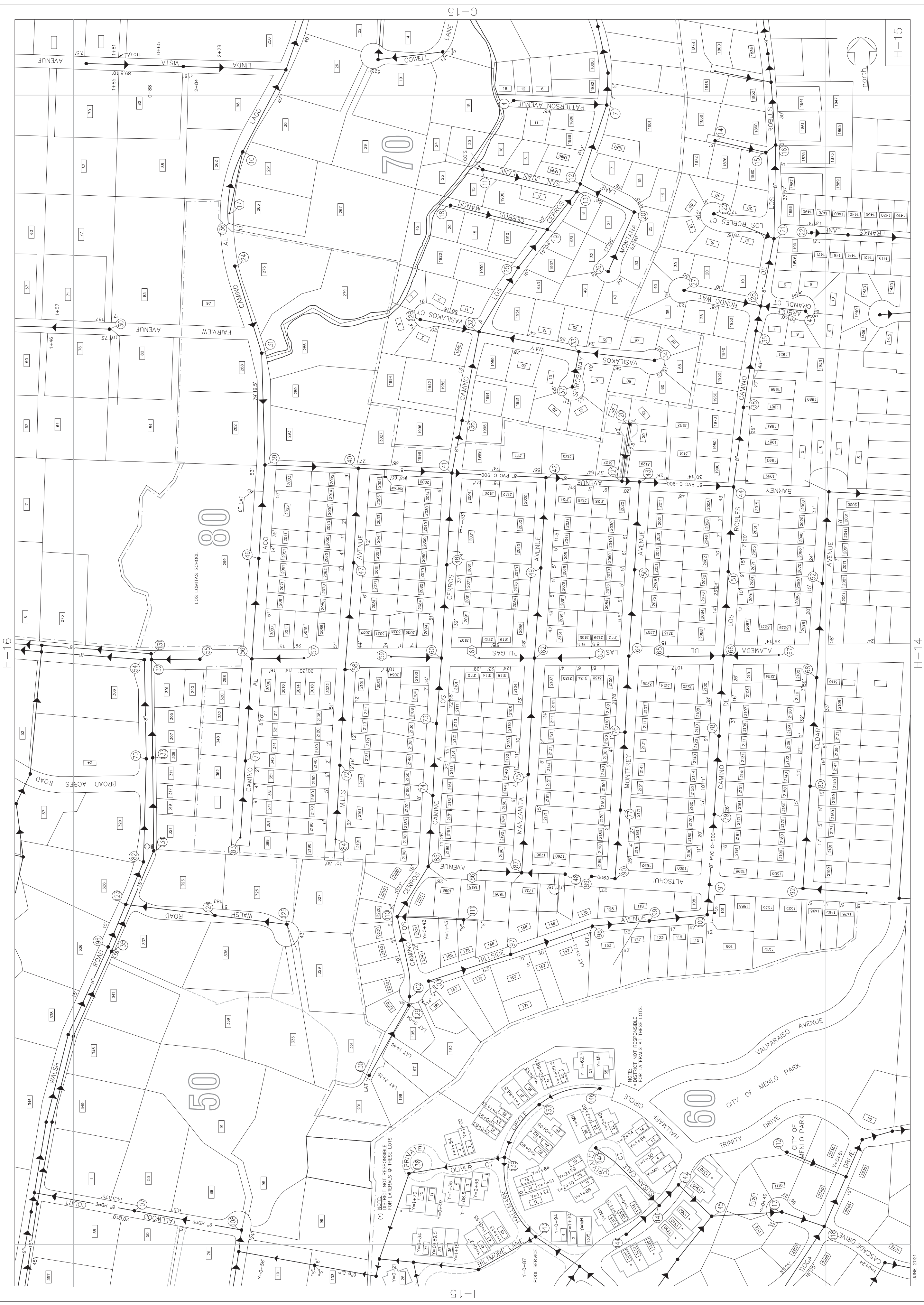
HOLY CROSS CEMETARY

H-15

H-13

1-14

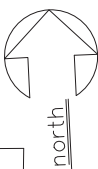
JUNE 2021



H-16

H-14

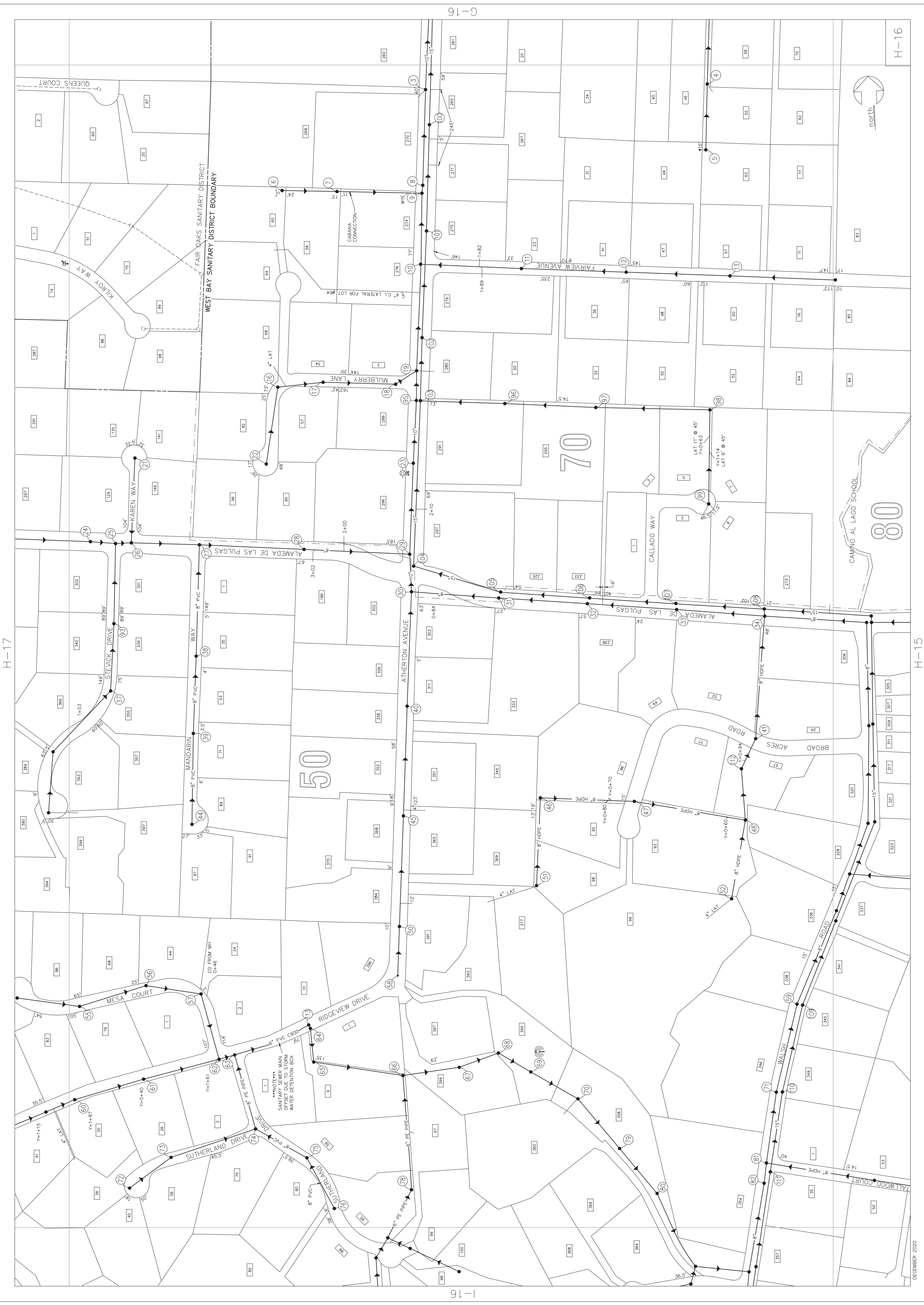
H-15



NOTE:
DISTRICT NOT RESPONSIBLE
FOR LATERALS AT THESE LOTS.

1-15

JUNE 2021



H-17

H-15

H-16

C-15

I-10

DECEMBER, 2020

NOTE
 SANITARY SEWER MAIN
 OPEN TO STORM
 WATER DETENTION BOA

1. 8" PE PIPE

2. 8" PVC

3. 8" HDPE

4. 4" LAT

5. 4" C.I. LATERAL FOR LOT #64

6. CABANA CONNECTION

7. WEST BAY SANITARY DISTRICT BOUNDARY

8. FAIR OAKS SANITARY DISTRICT

9. NORTH

10. ALAMEDA DE LAS PULGAS

11. ATHERTON AVENUE

12. SUTHERLAND DRIVE

13. RIDGEVIEW DRIVE

14. MESA COURT

15. STEVICK DRIVE

16. MANDARIN WAY

17. MULBERRY LANE

18. KAREN WAY

19. CALLADO WAY

20. ALAMEDA DE LAS PULGAS

21. BROAD ACRES ROAD

22. WALSH ROAD

23. TALLWOOD COURT

24. CAMINO AL LAGO SCHOOL

25. QUEENS COURT

26. 50

27. 70

28. 80

29. 100

30. 120

31. 140

32. 160

33. 180

34. 200

35. 220

36. 240

37. 260

38. 280

39. 300

40. 320

41. 340

42. 360

43. 380

44. 400

45. 420

46. 440

47. 460

48. 480

49. 500

50. 520

51. 540

52. 560

53. 580

54. 600

55. 620

56. 640

57. 660

58. 680

59. 700

60. 720

61. 740

62. 760

63. 780

64. 800

65. 820

66. 840

67. 860

68. 880

69. 900

70. 920

71. 940

72. 960

73. 980

74. 1000

75. 1020

76. 1040

77. 1060

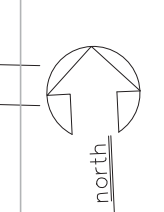
78. 1080

79. 1100

80. 1120

81. 1140

82. 1160

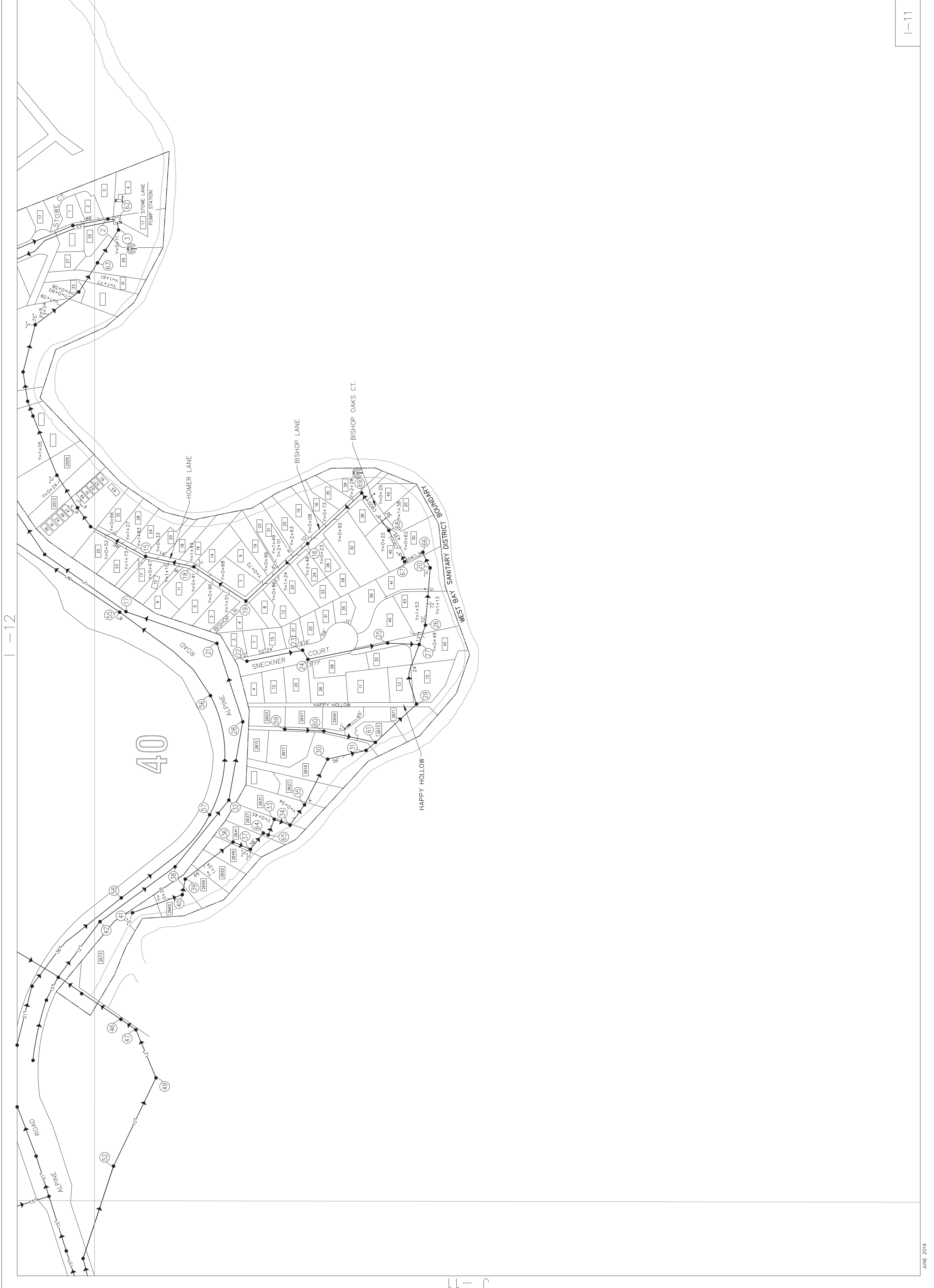


H-17

H-16

NOVEMBER 2020

1-17







I-14

J-13

H-13

I-13

I-12

MAY 2020



1-15

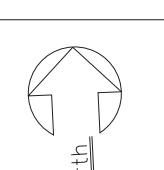
1-13

1-14

1-14

JUNE 2021

1-14



RECYCLED WATER STORAGE POND

SLURRY GAS WITHIN CALTRANS ROW

GATE/DRIVEWAY

ROSEWOOD HOTEL ENTRANCE

SHALLOW ARV 90 BEND TO SIDE OF PATH

60

50

40

ADDRESSES 2 THRU 28

ADDRESSES 30 THRU 60

SHARON PARK

SISKIYOU PLACE

SAND HILL ROAD

MONTE ROSA DRIVE

SHARON PARK DRIVE

BRENT COURT

ALEXIS COURT

CARRIAGE COURT

MANSION COURT

CONTINENTAL DRIVE

SERRA DRIVE

CASCADE DRIVE

CASCADE COURT

DEANNA DRIVE

ANY AVENUE

ZACHARY CT

MONTE ROSA DRIVE

CREST LANE

WARNER AVENUE

RANGE AVENUE

LOMA LANE

PRELIA LANE

OLYMPIC AVENUE

CARTER WAY

LASSAN DRIVE

TRINITY DRIVE

SUNSET LANE

SUNSET LANE

MONTE ROSA DRIVE

MONTE ROSA DRIVE

MONTE ROSA DRIVE

MONTE ROSA DRIVE

MONTE ROSA DRIVE

MONTE ROSA DRIVE

MONTE ROSA DRIVE

MONTE ROSA DRIVE

MONTE ROSA DRIVE

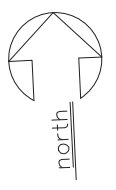
MONTE ROSA DRIVE



50

60

60





SEE I-15 FOR DETAIL



H-17

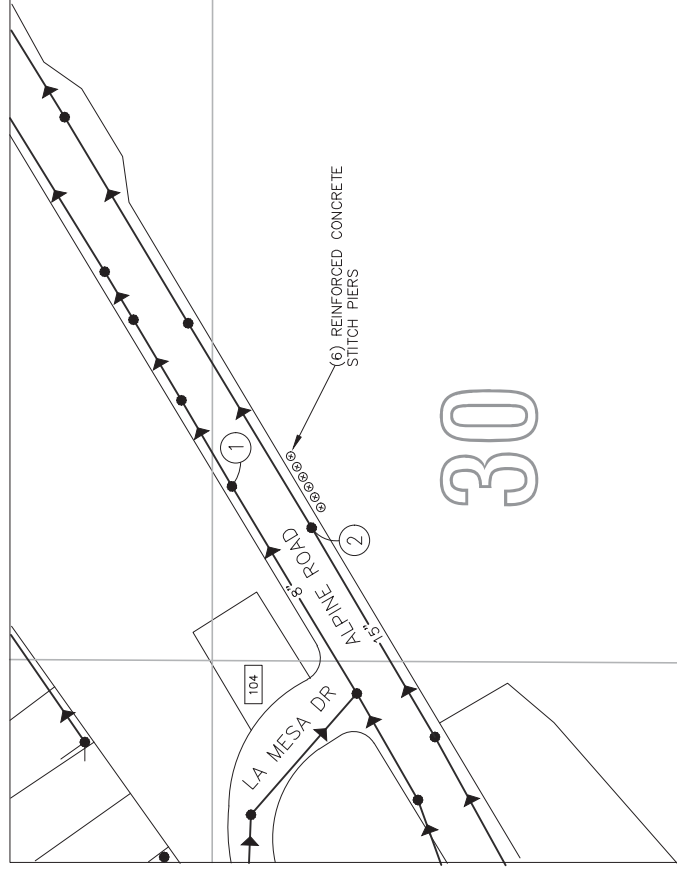
I-17

J-17

I-16

FEBRUARY 2021

J-11



K-10

J-10

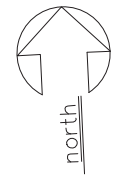
SEPTEMBER 2018



NOTE:
 FLOWS FROM 10" LINE HAVE BEEN
 DIVERTED INTO 15" LINE @ SSMH #J11-015

NOTE:
 LOCATION FOR SCHOOL
 CLEANOUT IS FROM HYDRANT

30

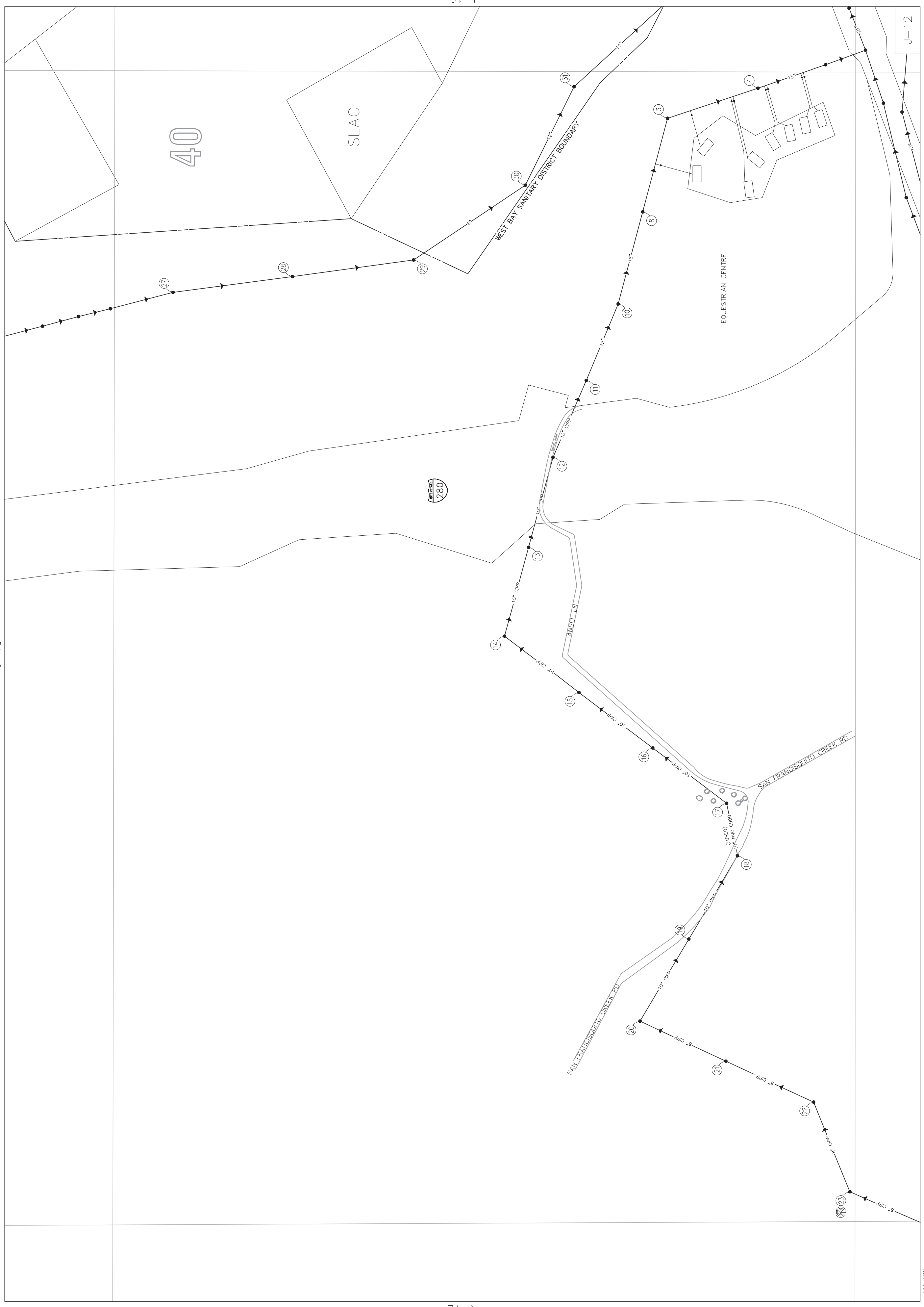


J-13

J-11

K-12

JULY 2018



40

SLAC

EQUESTRIAN CENTRE

WEST BAY SANITARY DISTRICT BOUNDARY

SAN FRANCISCO CREEK RD

SAN FRANCISCO CREEK RD

ANSEL LN

280

27

28

29

30

31

3

8

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11

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20

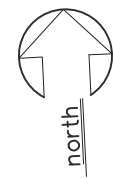
21

22

23

J-12

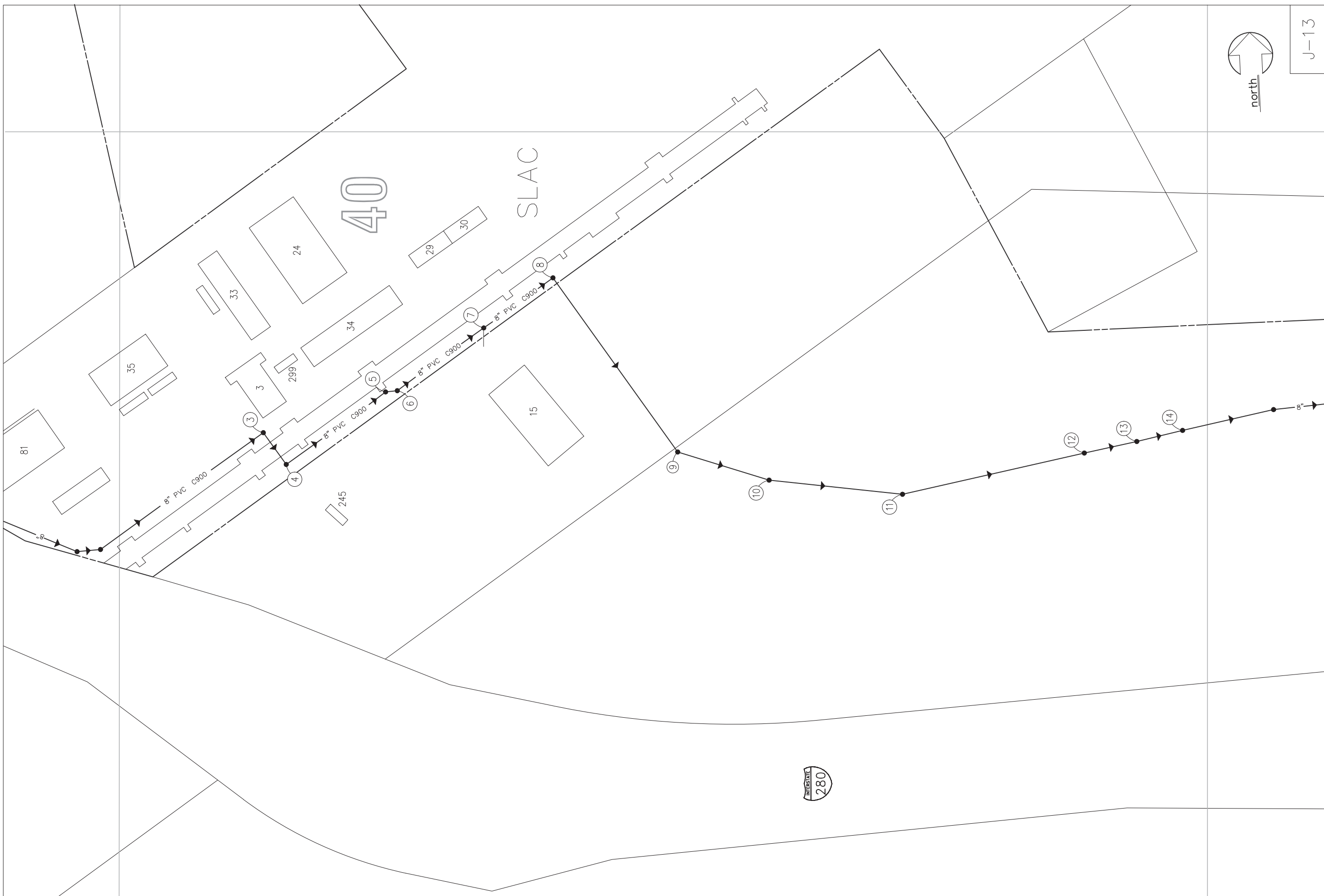
I-13



J-13

40

SLAC

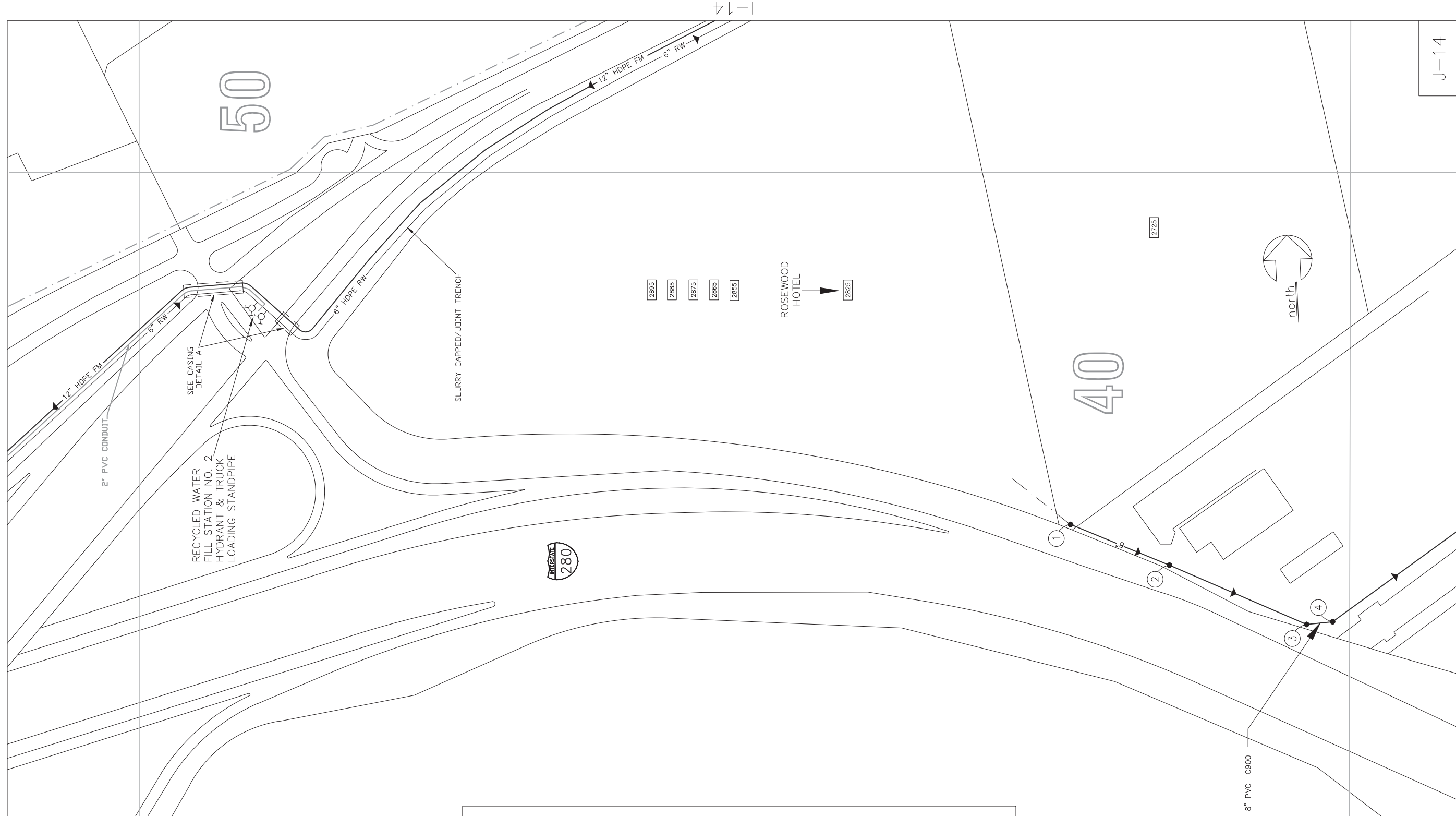


J-14

J-12

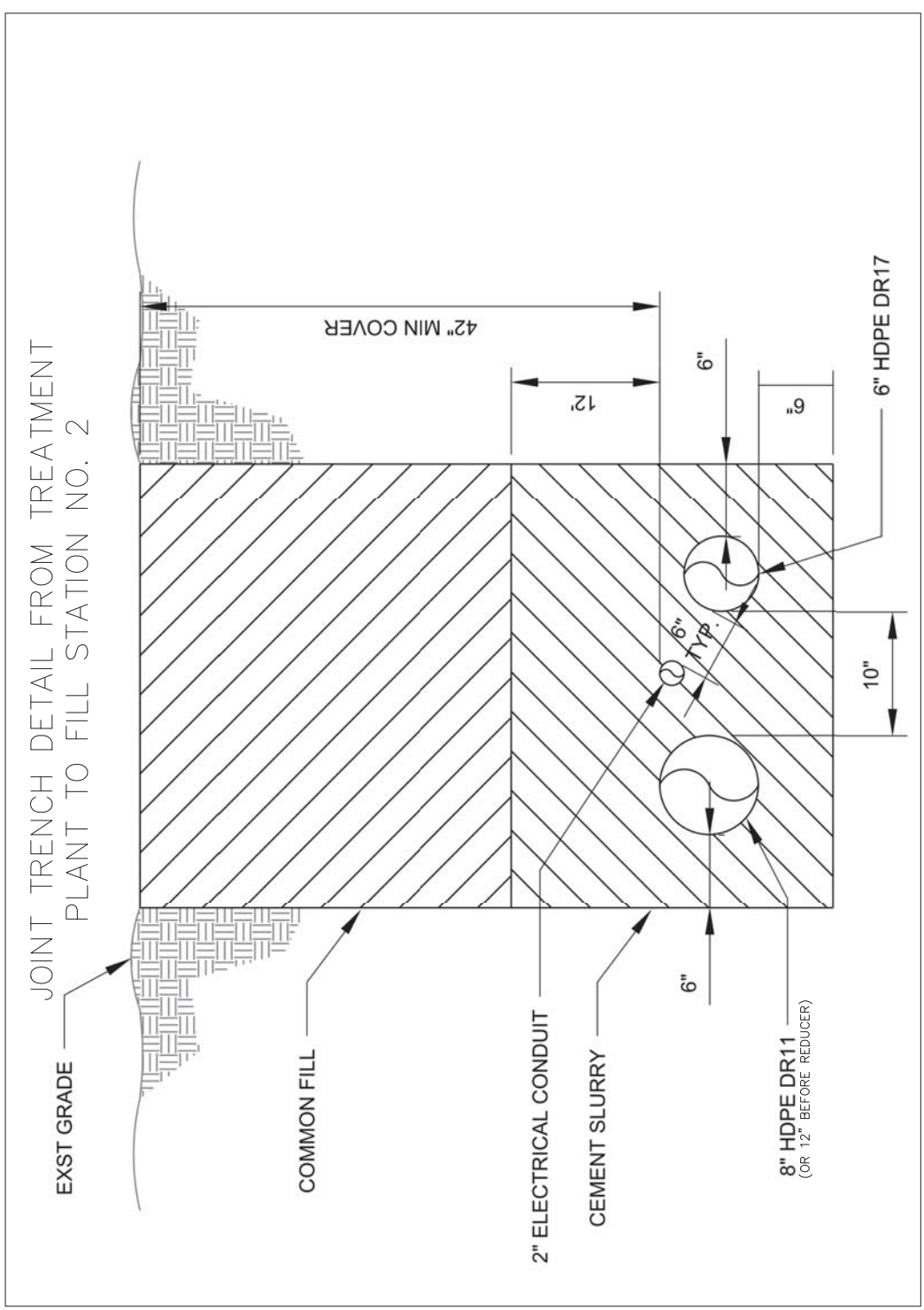
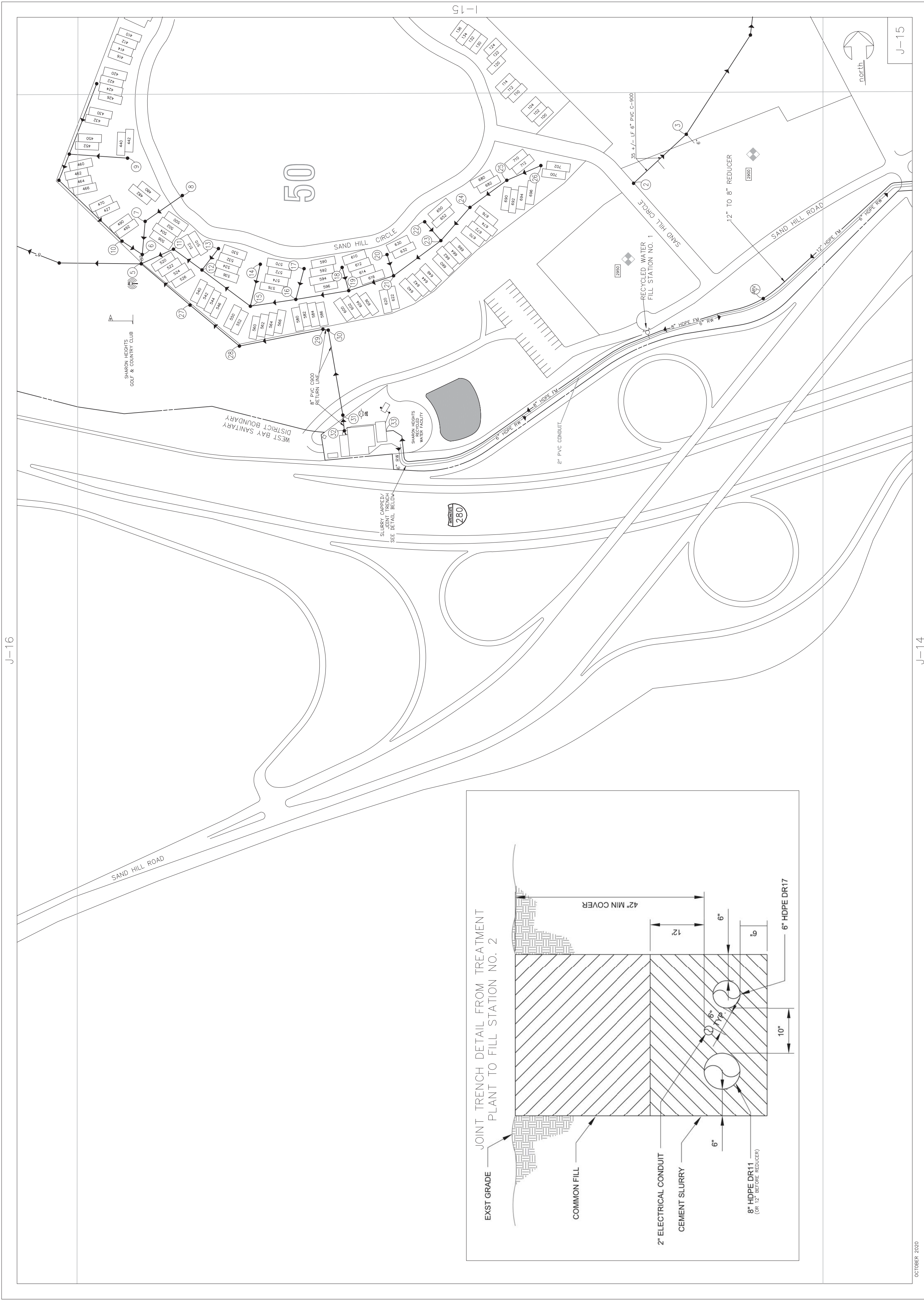
K-12

JULY 2018

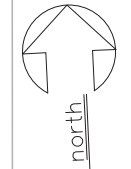


ITEM	DESCRIPTION
1a	12-INCH CARRIER / SEWER FM, HDPE DR21
1b	6-INCH CARRIER / RECYCLED WATER, HDPE DR17
2	28-INCH STEEL CASING PIPE WITH 0.25-INCH THICK WALL, AND ALL JOINTS FULLY BUTT WELDED
3	INSULATORS, 8-INCH WIDE VINYL COATED STEEL BAND, 2" WIDE RUNNERS, CENTERED AND RESTRAINED (CALPICO, GPT INDUSTRIES OR EQUAL)
4	NOT USED
5	2" COMMUNICATION CONDUIT IN NORTHERN BORE AND JACK ONLY

DETAIL "A"

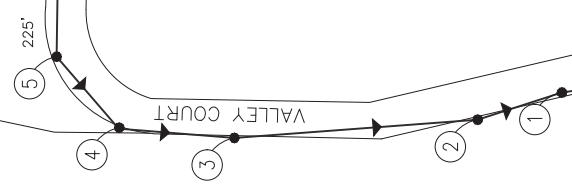






50

VALLEY COURT

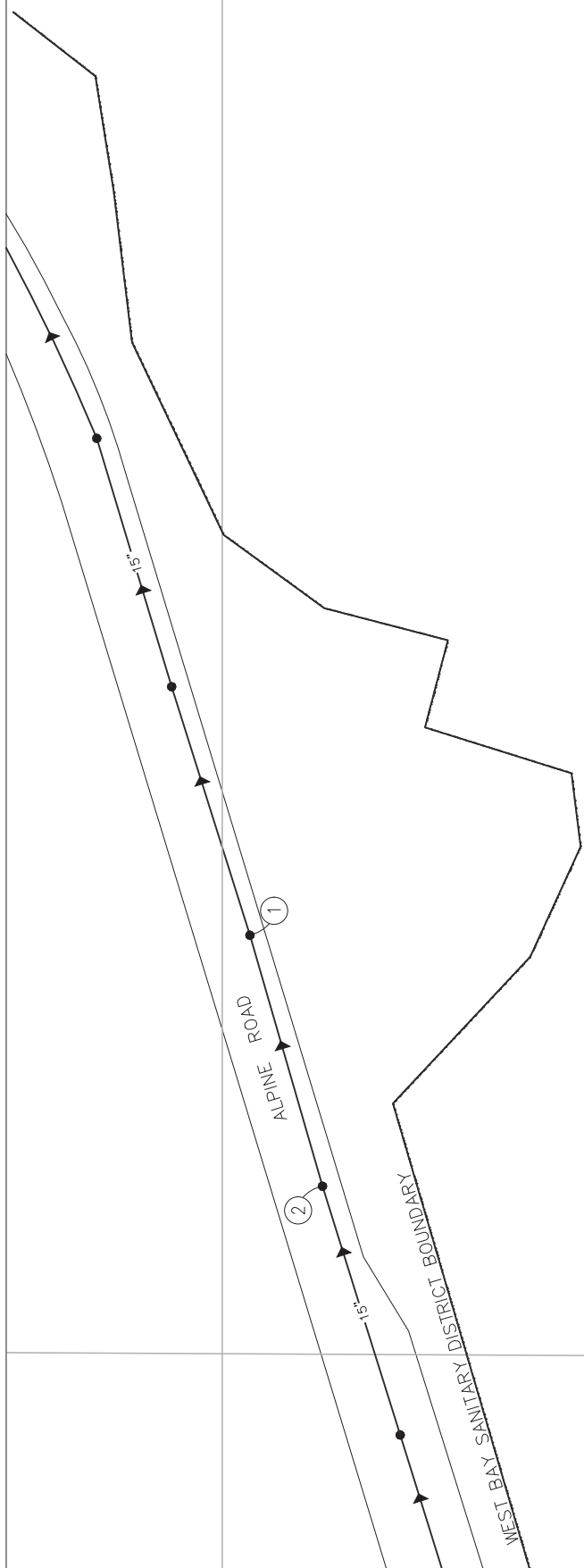


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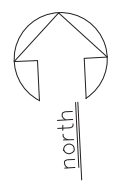


WEST BAY SANITARY DISTRICT BOUNDARY

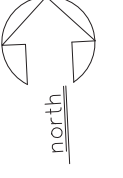
K-10

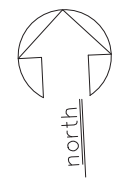


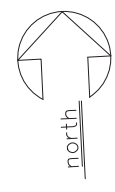
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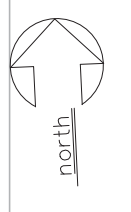


K-9









L-10

L-9

MARCH 2020

M-10

K-10

10

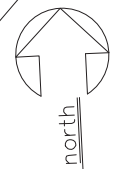
L-11







10



L-13

L-12

MARCH 2018

M-13

MAPACHE DRIVE

RAMOSA ROAD

PALOMA ROAD

WESTRIDGE DRIVE

GOYA LANE

PINON DRIVE

LA SANDRA WAY

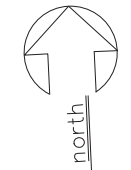




10

ROBERTS MARKET

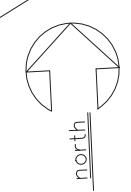




M-14

L-13

M-13

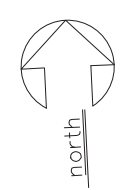


M-12

N-13

DECEMBER 2019

M-14



ZAPATA WAY

MAPACHE DRIVE

MANTILLA DRIVE

10

FARM ROAD

TRAIL LANE

HIDDEN VALLEY LANE

FARM ROAD

GREEK

CATHERINE COURT

SAUSAL

WINDHAM DRIVE

ANN ROAD

BULL RUN CREEK

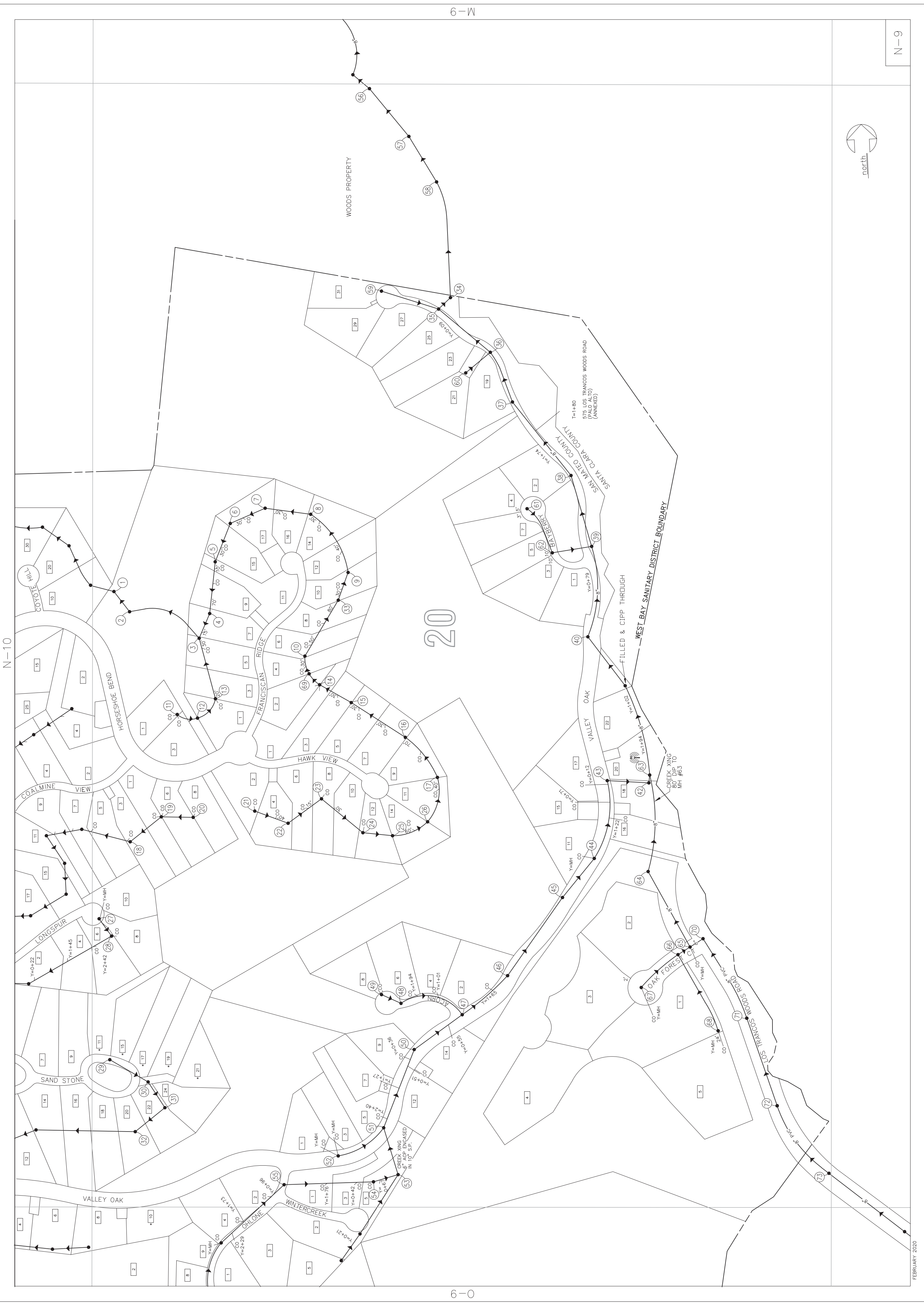
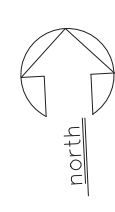
PORTOLA ROAD

SANTA MARIA AVENUE

M-13

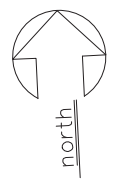
MARCH 2018

N-14



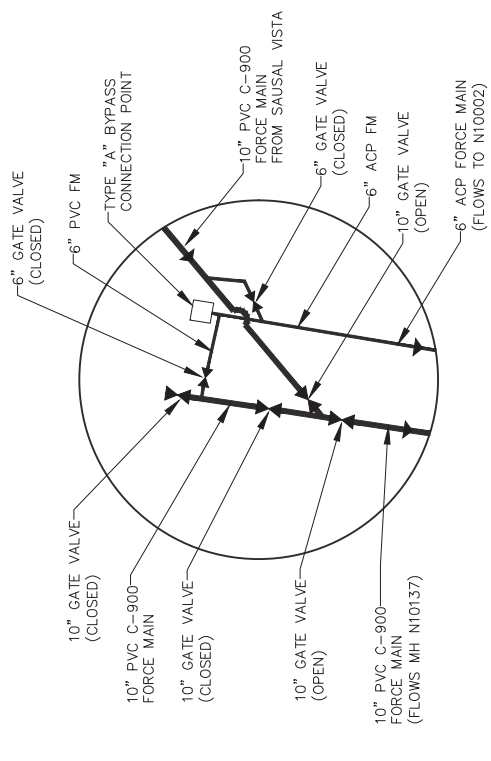
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N-10





10

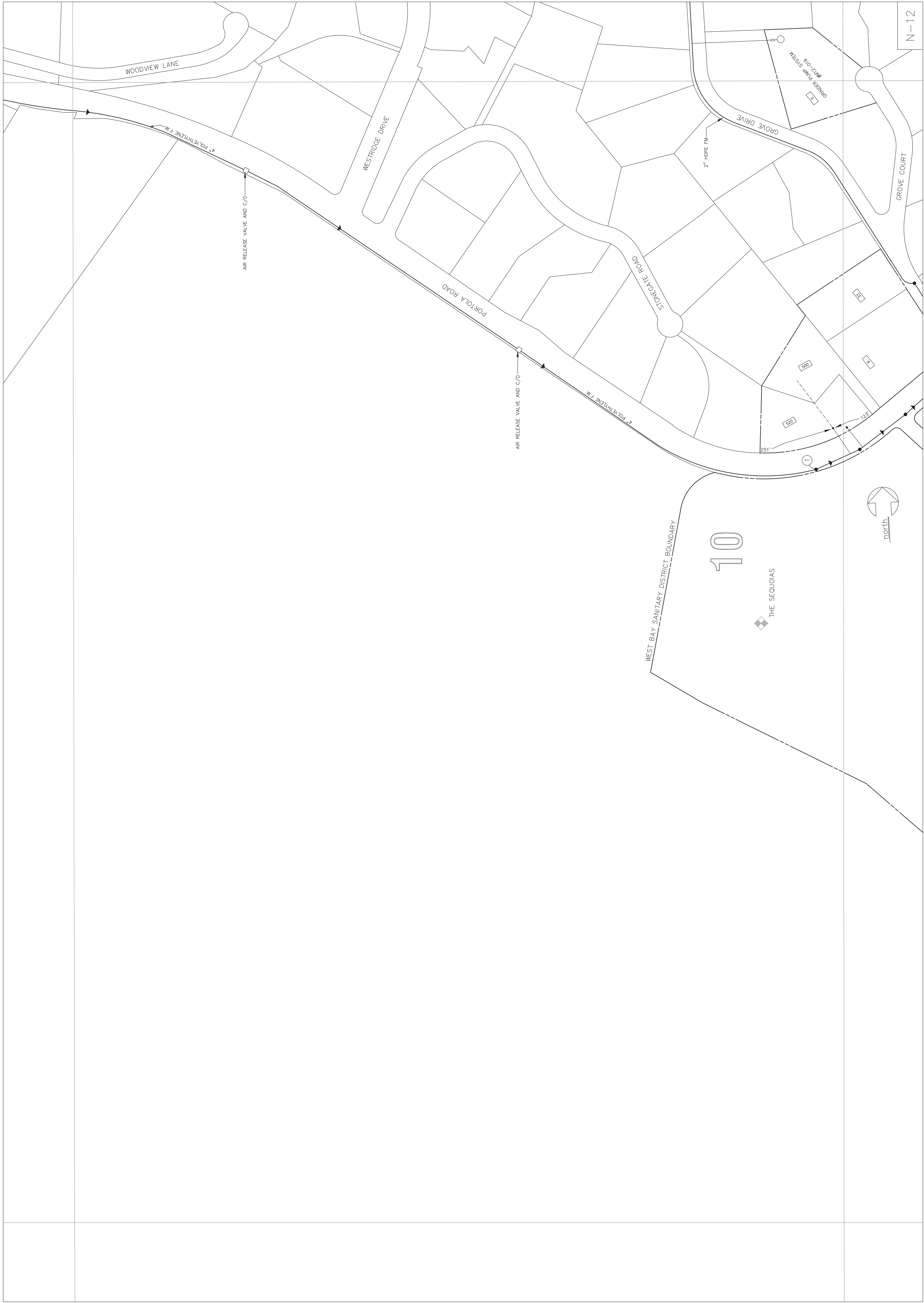


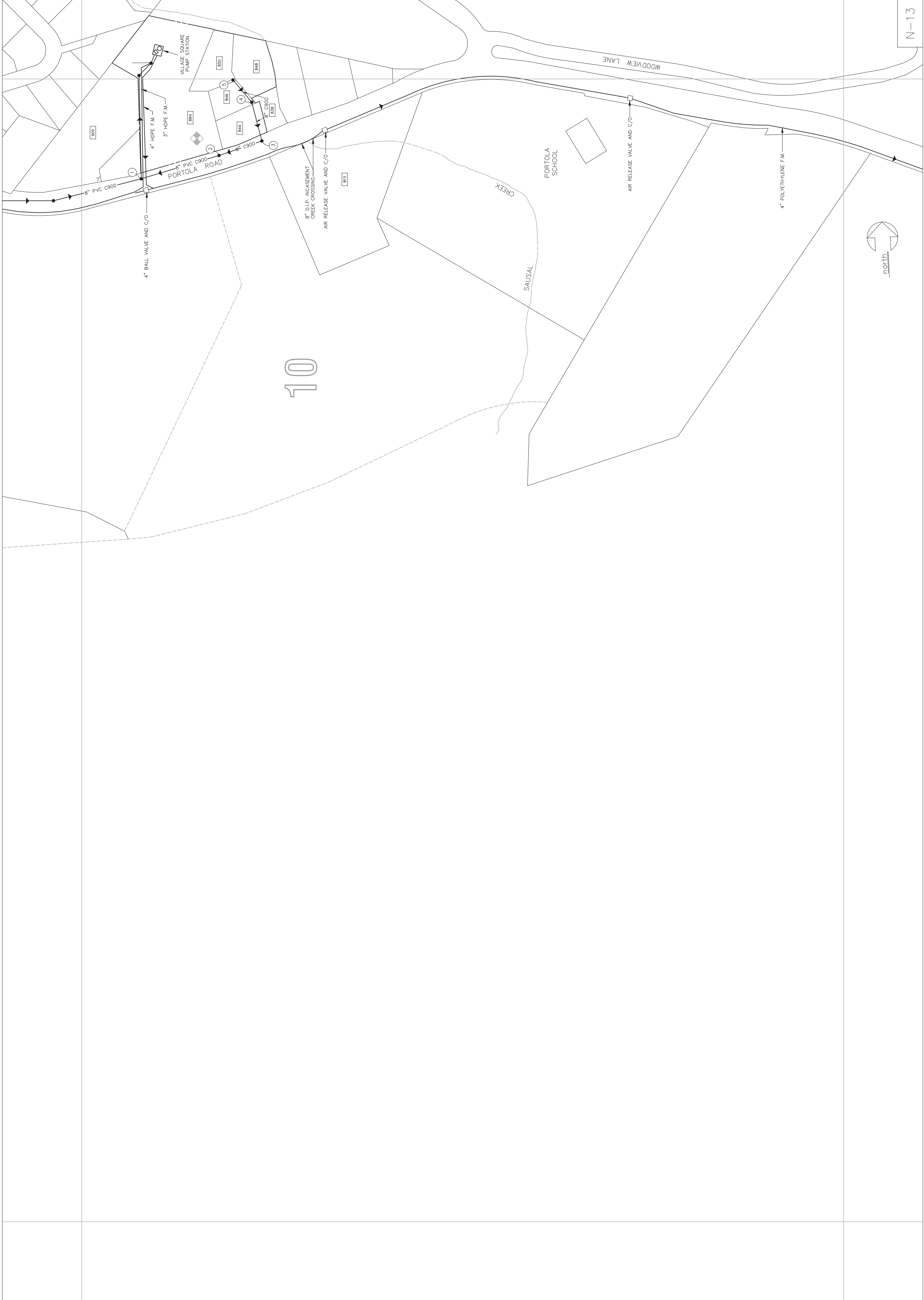
DETAIL "A"

N-13

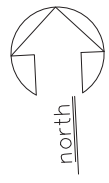
M-12

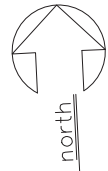
N-12



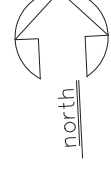


10





10



*** NOTE ***
 ALL PIPE ON THIS PAGE BETWEEN
 MH # 007001 AND MH # 007079
 IS 8" PVC C900 MATERIAL AND THE
 GRINDER SYSTEM FORCEMAIN IS 2" HDPE

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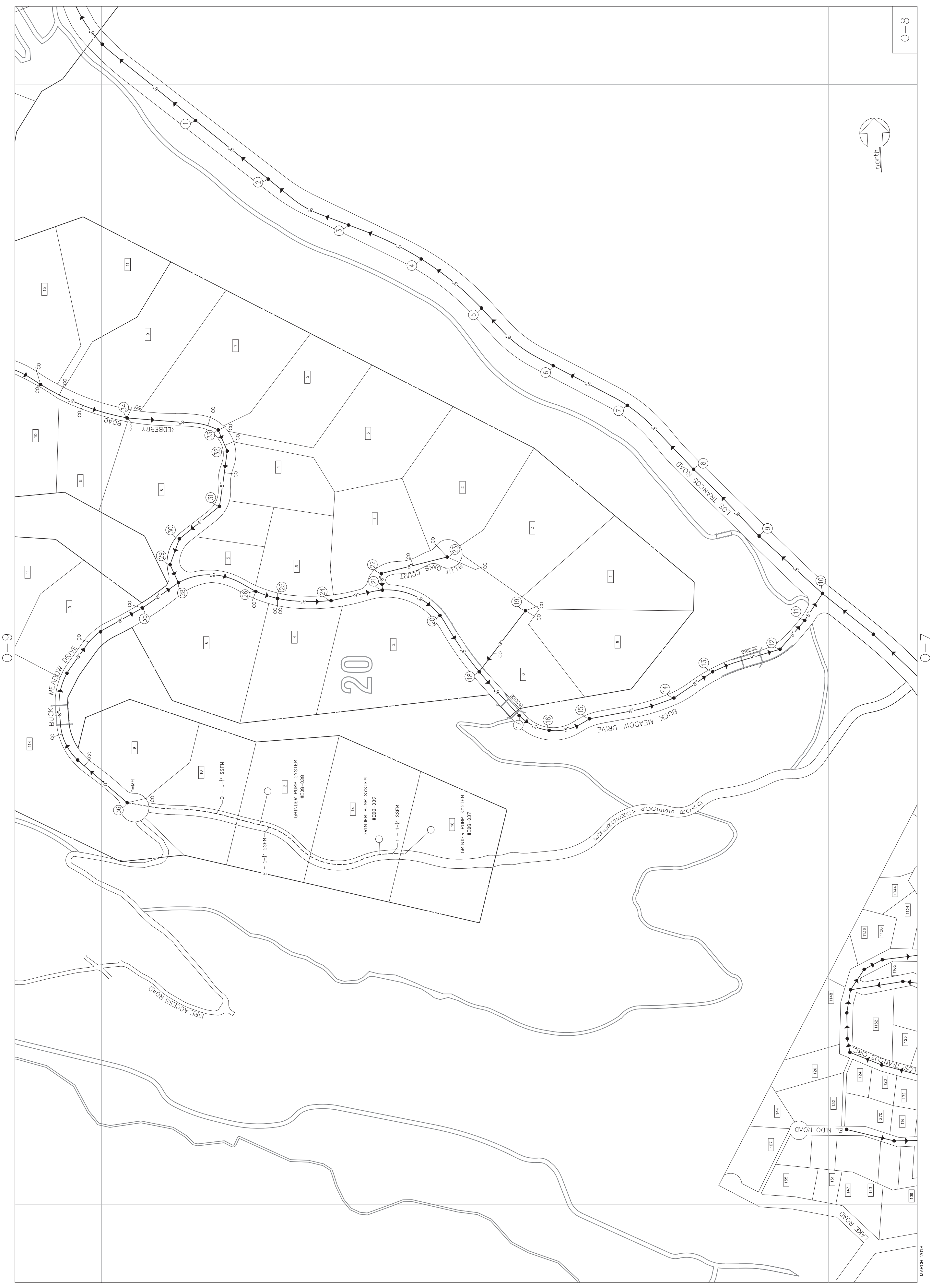
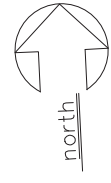


*** NOTE ***
 8" PVC C900 PIPE ENCASED
 BY 18" HDPE SLEEVE FROM
 MH# 07-003 AND CONTINUING
 120' DOWNSTREAM TOWARDS
 MH# 07-002

*** NOTE ***
 8" PVC C900 PIPE ENCASED
 BY 18" HDPE SLEEVE FROM
 MH# 07-003 AND CONTINUING
 90' UPSTREAM TOWARDS
 MH# 07-070

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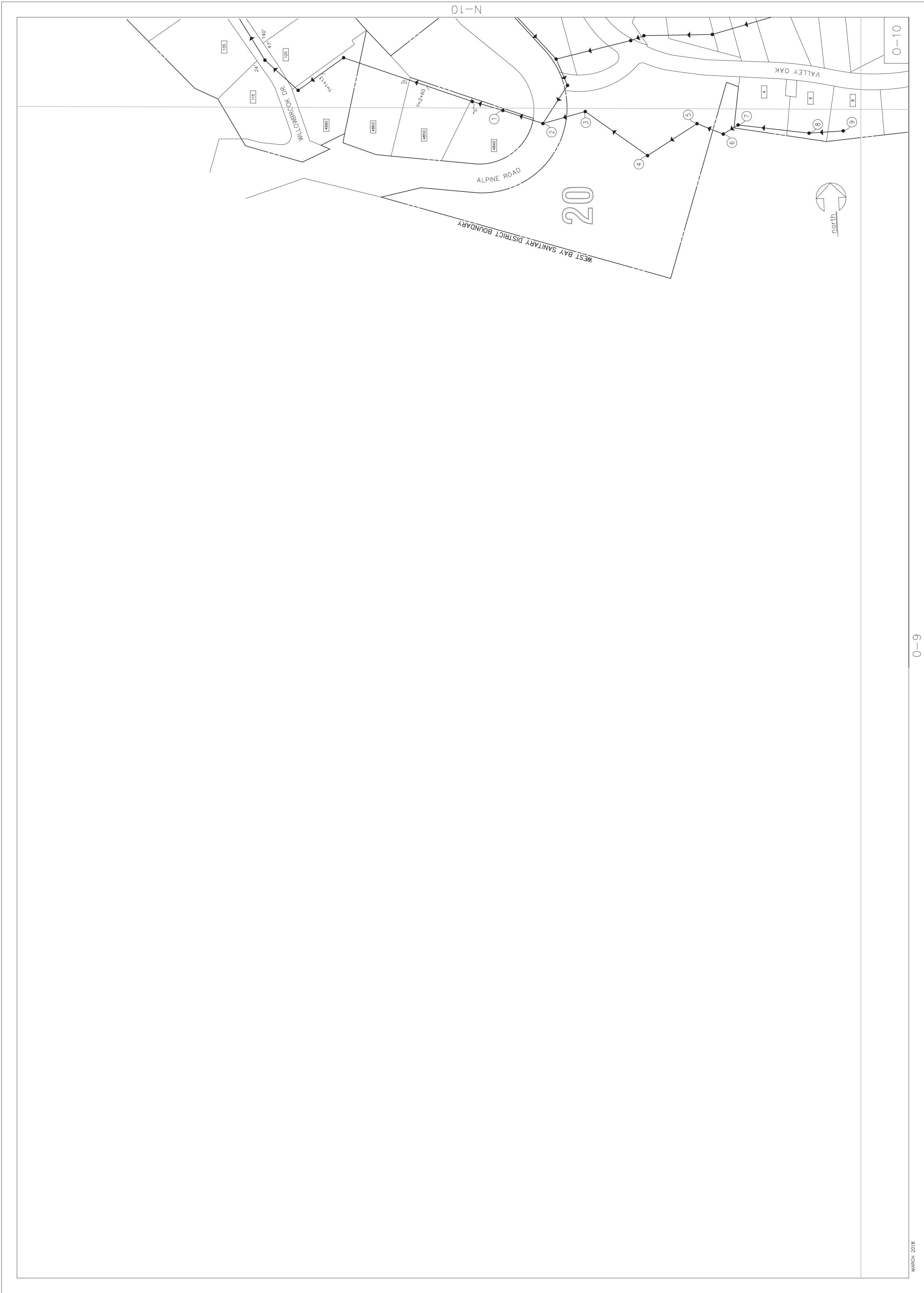




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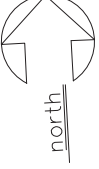
WEST BAY SANITARY DISTRICT BOUNDARY





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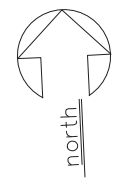
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WEST BAY SANITARY DISTRICT BOUNDARY

ALPINE ROAD

VALLEY OAK

WILTON ROAD



P-7

OLD SPANISH TRAIL

RAMONA ROAD

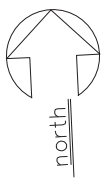
VISTA VERDE WAY

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P-6

MARCH 2018





*** NOTE ***
ALL PIPE ON THIS PAGE
IS 8" PVC C900 MATERIAL

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Sewer System Management Plan

4B WBSD General Fund Budget 2022/2023

WEST BAY SANITARY DISTRICT



Budget

Fiscal Year 2022-2023

Approved June 8, 2022

Financial Report Approved Budget Fiscal Year 2022-2023

The West Bay Sanitary District (the District) provides wastewater collection and conveyance services to the City of Menlo Park, Atherton, and Portola Valley, and areas of East Palo Alto, Woodside and unincorporated San Mateo and Santa Clara counties. The District conveys raw wastewater, via the Menlo Park Pump Station and force main, to Silicon Valley Clean Water (SVCW) for treatment and discharge to the San Francisco Bay. The District was originally formed in December 1902 as the Menlo Park Sanitary District under the Sanitary Sewer Act of 1891. The District operated as the Menlo Park Sanitary District from 1902 until 1981 when its name was changed to the West Bay Sanitary District to more accurately reflect the service area. The powers of the District are established by the State of California Health and Safety Code. The District currently serves a population of 20,129 households and commercial establishments.

The District held a Budget Workshop on May 9, 2022 to work on the development of the fiscal year 2022-2023 (FY 2022-23) Budget. Based on initial District estimates and updated information the Budget Report was developed, in conformity with the format prescribed by the provisions of Governmental Accounting Standards. The Board of Directors approved the final budget on June 8, 2022.

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Approved Budget

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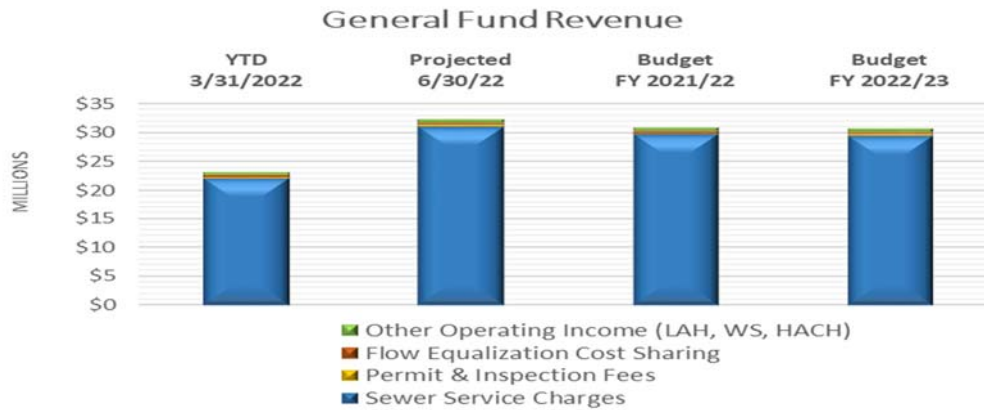
West Bay Sanitary District
Approved Budget
Fiscal Year 2022-23

	Actual YTD 3/31/2022	Projected 6/30/22	Budget FY 2021/22	Budget FY 2022/23	Budget Change	% Var
General Fund						
Operating Revenue						
Non-Residential	5,385,440	7,180,587	5,193,421	4,468,387	(725,034)	-14.0%
Residential	16,856,187	23,966,720	24,547,205	25,056,267	509,062	2.1%
Sewer Service Charges	22,241,628	31,147,307	29,740,626	29,524,654	(215,972)	-0.7%
Permit & Inspection Fees	177,285	177,285	100,000	200,000	100,000	100.0%
Flow Equalization Cost Sharing	368,490	368,490	368,490	386,915	18,425	5.0%
Other Operating Income (LAH, WS, HACH)	477,113	627,768	663,781	666,390	2,609	0.4%
Total Operating Revenue	23,264,516	32,320,850	30,872,898	30,777,959	(94,938)	-0.3%
Operating Expenditures						
District Operating Expense	5,881,048	7,881,860	9,107,711	10,045,523	937,812	10.3%
SVCW Expense	10,442,090	12,233,027	12,396,490	12,177,351	(219,139)	-1.8%
Total Operating Expenditures	16,323,139	20,114,887	21,504,201	22,222,874	718,674	3.3%
Net Operating Income (Loss)	6,941,377	12,205,963	9,368,697	8,555,085	(813,612)	-8.7%
Non-Operating Income (Expense)						
Interest Income	407,450	543,267	350,000	500,000	150,000	42.9%
Other Non Operating Income	(753,032)	(753,032)	1,000	1,000	0	0.0%
Total Non-Operating Income	(345,582)	(209,765)	351,000	501,000	150,000	42.7%
Total Non-Operating Expense	0	(6,000)	(6,000)	(6,000)	0	0.0%
Total Non-Operating Income (Expense)	(345,582)	(215,765)	345,000	495,000	150,000	43.5%
Change in Net Position						
General Fund	6,595,795	11,990,198	9,713,697	9,050,085	(663,612)	-6.8%
Capital Fund	3,762,127	3,035,343	(2,950,000)	(2,950,000)	0	0.0%
Solid Waste Fund	38,221	50,618	(5,590)	2,010	7,600	-136.0%
Recycled Water Fund	(9,504)	(162,065)	(256,155)	(299,490)	(43,335)	16.9%
Change in Net Position	10,386,639	14,914,094	6,507,452	5,802,605	(704,847)	-11%
Prior Period Adjustment	(449,286)	(449,286)	0	0	0	
Total Change in Net Position	9,937,353	14,464,808	6,507,452	5,802,605	(704,847)	-11%

General Fund:

Revenues:

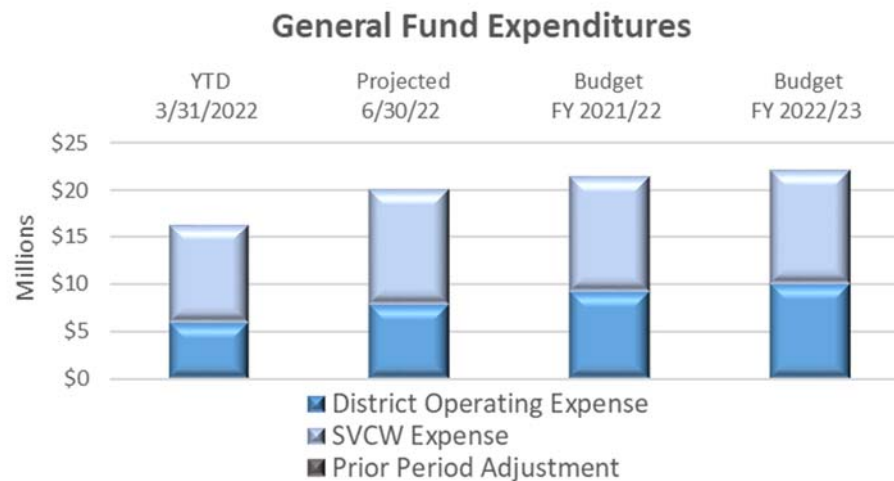
The Budget for FY 2022-23 includes total Operating Revenues of \$30,777,959 in the General Fund, reflecting a 0.3% decrease from FY 2021-22 annual budget.



- **Sewer Service Charges.** Total revenue of \$29,524,654 is estimated for FY 2022-23, reflecting a 0.7% decrease; 2.1% increase in Residential and 14% decrease in Non-Residential Sewer Service Charges, reflecting a 2% rate increase and reductions in commercial flows.
- **Permit Fees.** Permit & Inspection Fees budget is increased to \$200,000. These fees are budgeted conservatively, due to the uncertain nature of their timing and the economic environment. The average over the last five years is \$215 thousand.
- **Flow Equal.** The total Flow Equalization Cost Sharing with Silicon Valley Clean Water (SVCW) budget is \$386,915. The increase is based on the annual Consumer Price Index (CPI) for All Urban Consumers for San Francisco-Oakland-Hayward (Bay Area), CA from April 2021 to April 2022, of 5% per the terms of the agreement with SVCW.
- **Other Operating Income.** A total of \$666,390 is estimated; a 0.4% increase from the FY 2021-22 annual budget, due to negotiated contract extensions with Los Altos Hills and Woodside.
 - Revenue from Los Altos Hills = \$430,949, a 2% increase
 - Followed by 4% x 4 years equaling over 18% in the 5 year contract
 - Revenue from Town of Woodside = \$80,191, a 4% increase
 - Revenue from HACH Service Contracts = \$155,250, fixed 3 year amount, less a two month credit for January and February 2021, which were billed in FY 2021-22, since no services were provided during this period by HACH.
 - Sampling & Monitoring by SVCW is not budgeted for. Receipts are the results of invoices paid to SVCW on behalf of our commercial customers, which the District then bills to these customers.
- **Other Non-Operating Revenues:** The District budgets for Interest Income of \$500,000 and \$1,000 in other miscellaneous non-operating revenue, for a total of \$501,000.

Expenditures:

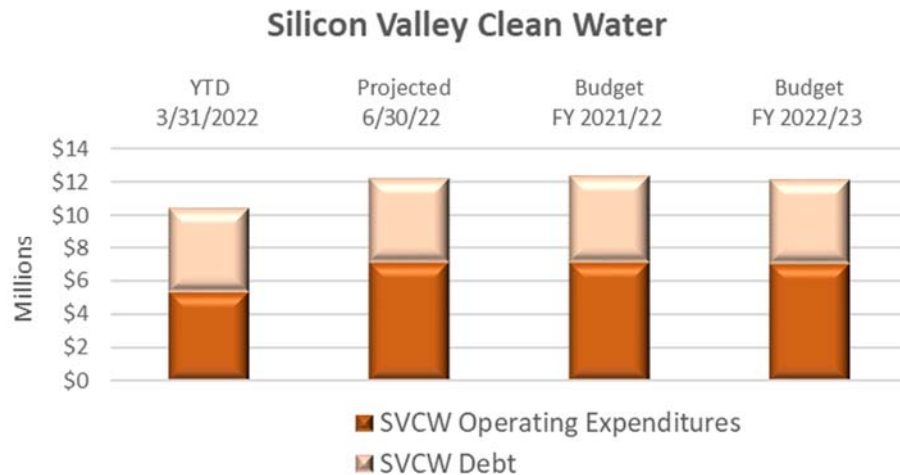
Total Operating Expenditures for the General Fund is estimated at \$22,222,874, a 3.3% increase from FY 2021-22.



- **WBSD Direct Operating Expenses.** General Fund Expenses are \$10,045,523, a 10.3% increase from the FY 2021-22 annual budget. Expenses are shown on the Expense Analysis on page 8, with allocations to the Solid Waste and Recycled Water Fund deducted in aggregate.
 - Salaries increased 4.4%, including the labor union’s 4% annual increase and expected merit increases.
 - Benefits increased 8.5%, mainly due to expected increases in cafeteria plan, commuter program, employer payroll taxes, and contributions to the retirement and other post-employment benefit (OPEB) trust accounts. Pension costs increased only 1% as increases due to wages was offset by the employee increased contribution to 1% of employer contributions, which also decreased from an 8.53% to 8.23% average. Making employer pension costs only 2% higher than social security, which the District does not participate in. The District’s experience modification factor for workers’ compensation is 0.91, indicative our good claims management and safety practices.
 - Election expenses are budgeted at \$70,000 in biennial, even years.
 - Fuel is expected to continue to increase, therefore the District estimates a 46.4% increase in diesel and fuel costs. The CPI-U for this area is 43.2 from April 2021 through April 2022.
 - Insurance costs are expected to increase approximately 20% for property, liability, and workers’ compensation. The District is a member of California Sanitation Risk Management Authority (CSRMA), which provides self-insured and excess insurance, who has negotiated with excess carriers to keep property value trending to 7.5%, significantly lower than current trend factors, lowering overall property expense. Vehicle property coverage was discussed with the Finance Committee on 5/19/22, who recommended to increase deductible from \$2,000 to \$10,000, and the full Board on 5/25/22. Other property coverage is estimated to increase 20%, with the deductible at \$5,000. Deductible option for liability, which are paid on a calendar year, were

- discussed with Finance Committee 6/2/21 and direction provided to increase liability deductible to \$100,000 and reserve savings as a self-insured reserve.
- Self-insurance reserves of \$58,638, are saving from increasing liability and property deductibles set aside for paying claims under the higher deductibles; \$52,912 for Liability Coverage deductibles from \$5,000 to \$100,000 and \$5,726 for Vehicle Property Coverage deductibles from \$2,000 to \$10,000.
 - Memberships are increasing 37% to provide dual certifications for employees, which benefits the District with higher skilled employees, and additional expense for USA North 811 Service. Under government code section 4216.16 a new California Underground Facilities Safe Excavation Board (Dig Safe Board) was created, which is funded with a regulatory fee per ticket, which doubles our fees for 811 calls.
 - Supplies costs are increasing 10.5% as short stock and high demand continue to add to overall inflation, especially in essential personal protective equipment (PPE).
 - Contractual Services are increasing 16.8%. This category includes contract expenses to HACH, which are passed through to customers of \$197,400. There are also increasing costs for chemical services, safety garments, and county fees, plus new expenses for discharge and water analysis review and additional alarm services.
 - Professional services are increasing 12.3%. This includes engineering, attorney fees, technology consulting, and other outside professional services. The District has also moved \$30,000 from the Capital Budget for the capacity flow monitoring study, which is expensed and not directly for a capital project.
 - Rents and leases are increasing 16.2% to include the lease of the District Manager vehicle, radio service upgrades, and expected increases in other costs.
 - Repairs and maintenance expenses are crucial to insure continued serving of the sanitary system and maintain the excellent record of less than two sewer system overflows per 100 miles of pipe, three times less than average. Costs are increasing 14% overall for vehicles, equipment, pump stations, and computer systems.
 - Training, meetings, and travel are expected to double. The District has added \$30,000 to complete Standard Operating Procedures (SOPs) to update and clarify all District procedures. Department of Vehicle (DMV) changed training requirements in 2022 for Class A licenses, requiring professional courses. Two employees' training is included. The District also expects on-site training to resume after two years of closures due to Covid-19 and increases in costs for safety training.
 - San Mateo Local Agency Formation Commission (LAFCo) is increased 20% to cover the annual fees charged based on reported revenue. The expense for FY 2021-22 was over budget under estimated by 11%.

- Equipment Expense is a new category to account for items under the \$20,000 Capitalization Budget. FY 2022-23 includes \$95,000 that was previously capitalized under the prior policy of \$5,000, such as pump station parts, flowdars, and server replacement. Other equipment is budgeted to replace old radios and to purchase a dump trailer to service small projects and rural roads.



- **External Operating Expenses.** This includes contributions and debt payments, for the benefit of, SVCW. Total Expenditures are \$12,177,351 for the District share of SVCW budget in FY 2022-23, a 1.8% decrease. SVCW expenditures represent 54.8% of the total annual Operating budget, excluding capital and depreciation. The District holds a 23.38% share of SVCW’s Net Position according to the SVCW’s annual Unaudited Analysis of Net Position, as of June 30, 2021. SVCW is reported as a separate Fund in FY 2021-22, to better identify direct District Operations and those of SVCW.
 - SVCW Operating & Capital Contributions are \$7,098,682. This is a 0.9% (\$639 thousand) decrease from FY 2021-22, due to decreased flows from the District to SVCW for treatment processing while other members realized an increase in flows.
 - SVCW Debt payments are \$5,078,669. The 2014 and 2015 Bonds were refinanced, along with the 2011 SRF debt, into new 2021 Bonds; with the District share of \$55.7 million. SVCW refinanced debt to take advantage of historically low rates, which are estimated to save the District \$3.25 million.
- **Non-Operating Expenses.** The District budgets \$6,000 for unanticipated Non-Operating Expenses.

Change in Net Position:

The General Fund Net Operating Income is estimated at \$8,555,085 for FY 2022-23. The General Fund Net Change in Position is \$9,050,085. This is the estimated amount that will be transferred to the Capital budget for capital projects.

The Change in Net Position of all Funds is \$5,802,605.

Proposed Budget
Fiscal Year 2022-23
General Fund
Expense Analysis

General Fund Expenditures	YTD 3/31/2021	Projected 6/30/21	Budget FY 2021/22	Budget FY 2022/23	Budget Variance	% Var
Operating Expense						
Salaries & Wages	3,046,066	3,998,491	4,463,442	4,661,639	198,197	4.4%
Employee Benefits	1,121,973	1,599,282	1,734,191	1,881,317	147,126	8.5%
Total Salaries, Wages & Benefits	4,168,039	5,597,774	6,197,633	6,542,956	345,323	5.6%
Other Operating Expense						
Director Fees	25,440	33,920	42,320	44,013	1,693	4.0%
Election Expense	0	0	0	70,000	70,000	
Gasoline, Oil & Fuel	70,572	94,095	70,000	102,500	32,500	46.4%
Insurance	138,288	184,384	204,550	190,025	(14,525)	-7.1%
Self-Insurance Reserve	0	31,410	31,410	58,638	27,228	86.7%
Memberships	64,812	64,812	58,660	80,345	21,685	37.0%
Office Expense	24,661	32,882	39,600	44,157	4,557	11.5%
Operating Supplies	234,454	312,605	393,425	434,562	41,137	10.5%
Contractual Services	404,786	539,715	665,475	777,480	112,005	16.8%
Professional Services	260,981	347,975	510,220	572,979	62,759	12.3%
Printing & Publications	38,684	60,837	67,500	73,335	5,835	8.6%
Rents & Leases	28,517	38,022	51,700	60,092	8,392	16.2%
Repairs & Maintenance	198,791	265,055	338,425	385,660	47,235	14.0%
Research & Monitoring	7,014	9,352	20,000	20,000	0	0.0%
Training, Meetings & Travel	14,385	19,179	56,200	111,057	54,857	97.6%
Utilities	126,185	168,247	232,500	237,851	5,351	2.3%
LAFCO Contributions	32,610	32,610	29,400	35,280	5,880	20.0%
Other Operating Expense	63,841	85,121	219,340	231,390	12,050	5.5%
Equipment Expense	34,490	45,987	0	96,750	96,750	
Transfer Overhead to Solid Waste Reserve Fund	(42,818)	(62,839)	(105,090)	(107,990)	(2,900)	2.8%
Transfer Overhead to Recycled Water Facility	(12,684)	(19,283)	(15,557)	(15,557)	0	0.0%
Total Operating Expense	5,881,048	7,881,860	9,107,711	10,045,523	937,812	10.3%
Related Agencies:						
Silicon Valley Clean Water (SVCW)						
SVCW Operating Expenditures	4,668,768	6,225,024	6,225,028	6,027,944.00	(197,084)	-3.2%
SVCW Revenue Funded Capital Expenditures	301,446	401,928	401,929	376,834.00	(25,095)	-6.2%
SVCW Reserve Contributions	402,597	536,796	536,800	693,904.00	157,104	29.3%
SVCW 2018 Bond (\$55 million)	1,838,028	1,838,028	1,839,213	1,834,338.00	(4,875)	-0.3%
SVCW 2021A&B Bond (\$55.6 million)	2,724,486	2,724,486	2,743,273	2,737,566.00	(5,707)	
SVCW SRF - Control Building, C-06-5216-110	0	0	0	-	0	
SVCW SRF - WWTP Phase I, C-06-5216-120	506,765	506,765	506,765	506,765.00	(0)	0.0%
SVCW SRF - Conveyance Planning, C-06-8069-110 (\$4.1m)	0	0	143,482	-	(143,482)	
Total SVCW Expenditures	10,442,090	12,233,027	12,396,490	12,177,351	(219,139)	-1.8%
Total Operating Expenditures	16,323,139	20,114,887	21,504,201	22,222,874	718,674	3.3%

Proposed Budget
Fiscal Year 2022-23
General Fund
Expense Analysis

<u>Salaries, Wages, And Benefit - Details</u>	YTD 3/31/2021	Projected 6/30/21	Budget FY 2021/22	Budget FY 2022/23	Budget Variance	% Var
Salaries & Wages						
Collection	1,685,394	2,247,192	2,308,600	2,658,432	349,832	15.2%
Administrative	959,395	1,279,193	1,550,560	1,361,915	(188,645)	-12.2%
Temporary Employees	94,165	125,553	130,000	157,000	27,000	20.8%
Subtotal	2,738,954	3,651,938	3,989,160	4,177,347	188,187	4.7%
Overtime	90,172	120,230	154,690	154,700	10	0.0%
Standy-By Pay	28,150	37,533	39,520	39,520	0	0.0%
Performance Measures Program	168,090	168,090	160,000	170,000	10,000	6.3%
End Of Year Compensation	20,700	20,700	20,072	20,072	0	0.0%
Vacation Leave Accrual	0	0	100,000	100,000	0	0%
Total Salaries & Wages	3,046,066	3,998,491	4,463,442	4,661,639	198,197	4.4%
Employee Benefits						
Life & Disability	56,967	75,955	34,020	34,590	570	2%
Workers' Compensation	51,138	85,230	118,230	123,927	5,697	5%
Cafeteria & Health Benefits	660,490	880,654	1,013,350	1,074,720	61,370	6%
Public Employee's Retirement System (PERS)	244,561	326,081	355,335	358,475	3,140	1%
PERS Unfunded Accrued Liability	0	0	0	0	0	
Employee Assistance & FSA Administration Fee	1,268	2,114	1,806	3,341	1,535	85%
Deferred Compensation Matching	35,883	59,805	60,150	66,450	6,300	10%
Commuter	10,679	17,799	10,000	15,240	5,240	52%
District Manager Auto Allowance	4,315	7,192	6,300	6,300	0	0%
Social Security, Medicare, State Employer Taxes	56,671	94,452	85,000	123,274	38,274	45%
Pre-Funding Retirement Unfunded Liability (PARS Trust)	0	0	0	50,000	50,000	
Pre-Funding OPEB Unfunded Liability (PARS Trust)	0	50,000	50,000	25,000	(25,000)	-50%
Total Employee Benefits	1,121,973	1,599,282	1,734,191	1,881,317	147,126	8.5%

Capital Fund:

The Capital Fund is funded with any Net Increase in Position from General Fund Operations, Connection Charges by customers, and Interest Income. Recycled Water Fund activity is reported separately. Below is the balance exclusively for the Capital Fund.

	Actual YTD 3/31/2022	Projected 6/30/22	Budget FY 2021/22	Budget FY 2022/23	Budget Change	% Var
<u>Capital Expenditures</u>						
Fund Balance						
Beginning Balance For Fiscal Year	10,546,362	10,546,362	10,546,362	24,524,691	13,978,329	133%
Revenue - Connection Charges	5,941,876	5,941,876	250,000	250,000	0	0%
Projected Transfer From General Fund	6,595,795	11,990,198	6,533,200	6,555,600	22,400	0%
Total Funds Balance Available	23,084,034	28,478,436	17,329,562	31,330,290	14,000,729	81%
Capital Expenditures	(3,893,654)	(3,953,745)	(12,751,750)	(14,292,500)	(1,540,750)	12%
Fund Balance	19,190,379	24,524,691	4,577,812	17,037,790	12,459,979	272%

Capital Fund Revenue:

Connection Fees of \$250,000 are budgeted; no change from FY 2021-22.

Capital Fund Expenses:

Total Capital Expenditures of \$14,292,500 are budgeted in FY 2022-23; a 12% increase from FY 2021-22. A detailed schedule of Capital Expenditures is included on page 12-13. Several items included in prior years under \$20,000 have been moved to expense, consistent with the District's Capitalization Policy.

- **Depreciation.** Depreciation is unchanged from the FY 2021-22 annual budget, however, it will be shown in the Capital Fund.

Capital Assets:

	Actual YTD 3/31/2022	Projected 6/30/22	Budget FY 2021/22	Budget FY 2022/23	Budget Change	% Var
<u>Capital Fund Expenditures</u>						
Administration	0	0	35,000	350,000	315,000	900%
Collection Facilities	0	0	600,000	600,000	0	0%
Vehicles & Equipment	0	0	201,750	762,500	560,750	278%
Pump Stations	0	60,000	65,000	200,000	135,000	208%
Subsurface Lines & Other Capital	43,884	43,884	130,000	100,000	(30,000)	-23%
Construction Projects	3,849,770	3,849,861	11,720,000	12,280,000	560,000	5%
Total Capital Fund	3,893,654	3,953,745	12,751,750	14,292,500	1,540,750	12%

- **Administration.** \$350,000 is budgeted for the ten year Master Plan. Other expenses are under \$20,000 Capitalization Policy and are included in expenditures.
- **Collection Facilities - Buildings.** The budget for Collection includes FERRF Improvements and Allowance for Unanticipated Capital Expenditures of \$600,000, no increase from the FY 2021-22 budget.

- **Vehicle & Equipment.** The budget for vehicles and equipment is \$762,500, a 278% increase over FY 2021-22 budget.
 - Equipment:
 - CCTV Transporter & Track Module: \$22,500
 - Flo Dar Equipment: Moved to Equipment Expense from the Capital Fund, as each costs approximately \$18,375, under the new capitalization policy of \$20 thousand.
 - Vehicles:
 - Replace Vehicle 201, District Manager vehicle.
 - Lease Ford Mach E at \$735 month, included in Rents & Leases
 - Carryover \$165,000 for Vehicle 228, Jet Truck, Superduty F550 4x4, 1/2in Jetter, as vehicle order is delayed.
 - Replace Unit 205, Aquatech Vacuum Combo Unit \$500,000.
 - Add Source Control Ford F150 Lightning (EV), or equivalent, to replace Unit 214; \$75,000.
 - Contribution to Equipment Replacement Reserve: Increased 3% to \$382,454.
- **Subsurface Lines & Other Capital.** The budget is increased 54% to \$300,000. Some Pump Station repairs and maintenance have been moved to expenses, as they are under the \$20,000 Capitalization Policy.
 - \$55,000 Pump for Hamilton Henderson Pump Station
 - \$145,000 Additional Pump & Valve Replacement
 - No change in \$100,000 for Manhole Raising on paving projects
- **Construction in Progress (CIP).** These are new constructions projects that are recorded separately and capitalized when completed. CIP is not depreciated until completed. \$12,280,000 is budgeted for CIP, with \$6,350,000 carried over from FY 2021-22 capital budget.
 - Levee Project: The District received a \$4,884,112 grant from the National Fish and Wildlife Foundation for the construction of a living shoreline. These are matching funds requiring a 112% contribution by the District (\$5.5 million).
 - Corporate Yard Renovation Design, \$350,000.
 - Misc. CIP, \$80,000.
 - Pipeline Replacement & Rehab Engineering, \$900,000.
 - Pipeline Replacement & Rehab Construction, \$3,950,000
- **Resource Recovery.** Recycled water facilities projects recorded under the Recycled Water Fund.

Proposed Budget
Fiscal Year 2022-23
Capital Fund

Capital Expenditure - Detail	YTD 3/31/2021	Projected 6/30/2021	Budget FY 2021/22	Budget FY 2022/23	Budget Variance	% Var
Administration						
District Office Interior			10,000	0	(10,000)	-100%
District Office Exterior			10,000	0	(10,000)	-100%
Server Replacement Program			15,000	0	(15,000)	-100%
10 Year Master Plan - Deferred			0	350,000	350,000	
Total Administration	0	0	35,000	350,000	315,000	900%
Collection Facilities						
FERRF Improvements	0	0	500,000	500,000	0	0%
Allowance For Unanticipated Capital Expenditures	0	0	100,000	100,000	0	0%
Subtotal Collection Facilities	0	0	600,000	600,000	0	0%
Equipment Replacement - Funded From The Equipment Replacement Fund						
Equipment						
CCTV Transporter & Track Module				22,500	22,500	
Flo Dar Equipment (Flow Meters)		0	36,750	0	(36,750)	-100%
Vehicles						
District Manager Vehicle (2013) - Lease Unit 230			0	0	0	
Jet Truck, Superduty F550 4x4, 1/2in Jetter - Unit 228			165,000	165,000	0	0%
Combo Vacuum/Jetter Truck - Unit 229 (Replace Unit 205)				500,000	500,000	
Source Control - Ford F250 Lightning (Replace Unit 214)				75,000	75,000	
Total Equipment Replacement	0	0	201,750	762,500	560,750	278%
Sales of Vehicles	(45,686)	(45,686)				
Net Vehicles & Equipment Expense	(45,686)	(45,686)	201,750	762,500	560,750	278%
Equipment Replacement Reserve	0	(371,315)	(371,315)	(389,881)	(18,566)	5%
Net Vehicles & Equipment Account	(45,686)	(417,001)	(169,565)	372,619	542,184	-320%
Subsurface Lines & Other Capital						
Pump Stations						
Pump Equipment Replacement Program		40,000	45,000	200,000	155,000	344%
Private Pump & Panel Replacements		20,000	15,000	0	(15,000)	-100%
Pump Station Repair & Replacements		0	5,000	0	(5,000)	-100%
Total Pump Stations	0	60,000	65,000	200,000	135,000	208%
Flow Monitoring Study			30,000	0	(30,000)	-100%
Smart Covers (2)			0	0	0	#DIV/0!
Manhole Raising (Paving Projects)	43,884	43,884	100,000	100,000	0	0%
Total Subsurface Lines and Other	43,884	103,884	195,000	300,000	105,000	54%

Proposed Budget
Fiscal Year 2022-23
Capital Fund

Capital Expenditure - Detail	YTD 3/31/2021	Projected 6/30/2021	Budget FY 2021/22	Budget FY 2022/23	Budget Variance	% Var
<u>Construction in Progress</u>						
Levee Survey & GPS Update	228,861	228,861	60,000	60,000	0	0%
Levee Improvement Project		0	6,000,000	7,000,000	1,000,000	17%
Replace Metal Storage Building Phase 1	1,075,998	1,075,998	852,550		(852,550)	-100%
Replace Metal Storage Building Phase 2			247,450		(247,450)	-100%
<u>Pipeline Replacement & Rehab Engineering</u>						
Corporate Yard Renovation Design			350,000	350,000	0	0%
Construction Projects Environmental Review			10,000	20,000	10,000	100%
Spot Repair Design (High Frequency List)				350,000	350,000	
Pipeline Replacement Design				350,000	350,000	
Stowe Lane Design			200,000	200,000	0	0%
<u>Pipeline Replacement & Rehab Construction</u>						
Isabella, Gilbert & Bay North - Phase 2 (Carryover \$1.5m)			2,500,000		(2,500,000)	-100%
Lower Ringwood / North Bay (Carryover \$1.5m)	2,500,625	2,500,625	1,500,000		(1,500,000)	-100%
Willow Pump Station Rehabilitation				700,000	700,000	
Bayfront Park Sanitary Sewer Improvements				1,250,000		
Misc Point Repairs (High Freq. List Repairs)			0	2,000,000	2,000,000	
Total Construction in Progress	3,849,770	3,849,861	11,720,000	12,280,000	3,410,000	29%
Total Capital Fund Expenditures	3,893,654	3,953,745	12,751,750	14,292,500	4,864,500	38%

Reserves:

The District reserves funds to protect cash flow between sewer service fee payments from the county, maintain fiscal stability, and reserve for future projects. The District has six individual investment accounts to reserve funds for various aspects of operations, plus two money market accounts, including the two accounts which are restricted and hold deposits from Sharon Heights Golf & Country Club (SHGCC) for the SRF loan on the Sharon Heights Recycled Water Facility (SHRWF). In addition, the District has two checking accounts and holds funds in Local Agency Investment Fund (LAIF), which are liquid and available to fund current Operations and Capital Projects.

Budget
Fiscal Year 2022-23
Reserve Contributions

<i>Reserve Contributions</i>	Actual YTD 3/31/2022	Projected 6/30/22	Budget FY 2021/22	Budget FY 2022/23	Budget Change	% Var
Operating Reserves Transfers (Target 6mo/Ops)	1,221,197	361,837	1,221,197	359,337	(861,860)	-71%
Rate Stabilization/Bond Reserve (Target \$10m)	0	0	0	300,000	300,000	
Treatment Plant Reserve (Target \$12m)	2,500,000	2,500,000	2,500,000	2,500,000	0	0%
Self-Insurance Reserve	0	31,410	31,410	58,638	27,228	87%
<u>Restricted Reserves</u>						
PARS Irrevocable Trust - Retirement	0	0	0	50,000	50,000	
PARS Irrevocable Trust - OPEB	0	50,000	50,000	25,000	(25,000)	-50%
<u>Capital Fund Reserves</u>						
Capital Project Reserves Transfers (Target \$6m)	0	0	0	200,000	200,000	
Emergency Capital Reserves Transfer (Target \$5m)	0	0	0	200,000	200,000	
Vehicle & Equip Replacement Reserve	371,315	371,315	371,315	389,881	18,566	5%
<u>Recycled Water Fund Reserves</u>						
Recycled Water Cash Flow Reserve (Target \$8m)	0	0	0	200,000	200,000	
Recycled Water SRF Reserve - Restricted (\$1.46k)	0	0	0	0	0	
Total Reserve Contributions	4,092,512	3,314,562	4,173,922	4,282,856	108,934	3%

Reserves:

The District has eight separate reserve accounts, with remaining reserves held in LAIF, including the Operating Reserve. District staff meets regularly with the Finance Committee to discuss reserves and takes their recommendations to the full Board for approval.

Annual contributions are considered to fund target reserves over short or long periods, based on the needs of the District. To fully fund all targets, the District would need approximately \$53.57 million designated to reserves. Based on the balances in all accounts, as of 3/31/22, the District has a net \$12 million over all targets, excluding \$4.4 million in liabilities for customer deposits.

- **Reserves.** Total reserve designations and transfers are \$3.2 million in FY 2022-23.
 - **Operating Reserve:** Designate \$359,337
 - Six months of operations provides cash flow between July and December, when the first sewer service charges are received.
 - Operating Reserves are held in LAIF, where they are available for cash flow.

- **Rate Stabilization Reserve:** \$300,000 to reach target.
- **Treatment Plant Reserve:** \$2,500,000 in FY 2022-23.
 - The District estimates funding reserve \$2.5 million annual, for five years beginning FY 2021-22, by direction from the Board approved June 9, 2021.
 - The District anticipates the need for \$7.1 million to avoid further SVCW debt, between FY 2024-25 and FY 2029-30.
- **Self-Insurance Reserve:** The \$58,638 savings from increased deductibles will be reserved for claim payments under the new higher deductibles.
- **Restricted Reserves.**
 - **Public Agency Retirement Services (PARS) Trust:**
 - **Retirement:** \$50,000 to reserve for future CalPERS retirement liability.
 - **Other Post-Employment Benefits:** \$25,000 to keep pace with increasing liability.
- **Capital Reserves.**
 - **Capital Project Reserve:** \$200,000 to reach target.
 - **Emergency Capital Project Reserve:** \$200,000 to reach target.
 - **Vehicle & Equip Replacement Reserve:** \$389,881, increased 5% annually.
- **Recycled Water Reserves.**
 - **Recycled Water Cash Flow Reserve:** \$200,000 to reach target.

Solid Waste:

The Solid Waste Fund has a net increase of \$2,010, a \$7,600 change from FY 2021-22. The Fund will have a Net Position of \$296,033.

- ***Solid Waste Fund Revenue.*** Franchise fees are received from Recology, which manages solid waste collection for the District. The budget is estimated at a 10% increase from FY 2021-22. Recology may have other changes, which are uncertain at this time; additional costs associated with implementation of California’s Short-Lived Climate Pollutant (SLCP) Reduction Strategy, SB 1383 and disposal costs at the Shoreway Environmental Center.
- ***Solid Waste Fund Expense.*** Allocated expenses for the Solid Waste program of \$107,990 is budgeted for rate studies, annual notification mailing, and overhead allocation. The annual Rate Study is based on the contract for this service, it was not done in FY 2021-22. The overhead to manage the Fund has increased by the Consumer Price Index of 4.2%, for the San Francisco-Oakland-Hayward Area, for the twelve months ending December 2021.

Budget
Fiscal Year 2022-23
Solid Waste Fund

	YTD 3/31/2022	Projected 6/30/22	Budget FY 2021/22	Budget FY 2022/23	Budget Variance	% Var
<u>Operating Income</u>						
Franchises	84,137	110,807	100,000	110,000	10,000	10%
Total Income	84,137	110,807	100,000	110,000	10,000	10%
<u>Expenditures</u>						
Rate Studies	0	0	42,000	42,000	0	0%
Mailings	1,911	1,911	5,000	5,000	0	0%
Public Relations	1,188	1,188	1,500	1,500	0	0%
Overhead Expense Allocation - General	42,818	57,090	57,090	59,490	2,400	4%
Total Allocated Operating Expense	45,917	60,189	105,590	107,990	2,400	2%
Solid Waste Fund Beginning Balance	243,405	243,405	253,584	294,023	40,440	16%
Contribution To Solid Waste Fund	38,221	50,618	(5,590)	2,010	7,600	-136%
Solid Waste Fund Balance	281,626	294,023	247,994	296,033	48,040	19%

Recycled Water:***Bayfront Recycled Water Project***

The proposed Bayfront Recycled Water Project is in early developments, with \$2.25 million capital budget in FY 2022-23; \$1 million for recycled water facility projected management and \$1.25 million for reclaimed water pipelines.

Sharon Heights Recycled Water Facility

The Sharon Heights Recycled Water Facility (SHRWF) was completed in FY 2021-22, for a project total of \$22,647,052. \$22,267,257 has been received from the State Revolving Fund, including a \$5,259,800 Water Recycling Funding Program Construction Grant and a State Revolving Fund (SRF) Loan of \$17,117,420. The District assumed full management of the facility beginning January 27, 2021. The current SRF loan balance is \$16,119,635, after two payments funded by Sharon Heights Golf & Country Club (SHGCC). Summary Recycled Water Fund statements are included on page 18-19, including detailed expenditures.

- **Revenue.** All costs of the facility are paid by the District and ultimately reimbursed by SHGCC. The revenue budget for FY 2022-23 is \$518,064, which represents the budget agreement with SHGCC, although SHGCC will reimburse for all costs associated with the SHRWF, including over budget. The District provided SHGCC with a projected budget in January 2022, which estimated annual calendar year operations and maintenance and is billed in equal monthly installments. The difference is reconciled and billed annually to SHGCC.
- **Expense.** Total Operating expenditures are estimated at \$1,320,869 for FY 2022-23, including \$752,805 in depreciation of the recycled water facility.
 - Operating Expenses were \$568,064.
 - Direct District expenses are budgeted at \$568,064, an 11% increase over FY 2021-22. This is aligned with the O&M Budget developed with SHGCC, with the addition of \$50,000 in Contractual Services for vendor maintenance packages.
 - Indirect Administration is \$19,620, 26% higher than FY 2021-22 budget and 11.6% higher than FY 2022-23 actual.
 - Depreciation expense is \$754,805 annually.
- **Non-Operating Income & Expenses.**
 - Non-Operating Income
 - \$1,600 in estimated interest income on the SHGCC SRF deposit.
 - Non-Operating Expenses
 - Although \$662,911 represent the principal and interest on the SRF loan payment, only the interest of \$161,196 is expensed. The principal amount reduces the loan balance.
- **Capital Contributions.**
 - \$662,911 represents the contributions from SHGCC for the SRF loan payments, due March 30 each year.

West Bay Sanitary District
 Recycled Water Fund
 Sharron Heights Recycled Water Facility
 Budget
 Fiscal Year 2022-23

	Actual YTD 3/31/2022	Projected 6/30/22	Budget FY 2021/22	Budget FY 2022/23	Budget Variance	% Var
Fund Income						
Operating Income						
Sharon Heights Golf & Country Club	409,254	545,672	509,860	518,064	8,205	2%
SHGCC - Avy Pump Station	202	202	0	0	0	
Total Operating Income	409,456	545,874	509,860	518,064	8,205	2%
Fund Expenditures						
Operating Expense	336,705	449,617	509,860	568,064	58,205	11%
Depreciation	566,176	752,805	754,902	752,805	(2,097)	0%
Total Fund Expenditures	902,881	1,202,422	1,264,762	1,320,869	56,107	4%
Non-Operating Income (Expense)						
Non-Operating Income	(2,265)	(2,265)	2,000	1,600	(400)	-20%
Non-Operating Expense	(166,164)	(166,164)	(166,164)	(161,196)	4,968	-3%
Total Non-Operating Income	(168,428)	(168,428)	(164,164)	(159,596)	4,568	-3%
Capital Contributions						
SHGCC Contribution for SRF Loan	662,911	662,911	662,911	662,911	0	0%
Change in Net Position	1,058	(162,065)	(256,155)	(299,490)	(43,335)	17%

West Bay Sanitary District
Recycled Water Fund
Sharron Heights Recycled Water Facility
Budget
Fiscal Year 2022-23

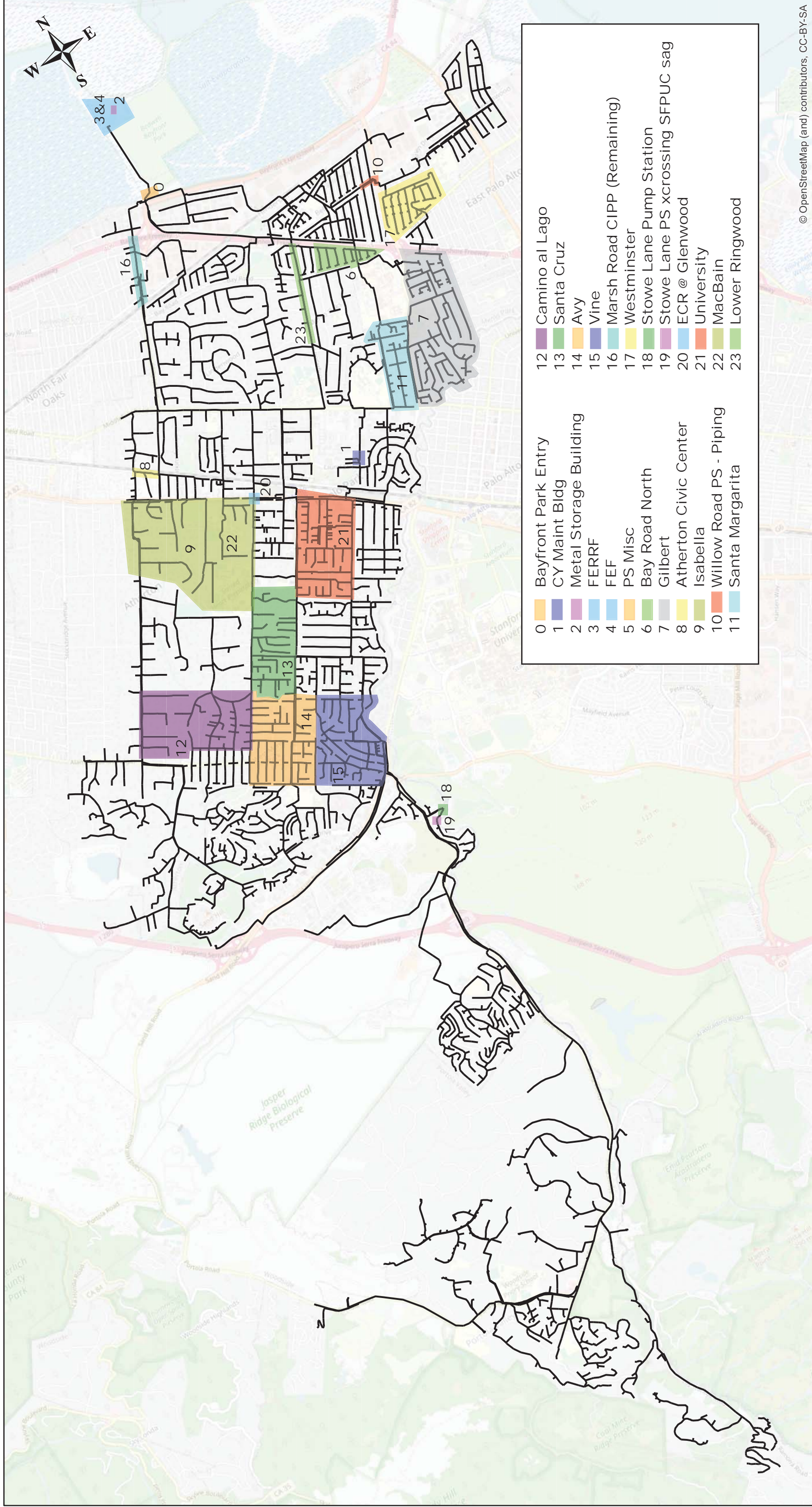
Fund Expenditures - Detail	Actual YTD 3/31/2022	Projected 6/30/22	Budget FY 2021/22	Budget FY 2022/23	Budget Variance	% Var
<u>Operating Expense</u>						
Salaries & Wages	53,028	70,704	110,819	90,037	(20,782)	-19%
Employee Benefits	26,710	35,613	47,572	27,083	(20,489)	-43%
Indirect Labor	24,571	32,761	29,817	19,992	(9,825)	-33%
Standby	13,300	17,733	2,173	19,764	17,591	810%
Overtime	15,150	20,201	10,000	30,000	20,000	200%
Total Salaries, Wages & Benefits	132,759	177,012	200,381	186,876	(13,505)	-7%
<u>Other Operating Expense</u>						
Fuel	0	0	0	0	0	
Insurance	22,182	29,576	25,095	35,000	9,905	39%
Memberships	0	0	0	0	0	
Office Expense	33	45	0	0	0	
Operating Supplies	13,921	18,561	12,600	16,200	3,600	29%
Contractual Services	0	0	0	50,000	50,000	
Professional Services	18,459	24,611	10,000	10,000	0	0%
Printing & Publications	0	0	0	0	0	
Rents & Leases	0	0	0	0	0	
Repairs & Maintenance	17,181	22,908	12,000	12,408	408	3%
Research & Monitoring	13,430	17,907	27,375	22,440	(4,935)	-18%
Training, Meetings & Travel	0	0	0	0	0	
Utilities	101,435	135,246	194,352	205,520	11,168	6%
Licenses & Permits	4,622	6,163	12,500	10,000	(2,500)	-20%
Other Operating Expenses	0	0	0	0	0	
Subtotal Operating Expenses	324,021	432,028	494,303	548,444	54,142	11%
Administrative Expense	12,684	17,589	15,557	19,620	4,063	26.12%
Direct Expenditures	336,705	449,617	509,860	568,064	58,205	11%
Depreciation	566,176	752,805	754,902	752,805	(2,097)	0%
Total Operating Expense	902,881	1,202,422	1,264,762	1,320,869	56,107	4%
<u>Non-Operating Income & Expense</u>						
<u>Other Non-Operating Income</u>						
Interest Income, Gains on Investments	(2,265)	(2,265)	2,000	1,600	(400)	-20%
Total Non-Operating Income	(2,265)	(2,265)	2,000	1,600	(400)	-20%
<u>Other Non-Operating Expense</u>						
SRF Loan Payment - Principal	(496,747)	(496,747)	(496,747)	(501,715)	(4,968)	1%
SRF Loan Payment - Interest	(166,164)	(166,164)	(166,164)	(161,196)	4,968	-3%
Total Non-Operating Expense	(166,164)	(166,164)	(166,164)	(161,196)	4,968	-3%
Total Non-Operating Income & Expense	(168,428)	(168,428)	(164,164)	(159,596)	4,568	-3%



Sewer System Management Plan

4C Capital Improvement Program

WEST BAY SANITARY DISTRICT FUTURE CAPITAL IMPROVEMENT PROJECTS





Sewer System Management Plan

4D WBSD Updated Sewer Connection Fee Report



WEST BAY SANITARY DISTRICT FY 2022-23 SEWER RATE STUDY



February 9, 2022 - Final Report



HF&H Consultants, LLC

West Bay Sanitary District

500 Laurel Street
Menlo Park, CA 94025



FY 2022-23 Sewer Rate Study

February 9, 2022

HF&H Consultants, LLC

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Walnut Creek, CA 94596



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February 9, 2022

Mr. Sergio Ramirez
District Manager
West Bay Sanitary District
500 Laurel Street
Menlo Park, CA 94025

Subject: FY 2022-23 Sewer Rate Study - Final Report

Dear Mr. Ramirez:

HF&H Consultants (HF&H) is pleased to submit this draft report to update the West Bay Sanitary District's (District's) FY 2022-23 and FY 2023-24 sewer rates. The report summarizes the analysis that was conducted to develop the recommended rates. The analysis updates last year's projections to reflect the District's and Silicon Valley Clean Water's (SVCW) current operating and capital cost projections.

The overall increase in revenue will allow the District to:

- Fund inflationary increases in existing staff and sewer collection system operating and maintenance costs.
- Fund \$9.7 million in annual capital projects for the District-maintained collection system.
- Fully-fund the District's share of SVCW's projected operating and capital costs to operate the wastewater treatment plant which grows from \$12.2 million to \$17.5 million over the five-year study period.
- Continue to maintain sufficient reserves to fully fund operating and capital reserve targets, as well as meet the updated Board-approved reserve targets for the Rate Stabilization Reserve Fund (increasing from \$8.0 to \$10.0) and Treatment Plant Reserve Fund (\$12.0 million) for future SVCW capital requirements.
- Adapt to large, expected increases in SVCW debt service in subsequent years beyond FY 2025-26 without resorting to sharp increases in rates beyond the five-year planning period.



* * * * *

A copy of the rate model is included in the appendix.

We appreciate this opportunity to continue working for the District.

Sincerely,
HF&H CONSULTANTS, LLC

Rick Simonson, CMC
Senior Vice President

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ACRONYMS

FY	Fiscal Year
CCF or HCF	Hundred cubic feet of metered water sold; 748 gallons; a cube of water 4.6 feet on edge
BOD	Biochemical Oxygen Demand
COS	Cost of Service
EDU	Equivalent Dwelling Unit
FTE	Full-Time Equivalent
GPD	Gallons per Day
I&I	Inflow & Infiltration
MGL	Milligrams per Liter
O&M	Operations and Maintenance
PAYGo	Pay-As-You-Go, in reference to funding capital improvements from cash rather than from borrowed sources of revenue
SHGCC	Sharon Heights Golf & Country Club
SLAC	Stanford Linear Accelerator Center
SVCW	Silicon Valley Clean Water, a Joint Powers Authority that is responsible for regional conveyance and wastewater treatment for West Bay Sanitary District and the cities of Redwood City, San Carlos, and Belmont.
STEP	Septic Tank Effluent Pumping systems
TSS	Total Suspended Solids

ACKNOWLEDGEMENTS

District Board

Fran Dehn, President

David Walker, Secretary

Roy Thiele-Sardina, Treasurer

Edward Moritz, Director

George Otte, Director

District Staff

Sergio Ramirez, District Manager

Debra Fisher, Finance Manager

Bill Kitajima, Projects and IT Manager

HF&H Consultants, LLC

Rick Simonson, Senior Vice President

Gabe Sasser, Senior Associate



Sewer Rate Study

1. BACKGROUND AND SUMMARY

1.1. Background

The District provides wastewater collection and conveyance services to approximately 55,000 residential, commercial, and industrial customers through a system of pipelines and pump stations that transport their wastewater to the Silicon Valley Clean Water (SVCW) facility for treatment and discharge into San Francisco Bay. SVCW is a Joint Powers Authority (JPA) that provides wastewater treatment services to the Cities of Redwood City, San Carlos, and Belmont as well as the District.

The District owns and operates wastewater collection system facilities serving portions of Menlo Park, Atherton, and Portola Valley. Wastewater from these communities is treated at the SVCW treatment plant, the cost for which is billed to the District and included in the District's sewer service charges. In addition, the District maintains the wastewater collection system operations for the Towns of Los Altos Hills and Woodside under service contracts. Wastewater from these communities is treated at the Palo Alto Regional Water Quality Control plant. Under the services contracts, the District is fully compensated by the towns. The towns are responsible for setting rates for their customers, which will cover the District's cost as well as the cost of treatment.

1.2. Five-Year Financial Plan

This report presents a financial plan for the District that incorporates the capital improvements identified in the District's Master Plan, as well as the latest available projections provided by SVCW in their recent January draft of 2022 Long Range Financial Plan. The District's five-year financial plan comprises:

- Projected District operating and capital expenses to maintain the collection system.
- Projected SVCW operating and capital expenses to maintain and upgrade the sewer treatment plant.
- Projected reserve balances and targets.
- Projected revenues from the District's current and proposed sewer service charges; and,
- Projected growth within the District.

The results of the financial plan indicate the annual increases in sewer service charges that are projected to fund the District's expenses and maintain adequate reserves.

Detailed spreadsheets comprising the five-year financial plan are included in Appendix A.

1.3 Recent Rate Increases

During the last five years, the District’s residential sewer service charges have increased as shown in **Figure 1-1**.

Figure 1-1. Recent Rates and Rate Increases

	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
Residential Sewer Service Charge	\$1,072	\$1,126	\$1,177	\$1,224	\$1,255
Percentage Increase		5.0%	4.5%	4.0%	2.5%
Annual Increase - \$ per Year		\$54	\$51	\$47	\$31

The increases during this period were primarily attributable to SVCW’s increasing debt service allocation to the District to fund treatment plant upgrades and, secondarily, to inflationary increases in the District’s operating and annual capital repair and replacement expenses.

1.4. Current Sewer Rates

The District charges sewer customers annually on the tax rolls, which is a common practice for billing for sewer service. Billing on the tax rolls is less expensive than it would be if the District issued its own bills while allowing the County to easily levy liens for nonpayment. Even though the District bills through the tax rolls, its sewer service charges are not a tax or assessment. Unlike taxes or assessments, which are based on land-related characteristics such as assessed value or parcel size, the District’s sewer charges are a form of service fee or charge that is proportionate to the cost of providing sewer service.

Residential customers are charged per dwelling unit. In addition, approximately 85 homes in the Portola Valley area (located within the On-Site Wastewater Disposal Zone) pay higher charges (currently \$620 per year) for the maintenance of the Septic Tank Effluent Pump (STEP) system or Grinder Sewer Collection Systems that they require.

Commercial customers pay charges based on their metered water use from the prior calendar year (measured in CCF or hundred cubic feet). Each non-residential charge is the product of the customer’s actual flow multiplied by the rate corresponding to the customer’s class.

Industrial customers are billed based on each customer’s annual flow and the strength of the customer’s wastewater based on sampling data.

Current rates for FY 2021-22 were adopted by the Board in April 2021, as follows:

Figure 1-2. Current Rates

	Current FY 2021-22
<u>Residential (charge per DU per year)</u>	
Single Family, Multi Family	\$1,255
On-site Wastewater Disposal Zone	\$1,875
<u>Commercial (charge per CCF)</u>	
Retail/Commercial	\$10.11
Institution/Public	\$9.47
Restaurants/Bakeries	\$21.30
Supermarkets with Grinders	\$21.54
Hospitals	\$10.46
Hotels with Dining Facilities	\$17.20
<u>Industrial (measured)</u>	
Flow Rate Charge per CCF	\$7.46
BOD Rate Charge per pound	\$1.31
TSS Rate Charge per pound	\$1.50

1.5. Findings and Recommendations

1.5.1 Projected Rate Increases During Five-Year Planning Period

Figure 1-3 indicates the annual rate increases projected for the five-year planning period, beginning with FY 2022-23. The increases indicated below reflect updated assumptions and currently available information. Annual revenues will increase greater than the rate increase in all five years as the District continues to experience growth in the number of customers served. The five-year financial plan assumes 73 new dwelling units each year through FY 2025-26. Note: due to the District billing on the tax roll, the projected annual revenue increases reflect a one-year delay in the realization of the revenue from growth. For example, the growth which occurs in FY 2021-22 will first appear on the tax rolls in FY 2022-23.

Figure 1-3. Projected Rate and Revenue Increases

Fiscal Year	Projected Rate Increase	Projected Revenue Increase
FY 2022-23	2.0%	2.4%
FY 2023-24	2.0%	2.4%
FY 2024-25	2.0%	2.4%
FY 2025-26	2.0%	2.3%
FY 2026-27	2.0%	2.3%

1.5.2 Proposed Rates for FY 2021-22

The following figure shows the current FY 2021-22 rates and the proposed FY 2022-23 and FY 2023-24 rates, which reflect a 2.0% across-the-board increase to all rates. In addition, we are recommending an additional \$150 increase to those customers within the On-Site Wastewater Disposal Zone for the increases in costs to maintain the STEP or Grinder Sewer Collection Systems that they require¹.

Figure 1-4. Current and Proposed FY 2022-23, FY 2023-24 Rates

	Adopted	FY 2022-23 Proposed			FY 2023-24 Proposed		
	FY 2021-22	Rate	\$ Chg	% Chg	Rate	\$ Chg	% Chg
Residential (charge per DU per year)							
Single Family, Multi Family	\$1,255	\$1,280	\$25	2.0%	\$1,306	\$26	2.0%
On-site Wastewater Disposal Zone	\$1,875	\$2,050	\$175	9.3%	\$2,226	\$176	8.6%
Commercial (charge per CCF)							
Retail/Commercial	\$10.11	\$10.31	\$0.20	2.0%	\$10.52	\$0.21	2.0%
Institution/Public	\$9.47	\$9.66	\$0.19	2.0%	\$9.85	\$0.19	2.0%
Restaurants/Bakeries	\$21.30	\$21.73	\$0.43	2.0%	\$22.16	\$0.43	2.0%
Supermarkets with Grinders	\$21.54	\$21.97	\$0.43	2.0%	\$22.41	\$0.44	2.0%
Hospitals	\$10.46	\$10.67	\$0.21	2.0%	\$10.88	\$0.21	2.0%
Hotels with Dining Facilities	\$17.20	\$17.54	\$0.34	2.0%	\$17.89	\$0.35	2.0%
Industrial (measured)							
Flow Rate Charge per CCF	\$7.46	\$7.61	\$0.15	2.0%	\$7.76	\$0.15	2.0%
BOD Rate Charge per pound	\$1.31	\$1.34	\$0.03	2.3%	\$1.37	\$0.03	2.2%
TSS Rate Charge per pound	\$1.50	\$1.53	\$0.03	2.0%	\$1.56	\$0.03	2.0%

¹ Section 3 of this report provides details of the larger percentage increase recommended for those customers within the On-site Wastewater Disposal Zone

2. REVENUE REQUIREMENT PROJECTIONS

A spreadsheet model was developed to derive revenue requirements for a five-year planning period, FY 2022-23 through FY 2026-27. The revenue requirements represent the costs that must be covered by revenue from rates and other sources. The District’s Operations & Maintenance (O&M) budget for FY 2021-22 served as the starting point for projecting the District’s expenses and revenues. SVCW provided the projections of all future SVCW expenses, including debt service, used in the model. The escalation factors summarized in **Figure 2-1** were incorporated in the model for projecting expenses and revenues.

Figure 2-1. Key Modeling Assumptions

Assumptions	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
(1) General Inflation	Per Budget	5.4%	3.0%	3.0%	3.0%	3.0%
(2) Utilities	Per Budget	7.0%	7.0%	7.0%	7.0%	7.0%
(3) Salaries	Per Budget	4.0%	4.0%	4.0%	4.0%	4.0%
(4) Benefits	Per Budget	4.0%	4.0%	4.0%	4.0%	4.0%
(5) PERS	Per Budget	NA	-60.2%	0.0%	0.0%	0.0%
(6) SVCW O&M Expenses Increase %	Per Budget	2.6%	3.0%	3.0%	3.0%	3.0%
(7) Interest on Earnings	0.3%	0.60%	0.60%	0.60%	0.60%	0.60%
(8) Miscellaneous	Per Budget	1.0%	1.0%	1.0%	1.0%	1.0%
(9) Los Altos Hills, Woodside Revenue Change	Per Budget	3.0%	3.0%	3.0%	3.0%	3.0%
(10) Construction Cost Inflation	Per Budget	6.3%	4.4%	4.4%	4.4%	4.4%
(11) Increase in Annual Residential Customers	Per Budget	73	73	73	73	73
(12) Number of Total Residential Customer Accounts	19,515	19,588	19,661	19,734	19,807	19,880
(13) Number of STEP/STEG Customer Accounts	85	89	89	89	89	89
(14) Annual Percentage in Residential Account Growth	Per Budget	0.4%	0.4%	0.4%	0.4%	0.4%
(15) Annual Increase in Salaries for OT due to Growth	Per Budget	0.0%	0.0%	0.5%	0.5%	0.5%

The application of these assumptions to the O&M and capital expenses is described below and summarized in **Figure 2-2** and **Figure 2-3**.

2.1. District O&M Expenses

The District’s net O&M expenses (summarized by category in **Figure 2-2**) are projected to increase from approximately \$8.0 million to \$10.6 million over the five-year planning period. The District’s expenses are increasing more rapidly than in previous years due to present levels of high inflation. In addition, net expenses are increasing with the end of approximately \$400,000 in annual non-operating revenue from the flow equalization cost sharing agreement (eff. FY 2024-25) and increases in operating expenses due to a growing customer base. With the regional focus on residential development, the District projects an annual increase of 73 single-family equivalent accounts per year, with a total of 365 accounts added by the end of the planning period.

Figure 2-2. District O&M Expense Summary

	Current Year	Five-Year Planning Period				
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
1 Salaries	\$4,363,442	\$4,537,980	\$4,719,499	\$4,931,876	\$5,153,811	\$5,385,732
2 Benefits	\$1,834,191	\$1,907,559	\$1,983,861	\$2,063,215	\$2,145,744	\$2,231,574
3 PERS Unfunded Accrued Liability	\$0	\$502,455	\$200,000	\$200,000	\$200,000	\$200,000
4 Contractual/Professional Services	\$1,175,695	\$1,243,564	\$1,285,488	\$1,328,808	\$1,373,570	\$1,419,821
5 Other O&M	\$1,740,383	\$1,911,323	\$1,906,821	\$2,044,819	\$2,045,424	\$2,188,750
6 Non-Operating Revenue	(\$1,133,271)	(\$1,174,093)	(\$1,207,275)	(\$829,392)	(\$852,192)	(\$875,656)
7 Net District Operating Costs	\$7,980,440	\$8,928,787	\$8,888,393	\$9,739,327	\$10,066,356	\$10,550,220
8		11.9%	-0.5%	9.6%	3.4%	4.8%

2.2. District Capital Expenses

The District’s capital expenses are summarized by category in **Figure 2-3**. The District’s annual budgeted capital expenditures range from a low of \$8.8 million (in FY 2026-27) to \$10.3 million (in FY 2022-23), during the five-year planning period. On average, the District expects to spend approximately \$9.7 million annually on these projects (during the five-year planning period FY 2021-22 to FY 2025-26).

Collection Facilities and Underground Pipe Replacement and Rehabilitation projects make up the bulk of the District’s planned improvements. The primary Collection Facilities project planned for FY 2021-22 through FY 2024-25 is the Levee (FERRF) Improvements. In FY 2024-25 through the end of the planning period, the District anticipates several large-scale pipe replacement or rehabilitation projects.

Figure 2-3. CIP Summary

	Current Year	Five-Year Planning Period				
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
1 Administration	\$385,000	\$335,000	\$1,535,000	\$1,535,000	\$1,035,000	\$35,000
2 Collection Facilities	\$7,600,000	\$6,500,000	\$6,500,000	\$2,500,000	\$500,000	\$500,000
3 Pipe Replacement and/or Rehab.	\$3,855,000	\$3,055,000	\$1,555,000	\$5,780,000	\$7,452,500	\$7,872,000
4 Capacity	\$1,500,000	\$0	\$0	\$0	\$0	\$0
5 Construction Proj. Environ Review	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
6 Manhole Raising	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
7 Allow. For Unanticipated Cap Exp	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
8 Vehicles & Equipment	\$201,750	\$201,750	\$201,750	\$201,750	\$201,750	\$201,750
9 Total Capital Expenses	\$13,751,750	\$10,301,750	\$10,001,750	\$10,226,750	\$9,399,250	\$8,818,750
10 Less: Connection Fee Revenue	(\$500,000)	(\$505,087)	(\$505,087)	(\$505,087)	(\$505,087)	(\$505,087)
11 Net Capital Expenses	\$13,251,750	\$9,796,663	\$9,496,663	\$9,721,663	\$8,894,163	\$8,313,663
12		-26%	-3%	2%	-9%	-7%

The District plans to fund these capital improvements from a combination of connection fee revenue (from growth) and sewer service charge revenue on a pay-as-you-go (PAYGo) basis without issuing debt, which continues the District’s historical practice. Note: connection fees are currently being reviewed. Any increases to connection fees will reduce the District’s requirement of sewer service charge revenues to fund future capital expenditures.

2.3. District Reserves

In addition to covering annual expenses, sewer service charges need to generate revenue to maintain adequate operations and capital reserves. To determine what constitutes adequate reserve amounts, the reserve balance was subdivided into Operations, Capital, Vehicle and Equipment Replacement, Rate Stabilization, Recycled Water Project, Emergency Reserves, OPEB/PERS Retirement Liability Reserve Fund, and a Treatment Plant Reserve. In this way, it is possible to set recommended target balances for each purpose.

2.3.1. Operations Reserve Minimum Balance

The Operations Reserve provides working capital for monthly O&M expenses. There is a nine-month lag between sewer service charge payments from the County tax assessor; therefore, the minimum Operations Reserve balance is set equal to six months of O&M expenses to provide adequate cash flow. If this minimum balance is maintained, the District should be able to fund its monthly operations cash flow over this extended period without relying on the Capital Reserve for a short-term loan. Maintaining the minimum balance for the Operations Reserve is recommended as the highest priority for the District's reserve accounts.

2.3.2. Emergency Reserve Target Balance

The target balances for the Operations and Capital Reserves are sufficient to provide working capital on an ongoing basis, but do not provide for unforeseen contingencies such as emergencies. Should an emergency strike (e.g., earthquake), the District cannot suddenly raise rates to generate additional funds due to state law requirements for such rate increases (e.g., Proposition 218). Moreover, the District bills annually on the tax rolls. Therefore, the District has set a target for the Emergency Reserve of \$5.0 million. With such a reserve, the District would have funds on hand to take immediate remedial steps without waiting to procure a loan or issue bonds.

Maintaining the target balance for the Emergency Reserve is recommended as the second highest priority after meeting the minimum balance for the Operations Reserve. The Emergency Reserve can be used for funding capital projects at times when the Capital Reserve is not fully funded.

2.3.3. Capital Reserve Target Balance

The Capital Reserve provides liquidity to fund construction for projects that are funded on a PAYGo basis (as opposed to those that are funded from debt). With adequate capital reserves, the District is able to pay contractors without encroaching on the Operations or Emergency Reserves. The target balance of \$6.0 million meets this objective. Maintaining the target balance for the Capital Reserve is recommended after meeting the minimum balances for the Operations and Emergency Reserves.

2.3.4. Vehicle and Equipment Replacement Fund

The Vehicle and Equipment Replacement fund provides resources to replace District fleet vehicles and operations equipment. The District maintains a schedule for replacement based on the useful life of the asset. The target reserve balance of \$1.0 million ensures there are sufficient funds on hand to keep up with the retirement of old equipment or vehicles with the purchase of their replacements. This fund is tracked separately from the Capital Reserve.

2.3.5. Rate Stabilization Reserve Fund

The Board established a rate stabilization fund to allow a margin of safety for the uncertainty of the timing and amount of SVCW capital expenditures to upgrade the wastewater treatment facility (as discussed in **Section 2.4** below). The funds could be used to minimize future rates increases and/or to reduce interest expenses by buying down the amount of debt to be issued by SVCW to fund the upgrades. Within the last five years, the District has utilized this reserve to remove a \$13.0 million debt obligation. The District anticipates future debt obligations and is building this reserve to buy down future debt. In 2021, the Board voted to increase the target reserve of the revenue stabilization fund from \$8 million to \$10 million in anticipation of growing SVCW plant capital funding requirements.

2.3.6. Recycled Water Project Reserve Fund

In late 2016, the Board established an \$8.0 million reserve fund for future capital expenditures to help reduce potable water use by constructing a satellite recycled water treatment facility at the Sharon Heights Golf and Country Club (SHGCC) to use recycled water to irrigate the golf course and also to serve water to the Stanford Linear Accelerator Center (SLAC) for irrigation and industrial uses such as for cooling towers. These funds had been set aside to fund design and construction costs that will be incurred prior to receiving funding from the State Water Resources Control Board (SWRCB) through a loan from the State Revolving Fund (SRF). The SWRCB has remitted payments to the District as construction has completed.

The District will repurpose these funds for expenses related to the Bayfront Recycled Water Project. Once again, these funds will be utilized to help fund the construction of the future recycled water treatment plant as a stopgap measure between receipt of recycled water connection fee revenues from future development and loan proceeds for the SWRCB.

2.3.7. OPEB/PERS Retirement Liability Reserve Fund

In February 2018, the Board established a reserve fund to offset the District's unfunded pension liability. In FY 2020-21, the District contributed \$6.2 million of the fund balance to pay off the entire balance of its unfunded accrued liability. The fund has a current balance of \$237,452 and there are no plans to increase the amount as the District has

satisfied their unfunded liability and plans to fund their OPEB/PERS obligations on a PAYGo basis.

2.3.8. Treatment Plant Reserve Fund

In FY 2020-21, the Board established a reserve to fund increasing SVCW capital expenses. The reserve is intended to address two notable requirements placed on the District beginning in FY 2024-25. First, SVCW will require each member agency to contribute additional funds in lieu of further debt issuance. This annual expense projects to grow from less than \$500,000 to more than \$1.6 million by FY 2026-27. Second, in FY 2027-28, each SVCW member agency will begin making payments for its share on a group of WIFIA loans with a 30-year term. The District’s annual obligation will average \$4.5 million over the life of the loan, a 35% increase from FY 2022-23 SVCW total expenses. These long-term expenses prompted the Board to establish an additional reserve intended to fund planned and unplanned SVCW treatment plant expenses. The Board established a target of \$12.0 million and intends to contribute \$2.5 million per year to this reserve ahead of FY 2027-28 when the first WIFIA loan payments are due. The District has discretion whether to first use funds from its Rate Stabilization Reserve Fund or its Treatment Plant Reserve Fund but intends to use existing reserves to meet future SVCW capital expenses.

2.4. SVCW Expenses

In FY 2022-23, SVCW’s treatment costs are projected to be approximately 41% of the District’s total revenue requirement and is projected to increase to 49% of the District’s total revenue requirement by FY 2026-27. As shown in **Figure 2-4**, SVCW’s cost has recently increased significantly to fund the debt service on a series of bonds and SRF loans, that has been issued to fund the rehabilitation of its interceptors, pump stations, and wastewater treatment plant. The District’s treatment charge is allocated in proportion to the number of its EDUs compared with the other SVCW member agencies, currently 26.84%.

Figure 2-4. SVCW O&M and Debt Service Revenue Requirement

SVCW Projected Expenses	Current Year	Projected				
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
1 Net Operating Expense	\$6,247,706	\$6,410,576	\$6,602,893	\$6,800,980	\$7,005,009	\$7,215,160
2 Revenue-Funded Capital (PAYGo)	\$401,929	\$402,600	\$402,600	\$402,600	\$402,600	\$402,600
3 Debt Reserves	\$536,800	\$676,635	\$811,004	\$945,378	\$1,079,758	\$1,214,142
4 Cash-in-lieu of Debt	\$0	\$0	\$0	\$492,902	\$2,075,326	\$1,636,861
5 <u>Debt Service</u>						
6 Existing 2018 Bond	\$1,839,213	\$1,834,338	\$1,837,963	\$1,834,963	\$1,835,338	\$1,838,838
7 2021A & B Refunding Bonds (New)	\$2,743,273	\$2,737,566	\$2,731,306	\$2,742,354	\$2,737,697	\$2,727,968
8 Existing SRF	\$506,765	\$506,765	\$506,765	\$506,765	\$506,765	\$506,765
9 SRF for Conveyance Planning	\$0	\$0	\$0	\$143,482	\$143,482	\$143,482
10 New SRF Loan(s)	\$0	\$0	\$0	\$1,682,633	\$1,682,633	\$1,682,633
11 Subtotal SVCW Debt Service	\$5,089,251	\$5,078,669	\$5,076,034	\$6,910,197	\$6,905,915	\$6,899,685
12 Subtotal, SVCW	\$12,275,686	\$12,568,480	\$12,892,531	\$15,552,057	\$17,468,608	\$17,368,448
13 SVCW Expenses due to growth	\$0	\$23,891	\$48,407	\$73,565	\$99,382	\$125,877
14 Total, SVCW Project Expenses	\$12,275,686	\$12,592,371	\$12,940,938	\$15,625,622	\$17,567,990	\$17,494,325

2.5. Total Revenue Requirements

The foregoing modeling assumptions lead to the projected revenue requirements shown in **Figure 2-5**.

Figure 2-5. Projected Revenue Requirements

	Current Year	Five-Year Planning Period				
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
SVCW Operating Expenses	\$6,247,706	\$6,434,467	\$6,651,300	\$6,874,545	\$7,104,391	\$7,341,037
SVCW PAYGo Capital	\$401,929	\$402,600	\$402,600	\$895,502	\$2,477,926	\$2,039,461
SVCW Debt-funded Capital	\$5,626,051	\$5,755,304	\$5,887,038	\$7,855,575	\$7,985,673	\$8,113,827
WBSD Capital Imp. Program (net)	\$9,244,563	\$9,244,563	\$9,244,563	\$9,244,563	\$9,244,563	\$9,244,563
WBSD Operating Expenses	\$7,980,440	\$8,928,787	\$8,888,393	\$9,739,327	\$10,066,356	\$10,550,220
Total Projected Revenue Req't.	\$29,500,689	\$30,765,721	\$31,073,894	\$34,609,511	\$36,878,909	\$37,289,109

Highlights of the District’s projected revenue requirements are as follows:

- The District will fund an average of \$6.8 million annually in SVCW operating expenses.
- The District will fund an average of \$8.4 million annually of combined SVCW capital expenditures through contributions to reserves or existing debt service payments.
- The District’s collection system O&M costs are projected to increase by an average of 3.5% per year.
- The District will fund an average of \$9.2 million annually in net capital expenditures for its own collection system.
- Operating, Capital, Rate Stabilization, OPEB/PERS, Vehicle and Equipment, and Emergency reserve levels will be funded to their respective target levels by FY 2026-27.

2.6. Revenue Increases

The District’s revenue requirement is increasing approximately 21% over the next five years. Current rates cannot support the projected revenue requirements shown in **Figure 2-5**. However, it is not necessary to increase rates a cumulative 21% over the next five-year period, as the District has adequate reserves to fully fund all reserve targets and contribute excess reserves to partially offset the revenue requirement increases (as discussed in Section 2.7 below). **Figure 2-6** summarizes the annual increase in the District’s revenue requirement and the proposed rate increases.

Figure 2-6. Annual Revenue Increases

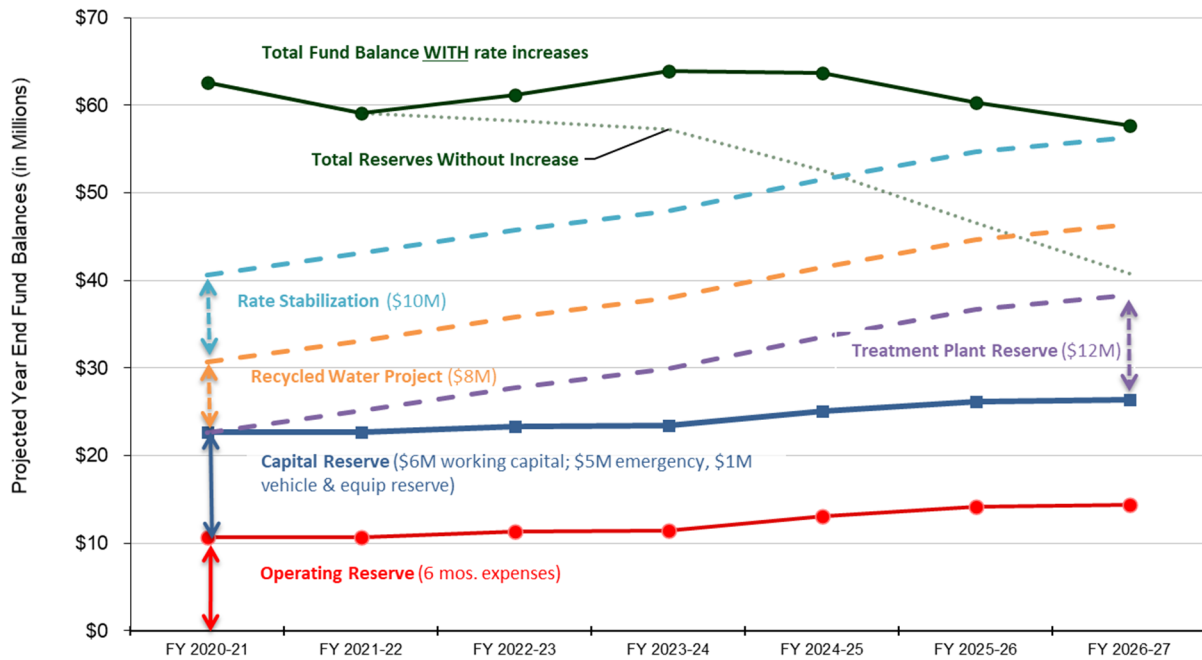
	Five-Year Planning Period				
	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
Projected Revenue Requirement Increases	4.3%	1.0%	11.4%	6.6%	1.1%
Proposed Rate Increases	2.0%	2.0%	2.0%	2.0%	2.0%

2.7. Fund Balance

Figure 2-7 shows the projected annual fund balances with the rate revenue increases recommended in Figure 2-6 (solid green line). Although the projections show straight lines between years, the fund balance will be drawn down substantially during each year. In other words, the reserves are actively drawn from at all times during the year but only periodically added to when payments are received from the County. The reserves are not simply accumulated without being used. The recommended revenue increases will maintain a fund balance above the target during the five-year planning period.

This strong position provides the District with opportunities to use reserves for future anticipated expenses. For example, the District anticipates increases in SVCW debt service beyond FY 2026-27. With its reserve position, the District can fund these increased costs without resorting to sharp increases in future rates or having to participate in debt-financing with the SVCW, much like the District did in 2019 when the Board authorized contributing \$13.5 million (in two payments) from the District’s reserves to reduce the District’s proportionate share of an SVCW bond obligation, which resulted in lower interest expenses for the District over the 30-year term of the bond. In addition, during the rate study period, the District plans to construct a new Bayfront Recycled Water Facility to produce 0.6 million gallons per day (MGD) of recycled water. The District will have the opportunity to use reserves, which currently exceed the target, to fund these improvements that have yet to be fully vetted.

Figure 2-7. Fund Balance With and Without Increased Rate Revenue



2.7.1 Minimum Fund Balance

The minimum balance (red line) is the balance that is required to meet the District’s operating expenses during the year. The balance is large because the District bills annually on the tax rolls and receives reimbursement from the County twice each year. As a result, there are several months over which the District must rely heavily on its operating reserve to meet its monthly cash flow requirements. Because of the lag between payments from the County, the minimum Operations Reserve balance is set equal to five months of SVCW and District operating expenses.

2.7.2 Target Fund Balance

The target balance is the sum of the minimum balance for operations (red line) plus an allowance for capital projects (\$6.0 million), emergency capital reserves (\$5.0 million), vehicle and equipment replacement fund (\$1.0 million), and rate stabilization reserves (\$10.0 million). The capital allowance provides working capital to maintain sufficient funds in order to pay contractors so that work can proceed without delay. Emergency reserves help manage risks associated with sudden asset failures caused by emergencies such as natural disasters or human error. Emergency reserves are a form of capital reserve that can provide a measure of self-insurance so that immediate funding is available for disaster recovery until loans can be arranged. The vehicle and equipment replacement fund provides for the scheduled replacement of the District’s fleet vehicles and operational equipment.

3. PROJECTED RATE INCREASES

Current rates cannot support the projected revenue requirements shown in **Figure 2-5**. The projected rate increases, and corresponding residential sewer service charges, are summarized in **Figure 3-1 (Residential)** and **Figure 3-2 (Commercial and Industrial)**.

Figure 3-1. Projected Rates - Residential

	ADOPTED	Five-Year Planning Period				
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
Residential Sewer Service Charge	\$1,255	\$1,280	\$1,306	\$1,332	\$1,358	\$1,386
Percentage Increase		2.0%	2.0%	2.0%	2.0%	2.0%
Annual Increase - \$ per Year		\$25	\$26	\$26	\$27	\$27

Figure 3-2. Projected Rates - Commercial and Industrial

	Adopted	Projected				
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
Residential (charge per DU per year)						
Single Family, Multi Family	\$1,255	\$1,280	\$1,306	\$1,332	\$1,358	\$1,386
On-site Wastewater Disposal Zone	\$1,875	\$2,050	\$2,226	\$2,402	\$2,450	\$2,499
Commercial (charge per CCF)						
Retail/Commercial	\$10.11	\$10.31	\$10.52	\$10.73	\$10.94	\$11.16
Institution/Public	\$9.47	\$9.66	\$9.85	\$10.05	\$10.25	\$10.46
Restaurants/Bakeries	\$21.30	\$21.73	\$22.16	\$22.60	\$23.05	\$23.51
Supermarkets with Grinders	\$21.54	\$21.97	\$22.41	\$22.86	\$23.32	\$23.79
Hospitals	\$10.46	\$10.67	\$10.88	\$11.10	\$11.32	\$11.55
Hotels with Dining Facilities	\$17.20	\$17.54	\$17.89	\$18.25	\$18.62	\$18.99
Industrial (measured)						
Flow Rate Charge per CCF	\$7.46	\$7.61	\$7.76	\$7.92	\$8.08	\$8.24
BOD Rate Charge per pound	\$1.31	\$1.34	\$1.37	\$1.40	\$1.43	\$1.46
TSS Rate Charge per pound	\$1.50	\$1.53	\$1.56	\$1.59	\$1.62	\$1.65

3.1. STEP/Grinder Charges

The District has approximately 85 single family residential customers located in the On-Site Wastewater Disposal Zone who require either Septic Tank Effluent Pumping systems (STEP) or Grinder Pumping systems. These customers are currently charged an additional \$620 annually for the services the District provides these customers to service and replace their pumps and appurtenances.

In 2020, the District re-examined the service costs specific to these customers and found the revenues collected have not been keeping pace with the annual rate increases. **Figure 3-3** details the calculated cost to provide STEP/grinder system maintenance for these customers.

Figure 3-3. Annual STEP/Grinder System Costs

Private Pump System Maintenance	Annual Costs
1. Labor Cost	
STEP System Bi-Annual Pump Maint.	\$5,099
STEP System Bi-Annual Pump Maint. - Facility Supv.	\$8,798
Grinder System Bi-Annual Pump Maint.	\$5,099
Grinder System Bi-Annual Pump Maint. - Facility Supv.	\$8,798
STEP pump replacement	\$2,779
Grinder pump replacement	\$4,343
Private pump station repairs	\$4,169
Coordination with phone utility companies	\$1,020
Subtotal Labor Costs	\$40,105
2. Material Costs	
Signa Mechanical Open Purchase Order	\$7,000
Envirozyme - Fog Digester	\$3,000
ISAC Controllers/Modem	\$2,500
Private Pump and Panel Replacement	\$20,000
Subtotal Material Costs	\$32,500
 Total Costs For Private Pump Systems	 \$72,605
 Number of Private Units	 79
Total Cost per Private Pump Site	\$919

As shown in **Figure 3-4**, the FY 2019-20 charge of \$320 was insufficient to cover the \$919 annual cost of service per account. Rather than increase the STEP/Grinder charge to meet the cost of service in one year, the increases will be phased in over five fiscal years. This phasing will avoid rate shock and will allow the District to recoup the cost of service by FY 2024-25. **Figure 3-4** calculates the increase for this additional service over five consecutive years. The increase in FY 2022-23 will be the third annual phased increase.

Figure 3-4. On-Site Wastewater Disposal Zone Cost of Service

Private Pump System Cost of Service Analysis	
Current Cost per Private Pump Site	(\$919)
Escalated FY 2024-25 cost @ 3%/yr for 5 years	(\$1,065)
Existing Charge per Private Pump Site	\$320
Difference between cost and existing charge	(\$745)
Difference spread over 5 fiscal years for rates	5
Proposed Annual Increase over 5 years	\$150

Figure 3-5 summarizes the proposed annual STEP/Grinder charge over the next five fiscal years, assuming an annual increase of \$150 per account through FY 2024-25. FY 2025-26 increases to the STEP/Grinder charge assume a 2.0% increase which follows the recommended increase to the base service charge.

Figure 3-5. Projected STEP/Grinder System Cost Increases

	ADOPTED	Five-Year Planning Period				
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
Annual STEP/Grinder Charge	\$620	\$770	\$920	\$1,070	\$1,091	\$1,113
<i>\$ Increase</i>		\$150	\$150	\$150	\$21	\$22

Figure 3-6 summarizes the total annual charge for those customers with a STEP/Grinder System. Such customers are charge the base service charge and the additional costs to maintain the STEP/Grinder System.

Figure 3-6. Total Projected Annual Charges - Customers with STEP/Grinder Systems

	ADOPTED	Five-Year Planning Period				
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
Base Service Charge	\$1,255	\$1,280	\$1,306	\$1,332	\$1,358	\$1,386
Annual STEP/Grinder Charge	\$620	\$770	\$920	\$1,070	\$1,091	\$1,113
Annual Bill	\$1,875	\$2,050	\$2,226	\$2,402	\$2,450	\$2,499
<i>\$ Increase</i>		\$175	\$176	\$176	\$48	\$49

3.2. Summary of Proposed Rates for FY 2022-23

Figure 3-7 provides a schedule of proposed FY 2022-23 and FY 2023-24 rates for all customer types, as discussed above.

Figure 3-7. FY 2022-23, FY 2023-24 Proposed Rates

	Adopted	FY 2022-23 Proposed			FY 2023-24 Proposed		
	FY 2021-22	Rate	\$ Chg	% Chg	Rate	\$ Chg	% Chg
Residential (charge per DU per year)							
Single Family, Multi Family	\$1,255	\$1,280	\$25	2.0%	\$1,306	\$26	2.0%
On-site Wastewater Disposal Zone	\$1,875	\$2,050	\$175	9.3%	\$2,226	\$176	8.6%
Commercial (charge per CCF)							
Retail/Commercial	\$10.11	\$10.31	\$0.20	2.0%	\$10.52	\$0.21	2.0%
Institution/Public	\$9.47	\$9.66	\$0.19	2.0%	\$9.85	\$0.19	2.0%
Restaurants/Bakeries	\$21.30	\$21.73	\$0.43	2.0%	\$22.16	\$0.43	2.0%
Supermarkets with Grinders	\$21.54	\$21.97	\$0.43	2.0%	\$22.41	\$0.44	2.0%
Hospitals	\$10.46	\$10.67	\$0.21	2.0%	\$10.88	\$0.21	2.0%
Hotels with Dining Facilities	\$17.20	\$17.54	\$0.34	2.0%	\$17.89	\$0.35	2.0%
Industrial (measured)							
Flow Rate Charge per CCF	\$7.46	\$7.61	\$0.15	2.0%	\$7.76	\$0.15	2.0%
BOD Rate Charge per pound	\$1.31	\$1.34	\$0.03	2.3%	\$1.37	\$0.03	2.2%
TSS Rate Charge per pound	\$1.50	\$1.53	\$0.03	2.0%	\$1.56	\$0.03	2.0%

Revenue increases for subsequent years have been projected in this financial plan and are based on several assumptions and information that will require review prior to adopting any future rate increases. **Figure 3-8** summarizes projected rates over the entire five-year financial planning period.

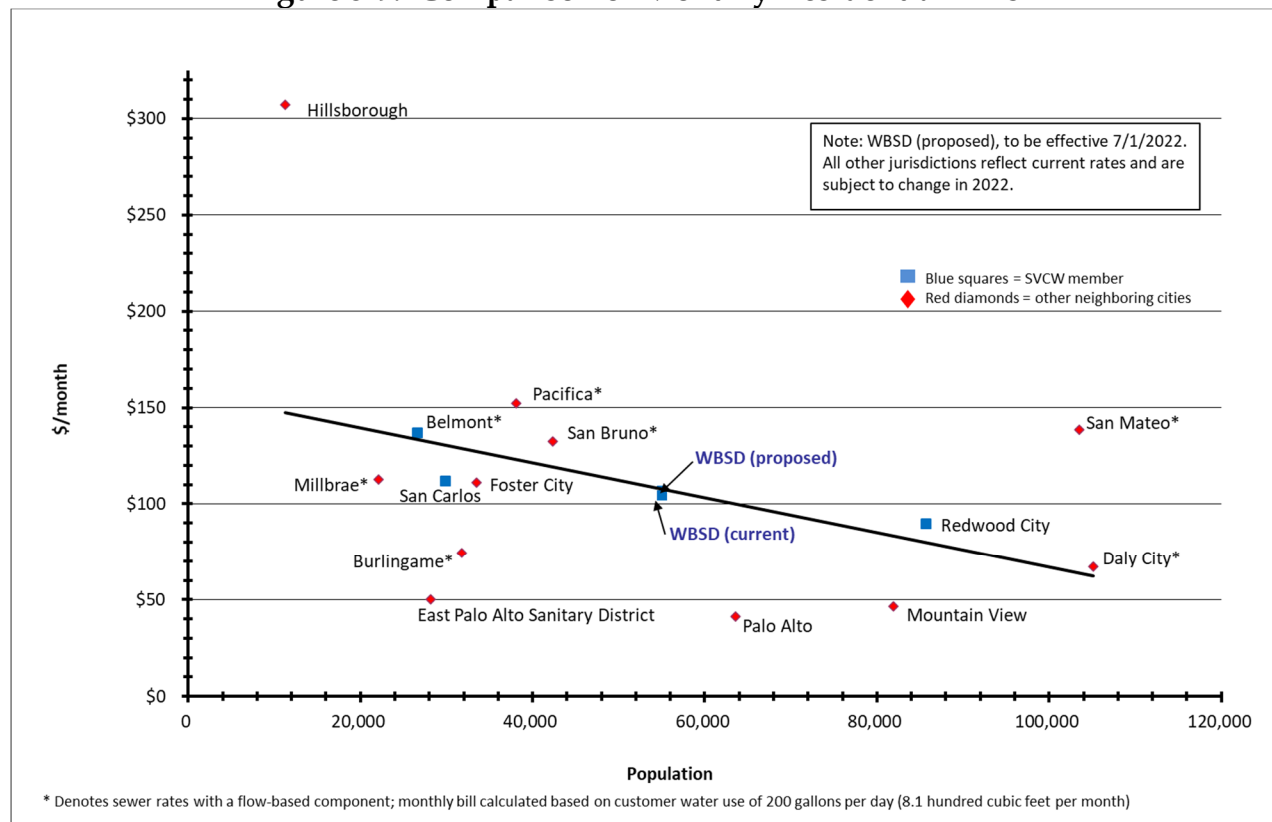
Figure 3-8. Projected Rates (FY 2022-23 through FY 2026-27)

	Adopted	Projected				
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
Residential (charge per DU per year)						
Single Family, Multi Family	\$1,255	\$1,280	\$1,306	\$1,332	\$1,358	\$1,386
On-site Wastewater Disposal Zone	\$1,875	\$2,050	\$2,226	\$2,402	\$2,450	\$2,499
Commercial (charge per CCF)						
Retail/Commercial	\$10.11	\$10.31	\$10.52	\$10.73	\$10.94	\$11.16
Institution/Public	\$9.47	\$9.66	\$9.85	\$10.05	\$10.25	\$10.46
Restaurants/Bakeries	\$21.30	\$21.73	\$22.16	\$22.60	\$23.05	\$23.51
Supermarkets with Grinders	\$21.54	\$21.97	\$22.41	\$22.86	\$23.32	\$23.79
Hospitals	\$10.46	\$10.67	\$10.88	\$11.10	\$11.32	\$11.55
Hotels with Dining Facilities	\$17.20	\$17.54	\$17.89	\$18.25	\$18.62	\$18.99
Industrial (measured)						
Flow Rate Charge per CCF	\$7.46	\$7.61	\$7.76	\$7.92	\$8.08	\$8.24
BOD Rate Charge per pound	\$1.31	\$1.34	\$1.37	\$1.40	\$1.43	\$1.46
TSS Rate Charge per pound	\$1.50	\$1.53	\$1.56	\$1.59	\$1.62	\$1.65

3.3. Residential Sewer Charge Comparison

Based on available sources, **Figure 3-9** shows the recent charges for sewer service among various San Mateo and Santa Clara County agencies. Larger agencies tend to have lower rates because they can take advantage of economies of scale and have a larger base of customers over which to distribute fixed costs. **Figure 3-9** shows the District’s current and proposed sewer rates along with the other SVCW member agencies (identified with blue squares in the figure below). It should be noted that the other SVCW member agencies also face similar additional costs. It is expected that these agencies will be required to increase their rates substantially to cover their share of SVCW costs. Even with the projected rate increases, we would not expect the District’s relative position among its neighbors to change significantly.

Figure 3-9. Comparison of Monthly Residential Bills



APPENDIX A. SEWER RATE MODEL

A	B	C	D	E	F	G	H	I
1	West Bay Sanitary District							
2	Sewer Rate Study							
3	Table 1A. Summary							
4								
5	RESIDENTIAL							
6		Adopted						
7		Fiscal Year:	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
8	Base Service Charges		4.0%	2.0%	2.0%	2.0%	2.0%	2.0%
9	Cumulative Increase			2.0%	4.0%	6.1%	8.2%	10.4%
10	\$ Increase			\$25	\$26	\$26	\$27	\$27
11	Residential Bill (annual)		\$1,255	\$1,280	\$1,306	\$1,332	\$1,358	\$1,386
12	% Incr			2.0%	2.0%	2.0%	2.0%	2.0%
13	Annual STEP/Grinder Charge		\$470	\$620	\$770	\$920	\$1,070	\$1,091
14	Proposed Annual Increases (\$)		\$150	\$150	\$150	\$150	\$21	\$22
15	Total Annual STEP/Grinder Charge		\$620	\$770	\$920	\$1,070	\$1,091	\$1,113
16								
17	Base Service Charge (from above)		\$1,255	\$1,280	\$1,306	\$1,332	\$1,358	\$1,386
18	Total Annual Bill (Base + STEP/Grinder)		\$1,875	\$2,050	\$2,226	\$2,402	\$2,450	\$2,499
19				9.3%	8.6%	7.9%	2.0%	2.0%
20								
21								
22	COMMERCIAL & INDUSTRIAL	Adopted						
23		Fiscal Year:	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
24	Commercial (charge per CCF)			2.0%	2.0%	2.0%	2.0%	2.0%
25	Retail/Commercial		\$10.11	\$10.31	\$10.52	\$10.73	\$10.94	\$11.16
26	Institution/Public		\$9.47	\$9.66	\$9.85	\$10.05	\$10.25	\$10.46
27	Restaurants/Bakeries		\$21.30	\$21.73	\$22.16	\$22.60	\$23.05	\$23.51
28	Supermarkets with Grinders		\$21.54	\$21.97	\$22.41	\$22.86	\$23.32	\$23.79
29	Hospitals		\$10.46	\$10.67	\$10.88	\$11.10	\$11.32	\$11.55
30	Hotels with Dining Facilities		\$17.20	\$17.54	\$17.89	\$18.25	\$18.62	\$18.99
31								
32	Industrial (measured)							
33	Flow Rate Charge per CCF		\$7.46	\$7.61	\$7.76	\$7.92	\$8.08	\$8.24
34	BOD Rate Charge per pound		\$1.31	\$1.34	\$1.37	\$1.40	\$1.43	\$1.46
35	TSS Rate Charge per pound		\$1.50	\$1.53	\$1.56	\$1.59	\$1.62	\$1.65
36								
37								
38								

Notes
To Tables 3, 4
made total \$1,875
To Table 3

	A	B	C	D	E	F	G	H	I
1	West Bay Sanitary District								
2	Sewer Rate Study								
3	Table 1B. General								
4									
5	List of Model Worksheets								
6	Table 1A. Summary	Table 4. Reserves							
7	Table 1B. General	Table 5. Capital Projects							
8	Table 2. Revenue Requirement	Table 6. WBSD Service							
9	Table 3. Revenue Increases								
10									
11	Assumptions								
13	(1) General Inflation	Per Budget	5.4%	3.0%	3.0%	3.0%	3.0%	3.0%	To Table 2
14	(2) Utilities	Per Budget	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	To Table 2
15	(3) Salaries	Per Budget	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	To Table 2
16	(4) Benefits	Per Budget	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	To Table 2
17	(5) PERS	Per Budget	NA	-60.2%	0.0%	0.0%	0.0%	0.0%	From Table 2
18	(6) SVCW O&M Expenses Increase %	Per Budget	2.6%	3.0%	3.0%	3.0%	3.0%	3.0%	From Table 2
19	(7) Interest on Earnings		0.25%	0.60%	0.60%	0.60%	0.60%	0.60%	To Table 4
20	(8) Miscellaneous	Per Budget	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	To Table 2
21	(9) Los Altos Hills, Woodside Revenue Change	Per Budget	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	To Table 2
22	(10) Construction Cost Inflation	Per Budget	6.3%	4.4%	4.4%	4.4%	4.4%	4.4%	To Table 5; FY 2022-23 is 2-year average, future years are 5-year average
23	(11) Increase in Annual Residential Customers	Per Budget	73	73	73	73	73	73	To Table 3
24	(12) Number of Total Residential Customer Accounts		19,515	19,588	19,661	19,734	19,807	19,880	
25	(13) Number of STEP/STEG Customer Accounts		85	89	89	89	89	89	
26	(14) Annual Percentage in Residential Account Growth	Per Budget	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	To Table 2
27	(15) Annual Increase in Salaries for OT due to Growth	Per Budget	0.0%	0.0%	0.0%	0.5%	0.5%	0.5%	To Table 2
28									
29	Target Fund Balances								
30	<u>Operating Fund</u>								
31	Purpose	For O&M cash flow during the year							
32	Minimum balance	Cannot go negative							
33	Target balance	Six months of operating expenses (to accommodate biannual receipt of fees from County tax roll)							
34									
35	<u>Capital Asset Fund</u>								
36	Purpose	To be used for replacement of Facilities							
37	Minimum balance	Cannot go negative							
38	Target balance	\$6,000,000							
39									
40	<u>Emergency Capital Fund</u>								
41	Purpose	To be used for sewer emergencies							
42	Minimum balance	Cannot go negative							
43	Target balance	\$5,000,000							
44									
45	<u>Rate Stabilization Fund</u>								
46	Purpose	Allow a margin of safety for the uncertainty of SVCW capital costs							
47	Minimum balance	Cannot go negative							
48	Target balance	\$10,000,000							
49									
50	<u>Vehicle & Equipment Replacement Fund</u>								
51	Purpose	To be used for replacement of Equipment							
52	Minimum balance	Cannot go negative							
53	Target balance	\$1,000,000							
54									
55	<u>Treatment Plant Reserve</u>								
56	Purpose	To be used for SVCW Capital expenses							
57	Minimum balance	Cannot go negative							
58	Target balance	\$12,000,000							
59									

	A	B	C	D	E	F	G	H	I	
										Projected
	Tbl. 1B		Projected							
	Budgeted	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27			
1 West Bay Sanitary District										
2 Sewer Rate Study										
3 Table 2. Revenue Requirement										
4										
5										
6										
7 SVCW Projected Expenses										
8 Operating and Capital PAYGO Expenses										
9 Operating Expenses										
10 Operating Expenses due to growth (HF&H est.)										SVCW Expenses per 2022 DRAFT LRFP
11 Transfer to Cash Reserves (CIP)										est. impact on expenses due to growth
12 Revenue-Funded Capital (PAYGO)										SVCW Expenses per 2022 DRAFT LRFP
13 Cash-in-lieu of Debt										
14 Subtotal SVCW Operating/PAYGO Expenses										
15 Debt Service										
16 2018 Bond (\$55 million)										Per District, 11/1/2021
17 2021A Refunding Bonds (\$55.7 million)										Per District, 11/1/2021
18 2021B Refunding Bonds (\$55.7 million)										Per District, 11/1/2021
19 SVCW SRF for WWTP Phase I (C-06-5216-120)										Per District, 11/1/2021
20 SVCW SRF Conveyance Planning Loan (\$4.1 million)										Per District, 11/1/2021
21 SWRCB SRF Loan (RESCU)										Per District, 11/1/2021
22 New WiFi Loan(s)										Per District, 11/1/2021
23 Subtotal SVCW Debt Service										
24 Total SVCW Expenses										
25										
26										
27 Operating Expenses										
28 Salaries										
29 Employee Benefits										
30 PERS Unfunded Accrued Liability										
31 Director's Fees										Per District, 11/23/21
32 Election Expense										
33 Gasoline, Oil and Fuel										
34 Insurance										
35 Self-insurance Reserve										
36 Memberships										
37 Office Expense										
38 Operating Supplies										
39 Contractual Services										
40 Professional Services										
41 Printing and Publications										
42 Rents and Leases										
43 Repairs and Maintenance										
44 Research and Monitoring										
45 Travel and Meetings										
46 Utilities										
47 Other Operating Expense										
48 Admin Alloc to Recycled Water Fund										
49 OH Alloc to Solid Waste Fund										
50 Total Operating Expenditures										
51										
52 Non-Operating Expenditures										
53 Non-Operating Expense										Per District budget
54 Contrib. to LAFCO										
55										
56 Subtotal, Non-Operating Expenditures										
57										
58 Total Expenses										
59										

	A	B	C	D	E	F	G	H	I
1	West Bay Sanitary District								
2	Sewer Rate Study								
3	Table 2. Revenue Requirement								
4									
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Table 2. Revenue Requirement

Line Item	Budgeted			Projected			Notes
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	
Non-Operating Revenues							
Flow Equalization Cost Sharing	(\$368,490)	(\$388,388)	(\$400,040)	\$0	\$0	\$0	Flow equalization cost sharing ends FY 2023-24 per District
Permit & Inspection Fees	(\$100,000)	(\$101,000)	(\$102,010)	(\$103,030)	(\$104,060)	(\$105,101)	
Other Operating Revenue (Los Altos Hills, Woodside)	(\$663,781)	(\$683,694)	(\$704,205)	(\$725,331)	(\$747,091)	(\$769,504)	
Other Non-Operating Income (excl. interest)	(\$1,000)	(\$1,010)	(\$1,020)	(\$1,030)	(\$1,041)	(\$1,051)	
Subtotal, Non-Operating Income	(\$1,133,271)	(\$1,174,093)	(\$1,207,275)	(\$829,392)	(\$852,192)	(\$875,656)	
		3.6%	2.8%	-31.3%	2.7%	2.8%	
Other Transfers to/(from)							
Operating (General) Fund	\$0	\$0	\$0	\$0	\$0	\$0	From Table 4
Operating Reserve	\$0	\$0	\$0	\$0	\$0	\$0	From Table 4
Capital Projects Fund (for PAYGo projects)	\$9,244,563	\$9,244,563	\$9,244,563	\$9,244,563	\$9,244,563	\$9,244,563	From Table 4
Emergency Capital Reserves	\$0	\$0	\$0	\$0	\$0	\$0	From Table 4
Vehicle & Equipment Replacement Fund	\$0	\$0	\$0	\$0	\$0	\$0	From Table 4
Treatment Plant Reserve	\$0	\$0	\$0	\$0	\$0	\$0	From Table 4
Total Transfers	\$9,244,563	\$9,244,563	\$9,244,563	(\$492,902)	(\$2,075,326)	(\$1,636,861)	
		0.0%	0.0%	-5.3%	-18.1%	6.1%	
Net Revenue Requirement	\$29,500,689	\$30,765,721	\$31,073,894	\$34,116,609	\$34,803,583	\$35,652,248	To Table 3
Annual Change		4.3%	1.0%	9.8%	2.0%	2.4%	
Cumulative Change		4.3%	5.3%	15.6%	18.0%	20.9%	

Source: West Bay Sanitary District FY 2021/22 Budget

	A	B	C	D	E	F	G	H
1	West Bay Sanitary District							
2	Sewer Rate Study							
3	Table 3. Revenue Increases							
4								
5								
6								
7								
8	Rate Revenue @ Current Rates							
9	Residential	\$24,549,614						
10	Non-Residential	\$5,260,136						
11	Total Rate Revenue @ Current Rates	\$29,809,751	\$29,809,751	\$29,809,751	\$29,809,751	\$29,809,751	\$29,809,751	
12	Plus: Additional Revenue from Residential Growth	91,615	183,230	274,845	366,460	458,075		
13	Adjusted Revenue at Current Rates	\$29,901,366	\$29,992,981	\$30,084,596	\$30,176,211	\$30,267,826		
14								
15	Revenue Requirement	(\$29,500,689)	(\$31,073,894)	(\$34,116,609)	(\$34,803,583)	(\$35,652,248)		
16	To/(From) operations before Rate Incr.	\$309,062	(\$1,080,914)	(\$4,032,014)	(\$4,627,372)	(\$5,384,422)		
17								
18								
19	Increase in Rate Revenue		2.0%	2.0%	2.0%	2.0%	2.0%	
20	Cumulative Increase in Rate Revenue		2.0%	4.0%	6.1%	8.2%	10.4%	
21	Revenue from Rate Increases							
22	FY 2021-22 (eff. July 1, 2021)		\$598,027	\$599,860	\$601,692	\$603,524	\$605,357	
23	FY 2022-23 (eff. July 1, 2022)			\$611,857	\$613,726	\$615,595	\$617,464	
24	FY 2023-24 (eff. July 1, 2023)				\$626,000	\$627,907	\$629,813	
25	FY 2024-25 (eff. July 1, 2024)					\$640,465	\$642,409	
26	FY 2025-26 (eff. July 1, 2025)						\$655,257	
27	Total Revenue from Rate Increases	\$0	\$598,027	\$1,211,716	\$1,841,418	\$2,487,490	\$3,150,300	
28	Total Current Revenue	\$29,809,751	\$29,901,366	\$29,992,981	\$30,084,596	\$30,176,211	\$30,267,826	
29	Subtotal Revenue	\$29,809,751	\$30,499,393	\$31,204,697	\$31,926,014	\$32,663,701	\$33,418,125	
30								
31	STEP System Additional Charge		\$150	\$150	\$150	\$21	\$22	
32	Current STEP System Customers		85	85	85	85	85	
33	Cumulative Additional STEP System Customers		4	4	4	4	4	
34	Subtotal		89	89	89	89	89	
35								
36	Revenue from Additional STEP System Charge Increases							
37	FY 2021-22 (eff. July 1, 2021)							
38	FY 2022-23 (eff. July 1, 2022)		\$13,350	\$13,350	\$13,350	\$13,350	\$13,350	
39	FY 2023-24 (eff. July 1, 2023)			\$13,350	\$13,350	\$13,350	\$13,350	
40	FY 2024-25 (eff. July 1, 2024)				\$13,350	\$1,905	\$1,905	
41	FY 2025-26 (eff. July 1, 2025)					\$1,943	\$1,943	
42	Total Revenue from STEP System Rate Increases		\$13,350	\$26,700	\$40,050	\$41,955	\$43,897	
43	Subtotal Revenue	\$29,809,751	\$30,499,393	\$31,204,697	\$31,926,014	\$32,663,701	\$33,418,125	
44	Revenue Requirement	\$29,809,751	\$30,512,743	\$31,231,397	\$31,966,064	\$32,705,656	\$33,462,023	
45	To/(From) operations after Rate Incr.	(\$29,500,689)	(\$30,765,721)	(\$31,073,894)	(\$34,116,609)	(\$34,803,583)	(\$35,652,248)	
46		\$309,062	(\$252,978)	\$157,503	(\$2,150,546)	(\$2,097,928)	(\$2,190,225)	

includes manually billed parcels too.

	A	B	C	D	E	F	G	H	I	J	K
1	West Bay Sanitary District										
2	Sewer Rate Study										
3	Table 4. Reserves										
4											
5											
6											
7											
	Tbl.	Actual	Budgeted								
1B	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	Notes			
8	OPERATING (GENERAL) FUND										
9	Revenue Increases										
10	Beginning Balance	\$39,966,412	\$27,499,192	\$21,454,171	\$16,711,344	\$10,121,163	\$5,556,374	From Table 1A			
11	Surplus/Deficit from Rate Revenue	\$309,062	(\$252,978)	\$157,503	(\$2,150,546)	(\$2,097,928)	(\$2,190,225)	From Table 3			
12	Transfers (To)/From										
13	Revenue Requirement										
14	Operating Reserve	(\$1,000,000)	(\$1,000,000)	(\$1,000,000)	(\$1,500,000)	\$0	\$0	To Table 2			
15	Capital Asset Fund	(\$2,000,000)	(\$2,000,000)	(\$2,000,000)	(\$1,000,000)	\$0	\$0	(To)/From Below			
16	Emergency Capital Reserve	\$0	(\$750,000)	\$0	\$0	\$0	\$0	(To)/From Below			
17	Rate Stabilization Fund	\$0	(\$2,000,000)	(\$2,000,000)	(\$2,000,000)	\$0	\$0	(To)/From Below			
18	Vehicle & Equipment Replacement Fund	\$0	(\$170,000)	\$0	\$0	\$0	\$0	(To)/From Below			
19	Recycled Water Project	(\$7,344,859)	\$0	\$0	\$0	\$0	\$0	(To)/From Below			
20	OPEB/PERS Unfunded Liabilities	\$0	\$0	\$0	\$0	\$0	\$0	(To)/From Below			
21	Treatment Plant Reserve	(\$2,500,000)	(\$2,500,000)	(\$2,500,000)	(\$2,500,000)	(\$2,500,000)	(\$2,500,000)	(To)/From Below			
22	Subtotal Transfers	(\$12,844,859)	(\$5,920,000)	(\$5,000,000)	(\$4,500,000)	(\$2,500,000)	(\$2,500,000)				
23	Fund Subtotal	\$27,430,615	\$21,326,214	\$16,611,673	\$10,060,798	\$5,523,235	\$866,149	all remaining cash after reserves			
24	Estimated Interest Earnings (7)	\$68,577	\$127,957	\$99,670	\$60,365	\$33,139	\$5,197				
25	Ending Balance	\$39,966,412	\$27,499,192	\$21,454,171	\$16,711,344	\$10,121,163	\$5,556,374				
26											
27	OPERATING RESERVE										
28	Beginning Balance	\$	9,554,610	\$	10,580,996	\$	11,650,482	\$	12,726,385	\$	14,311,743
29	Transfers (To)/From										
30	Revenue Requirement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
31	Operating General Fund	\$1,000,000	\$1,000,000	\$1,000,000	\$1,500,000	\$1,500,000	\$1,500,000	\$0	\$0	\$0	\$0
32	Subtotal Transfers	\$1,000,000	\$1,000,000	\$1,000,000	\$1,500,000	\$1,500,000	\$1,500,000	\$0	\$0	\$0	\$0
33	Fund Subtotal	\$	10,554,610	\$	11,580,996	\$	12,650,482	\$	14,226,385	\$	14,311,743
34	Estimated Interest Earnings (7)	\$26,387	\$69,486	\$75,903	\$85,358	\$85,870	\$85,386	\$86,386	\$86,386	\$86,386	\$86,386
35	Ending Balance	\$9,554,610	\$11,650,482	\$12,726,385	\$14,311,743	\$14,397,614	\$14,483,999				
36	<i>Minimum Balance (6 mo. operations)</i>	\$10,642,153	\$11,291,206	\$11,457,726	\$13,032,128	\$14,173,434	\$14,385,121				

A	B	C	D	E	F	G	H	I	J	K
West Bay Sanitary District										
Sewer Rate Study										
Table 4. Reserves										
Tbl. 1B	Actual	Budgeted								
	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	Notes		
37										
CAPITAL ASSET FUND										
38	Beginning Balance	\$3,474,069	\$1,470,549	\$2,935,960	\$4,711,963	\$5,266,272	\$5,650,372			
39	Revenues	\$500,000	\$505,087	\$505,087	\$505,087	\$505,087	\$505,087	From Table 5		
40	Connection Charges									
41	Capital Projects									
42	Administration	(\$385,000)	(\$335,000)	(\$1,535,000)	(\$1,035,000)	(\$1,035,000)	(\$35,000)	From Table 5		
43	Collection Facilities	(\$7,600,000)	(\$6,500,000)	(\$6,500,000)	(\$2,500,000)	(\$500,000)	(\$500,000)	From Table 5		
44	Subsurface Lines & Pumps	(\$95,000)	(\$95,000)	(\$95,000)	(\$95,000)	(\$95,000)	(\$95,000)	From Table 5		
45	Pipe Repl & Rehab	(\$3,760,000)	(\$2,960,000)	(\$1,460,000)	(\$5,685,000)	(\$7,357,500)	(\$7,777,000)	From Table 5		
46	Capacity	(\$1,500,000)	\$0	\$0	\$0	\$0	\$0	From Table 6		
47	Environmental Review	(\$10,000)	(\$10,000)	(\$10,000)	(\$10,000)	(\$10,000)	(\$10,000)	From Table 5		
48	Manhole Raising	(\$100,000)	(\$100,000)	(\$100,000)	(\$100,000)	(\$100,000)	(\$100,000)	From Table 5		
49	Allow for Unanticipated Cap Exp	(\$100,000)	(\$100,000)	(\$100,000)	(\$100,000)	(\$100,000)	(\$100,000)	From Table 5		
50	Vehicles & Equipment	(\$201,750)	(\$201,750)	(\$201,750)	(\$201,750)	(\$201,750)	(\$201,750)	From Table 5		
51	Subtotal Expenses	(\$13,751,750)	(\$10,301,750)	(\$10,001,750)	(\$10,226,750)	(\$9,399,250)	(\$8,818,750)			
52										
53		\$0	\$0	\$0	\$0	\$0	\$0			
54	Payment to SVCW (to reduce debt obligation)									
55										
56	Net Capital Expenditures to be paid by Rates	(\$13,251,750)	(\$9,796,663)	(\$9,496,663)	(\$9,721,663)	(\$8,894,163)	(\$8,313,663)			
57										
58	Transfers (To)/From									
59	Revenue Requirement- PayGo Capital	\$9,244,563	\$9,244,563	\$9,244,563	\$9,244,563	\$9,244,563	\$9,244,563	To Table 2		
60	Operating General Fund	\$2,000,000	\$2,000,000	\$2,000,000	\$1,000,000	\$0	\$0	From Above		
61	Rate Stabilization Fund	\$0	\$0	\$0	\$0	\$0	\$0	From Below		
62	Subtotal Transfers	\$11,244,563	\$11,244,563	\$11,244,563	\$10,244,563	\$9,244,563	\$9,244,563			
63	Fund Subtotal	\$1,466,882	\$2,918,449	\$4,683,860	\$5,234,863	\$5,616,672	\$6,581,272			
64	Estimated Interest Earnings (7)	\$3,667	\$17,511	\$28,103	\$31,409	\$33,700	\$39,488			
65	Ending Balance	\$1,470,549	\$2,935,960	\$4,711,963	\$5,266,272	\$5,650,372	\$6,620,760			
66	Target Balance	\$6,000,000	\$6,000,000	\$6,000,000	\$6,000,000	\$6,000,000	\$6,000,000	From Table 1B		
67										
EMERGENCY CAPITAL RESERVES										
68	Beginning Balance	\$4,119,550	\$4,129,849	\$4,909,128	\$4,938,583	\$4,968,214	\$4,998,023			
69	Transfers (To)/From									
70	Revenue Requirements	\$0	\$0	\$0	\$0	\$0	\$0	To Table 2		
71	Operating General Fund	\$0	\$750,000	\$0	\$0	\$0	\$0	To Above		
72	Subtotal Transfers	\$0	\$750,000	\$0	\$0	\$0	\$0			
73	Fund Subtotal	\$4,119,550	\$4,879,849	\$4,909,128	\$4,938,583	\$4,968,214	\$4,998,023			
74	Estimated Interest Earnings (7)	\$10,299	\$29,279	\$29,455	\$29,631	\$29,809	\$29,988			
75	Ending Balance	\$4,129,849	\$4,909,128	\$4,938,583	\$4,968,214	\$4,998,023	\$5,028,011			
76	Minimum Balance	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000			
77	Target Balance	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000			
78										

	A	B	C	D	E	F	G	H	I	J	K
1	West Bay Sanitary District										
2	Sewer Rate Study										
3	Table 4. Reserves										
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Tbl. Actual Budgeted

1B FY 2020-21 FY 2021-22 FY 2022-23 FY 2023-24 FY 2024-25 FY 2025-26 FY 2026-27 Notes

RATE STABILIZATION FUND

Beginning Balance \$4,257,666 \$4,268,310 \$6,305,920 \$8,355,756 \$10,417,890 \$10,480,397 \$10,480,397

Payment to SVCW \$0 \$0 \$0 \$0 \$0 \$0 \$0

Transfers (To)/From

Operating General Fund \$0 \$2,000,000 \$2,000,000 \$2,000,000 \$0 \$0 To Table 2

Recycled Water Project Fund \$0 \$0 \$0 \$0 \$0 \$0 \$0

Capital Fund \$0 \$0 \$0 \$0 \$0 \$0 \$0 To Above

Subtotal Transfers \$0 \$2,000,000 \$2,000,000 \$2,000,000 \$0 \$0 \$0

Fund Subtotal \$4,257,666 \$6,268,310 \$8,305,920 \$10,355,756 \$10,417,890 \$10,480,397 \$10,480,397

Estimated Interest Earnings (7) \$10,644 \$37,610 \$49,836 \$62,135 \$62,507 \$62,882 \$62,882

Ending Balance \$4,268,310 \$6,305,920 \$8,355,756 \$10,417,890 \$10,480,397 \$10,543,280 \$10,543,280

Target Balance \$10,000,000 \$10,000,000 \$10,000,000 \$10,000,000 \$10,000,000 \$10,000,000 \$10,000,000 revised per 2021 Board policy

VEHICLE & EQUIPMENT REPLACEMENT FUND

Beginning Balance \$816,217 \$818,258 \$994,188 \$1,000,153 \$1,006,154 \$1,012,191 \$1,012,191

Transfers (To)/From

Revenue Requirement \$0 \$0 \$0 \$0 \$0 \$0 \$0 To Table 2

Operating General Fund \$0 \$170,000 \$0 \$0 \$0 \$0 \$0

Subtotal Transfers \$0 \$170,000 \$0 \$0 \$0 \$0 \$0

Fund Subtotal \$816,217 \$988,258 \$994,188 \$1,000,153 \$1,006,154 \$1,012,191 \$1,012,191

Estimated Interest Earnings (7) \$2,041 \$5,930 \$5,965 \$6,001 \$6,037 \$6,073 \$6,073

Ending Balance \$818,258 \$994,188 \$1,000,153 \$1,006,154 \$1,012,191 \$1,018,264 \$1,018,264

Target Balance \$1,000,000 \$1,000,000 \$1,000,000 \$1,000,000 \$1,000,000 \$1,000,000 \$1,000,000

TREATMENT PLANT RESERVE FUND

Beginning Balance \$0 \$2,506,250 \$5,036,288 \$7,581,505 \$9,646,135 \$10,131,234 \$10,131,234

Transfers (To)/From

Revenue Requirement \$0 \$0 \$0 (\$492,902) (\$2,075,326) (\$1,636,861) To Table 2

Operating General Fund \$2,500,000 \$2,500,000 \$2,500,000 \$2,500,000 \$2,500,000 \$2,500,000 \$2,500,000

Subtotal Transfers \$2,500,000 \$2,500,000 \$2,500,000 \$2,007,098 \$424,674 \$863,139 \$863,139

Fund Subtotal \$2,500,000 \$5,006,250 \$7,536,288 \$9,588,603 \$10,070,809 \$10,994,373 \$10,994,373

Estimated Interest Earnings (7) \$6,250 \$30,038 \$45,218 \$57,532 \$60,425 \$65,966 \$65,966

Ending Balance \$2,506,250 \$5,036,288 \$7,581,505 \$9,646,135 \$10,131,234 \$11,060,339 \$11,060,339

Target Balance \$2,500,000 \$4,500,000 \$6,500,000 \$8,500,000 \$10,500,000 \$12,000,000 \$12,000,000

A	B	C	D	E	F	G	H	I	J	K
1	West Bay Sanitary District									
2	Sewer Rate Study									
3	Table 4. Reserves									
4										
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Tbl. Actual Budgeted
1B FY 2020-21 FY 2021-22 FY 2022-23 FY 2023-24 FY 2024-25 FY 2025-26 FY 2026-27 Notes

UNRESTRICTED RECYCLED WATER PROJECT FUND

Beginning Balance	\$229,869	\$7,593,665	\$7,639,227	\$7,685,063	\$7,731,173	\$7,777,560	
SRF Reimbursement							
Expenditures							
Transfers (To)/From							
Revenue Requirements	\$0	\$0	\$0	\$0	\$0	\$0	
Operating Fund	\$7,344,859	\$0	\$0	\$0	\$0	\$0	
Rate Stabilization Reserve	\$0	\$0	\$0	\$0	\$0	\$0	
Capital Asset Fund	\$0	\$0	\$0	\$0	\$0	\$0	From Above
Subtotal Transfers	\$7,344,859	\$0	\$0	\$0	\$0	\$0	
Fund Subtotal	\$7,574,728	\$7,593,665	\$7,639,227	\$7,685,063	\$7,731,173	\$7,777,560	
Estimated Interest Earnings (7)	\$18,937	\$45,562	\$45,835	\$46,110	\$46,387	\$46,665	
Ending Balance	\$7,593,665	\$7,639,227	\$7,685,063	\$7,731,173	\$7,777,560	\$7,824,225	
Target Balance	\$8,000,000	\$8,000,000	\$8,000,000	\$8,000,000	\$8,000,000	\$8,000,000	

OPEB/PERS Unfunded Liabilities

Beginning Balance	\$237,452	\$242,201	\$247,045	\$251,985	\$257,025	\$262,166	
Transfers (To)/From							
Revenue Requirements	\$0	\$0	\$0	\$0	\$0	\$0	From Table 2
Additional Liability Payment	\$0	\$0	\$0	\$0	\$0	\$0	
Operating Fund	\$0	\$0	\$0	\$0	\$0	\$0	From Above
Subtotal Transfers	\$0	\$0	\$0	\$0	\$0	\$0	
Fund Subtotal	\$237,452	\$242,201	\$247,045	\$251,985	\$257,025	\$262,166	
Estimated Interest Earnings	\$4,749	\$4,844	\$4,941	\$5,040	\$5,141	\$5,243	2% earnings per year (District)
Ending Balance	\$242,201	\$247,045	\$251,985	\$257,025	\$262,166	\$267,409	
Unfunded Liability + OPEB Target	502,455	502,455	200,000	200,000	200,000	200,000	Per District

A	B	C	D	E	F	G	H	I	J
1	West Bay Sanitary District								
2	Sewer Rate Study								
3	Table 5. Capital Projects								
4									
5									
6									
7	Administration								
8	District Office Interior		10,000	10,000	10,000	10,000	10,000	10,000	-
9	District Office Exterior		10,000	10,000	10,000	10,000	10,000	10,000	-
10	Sewer Replacement Program		15,000	15,000	15,000	15,000	15,000	15,000	-
11	Corporate Yard Renovation Feasibility Study		350,000	300,000	1,500,000	1,500,000	1,000,000	-	4,300,000
12	Administration Subtotal		385,000	335,000	1,535,000	1,535,000	1,035,000	35,000	4,300,000
13	Collection Facilities								
14	Metal Storage Building 1		852,550	-	-	-	-	-	-
15	Metal Storage Building 2		247,450	-	-	-	-	-	-
16	FERRF (Levee)		6,500,000	6,000,000	2,000,000	0	-	-	14,000,000
17	FEF		-	500,000	500,000	500,000	500,000	500,000	2,500,000
18	Collection Facilities Subtotal		\$7,600,000	\$6,500,000	\$2,500,000	\$500,000	\$500,000	\$500,000	16,500,000
19	Equipment Replacement								
20	Flo Dar Equipment (Flow Meters)		36,750	36,750	36,750	36,750	36,750	36,750	-
21	Vehicle Replacement		165,000	165,000	165,000	165,000	165,000	165,000	-
22	Large Diameter Trunkline Cleaning & CCTV		-	-	-	-	-	-	-
23	Equipment Replacement Subtotal		201,750	201,750	201,750	201,750	201,750	201,750	-
24	Subsurface Lines & Other Capital								
25	Pump & Valve Replacement Program		\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	-
26	Private Pump & Panel Replacements		\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	-
27	Pump Station Repair & Replacements		\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	-
28	Flow Monitoring Study		\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	-
29	Subsurface Lines & Other Subtotal		\$95,000	\$95,000	\$95,000	\$95,000	\$95,000	\$95,000	\$0
30									
31	Pipe Replacement and Rehabilitation								
32	Levee Survey & GPS Update		\$60,000	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000	300,000
33	Pump Station Miscellaneous		-	200,000	200,000	-	-	200,000	600,000
34	Bay Road North		-	-	-	-	-	-	-
35	Gilbert		-	-	1,500,000	-	-	-	-
36	Isabella, Gilbert & Bay North Phase 2		2,500,000	-	-	-	-	-	-
37	Atherton Civic Center		-	-	-	-	-	-	-
38	Isabella		-	-	-	-	-	-	-
39	Willow Road PS - Piping		-	200,000	-	-	-	-	200,000
40	Santa Margarita		-	-	700,000	-	-	-	700,000
41	Camino al Lago		-	-	1,155,000	-	-	-	1,155,000
42	Santa Cruz		-	-	-	700,000	-	1,004,000	1,704,000
43	Avy		-	-	-	175,000	-	-	175,000
44	Vine		-	-	770,000	-	-	-	770,000
45	Marsh Road CIPP (Remaining)		-	-	1,125,000	-	-	-	1,125,000
46	Westminster		-	-	-	5,000,000	-	-	5,000,000
47	Stowe Lane Pump Station		200,000	-	-	1,300,000	-	-	1,300,000
48	Stowe Lane PS crossing SFPUC sag		-	-	-	297,500	-	-	297,500
49	ECR @ Glenwood		-	-	-	-	-	500,000	500,000
50	University		-	-	-	-	-	1,800,000	1,800,000
51	Alameda Campo Bello to Harrison (Bad Soil)		-	-	-	-	-	900,000	900,000
52	Hermosa		-	-	-	-	-	1,400,000	1,400,000
53	College Park		-	-	-	-	-	-	-

A	B	C	D	E	F	G	H	I	J
1	West Bay Sanitary District								
2	Sewer Rate Study								
3	Table 5. Capital Projects								
4									
5									
6									
54	Downtown								
55	Flood Park							700,000	700,000
56	East Palo Alto								
57	Menalto Easements								
58	Lorelei								
59	Sharon Heights (Basin 60)								
60	Walsh (Basin 50)								
61	Weekend Acres/SLAC (Basin 40)								
62	Encinal A								
63	Ladera (Basin 30)								
64	Portola Valley (Basin 10)								
65	Los Trancos (Basin 20)								
66	101 Crossing (SD xcrossing)								
67	Stevenson								
68	MacBain				400,000				400,000
69	Elena								
70	Fair Oaks								
71	Encinal B								
72	Berkeley							1,213,000	1,213,000
73	Bayfront Entry Improvements				1,000,000				1,000,000
74	Pipe Replacement and Rehabilitation Subtotal				1,460,000	5,685,000	7,357,500	7,777,000	23,739,500
75	Capacity								
76	Lower Ringwood								
77	Valparaiso								
78	Willow Gravity Main								
79	Upper Ringwood								
80	Santa Cruz Avy								
81	Cambridge Laurel								
82	Middlefield at Fair Oaks								
83	Capacity Subtotal				\$0	\$0	\$0	\$0	\$0
84	Other								
85	Construction Projects Environmental Review				\$10,000	\$10,000	\$10,000	\$10,000	\$50,000
86	Manhole Raising				\$100,000	\$100,000	\$100,000	\$100,000	\$500,000
87	Allow for Unanticipated Cap Exp				\$100,000	\$100,000	\$100,000	\$100,000	\$500,000
88	Other Subtotal				\$210,000	\$210,000	\$210,000	\$210,000	\$1,050,000
89									
90	Total Capital Expenses				\$13,751,750	\$10,301,750	\$10,226,750	\$9,399,250	\$8,818,750
91	Less: Connection Fee Revenue				(\$500,000)	(\$505,087)	(\$505,087)	(\$505,087)	(\$505,087)
92	Net PAYGO Capital Expenses				\$13,251,750	\$9,796,663	\$9,496,663	\$8,894,163	\$8,313,663
93	to be paid by Rates								\$9,244,563
94									

	A	B	C	D	E	F	G	H
		Budgeted FY 2021-22	FY 2022-23	FY 2023-24	Projected FY 2024-25	FY 2025-26	FY 2026-27	Notes
1	West Bay Sanitary District							
2	Sewer Rate Study							
3	Table 6. WBSD Service							
4								
5								
6	Debt Coverage Ratio							
7	Revenue Sources							
8	Sewer Service Charges	\$29,809,751	\$30,512,743	\$31,231,397	\$31,966,064	\$32,705,656	\$33,462,023	From Table 3
9	Flow Equalization Cost Sharing	\$368,490	\$388,388	\$400,040	\$0	\$0	\$0	From Table 2
10	Permit & Inspection Fees	\$100,000	\$101,000	\$102,010	\$103,030	\$104,060	\$105,101	From Table 2
11	Other Operating Revenue (Los Altos Hills, Woodside)	\$663,781	\$683,694	\$704,205	\$725,331	\$747,091	\$769,504	From Table 2
12	Other Non-Operating Income (excl. interest)	\$1,000	\$1,010	\$1,020	\$1,030	\$1,041	\$1,051	From Table 2
13	Sharon Heights SRF	\$662,911	\$662,911	\$662,911	\$662,911	\$662,911	\$662,911	From FY 2021-22 Budget
14	Connection fees	\$500,000	\$505,087	\$505,087	\$505,087	\$505,087	\$505,087	From Table 5
15	Investment Interest	\$121,614	\$287,772	\$288,932	\$274,899	\$251,063	\$230,014	
16								
17	Subtotal	\$32,227,547	\$33,142,606	\$33,895,602	\$34,238,353	\$34,976,909	\$35,735,691	
18								
19	Operating Expenses							
20	SVCW Operating Expenses	(\$6,247,706)	(\$6,410,576)	(\$6,602,893)	(\$6,800,980)	(\$7,005,009)	(\$7,215,160)	From Table 2
21	SVCW Operating Expenses due to growth	\$0	(\$23,891)	(\$48,407)	(\$73,565)	(\$99,382)	(\$125,877)	
22	WBSD Operating Expenses	(\$9,078,311)	(\$10,065,569)	(\$10,057,238)	(\$10,529,135)	(\$10,877,777)	(\$11,383,882)	
23		(\$15,326,017)	(\$16,500,035)	(\$16,708,538)	(\$17,403,680)	(\$17,982,169)	(\$18,724,919)	
24								
25	Net Revenue	\$16,901,530	\$16,642,571	\$17,187,064	\$16,834,673	\$16,994,741	\$17,010,772	
26								
27	Debt Service							
28	SVCW Debt Service							
29	2018 Bond (\$55 million)	\$1,839,213	\$1,834,338	\$1,837,963	\$1,834,963	\$1,835,338	\$1,838,838	From Table 2
30	2021A Refunding Bonds (\$55.7 million)	\$2,521,854	\$2,515,891	\$2,511,506	\$2,524,679	\$2,517,522	\$2,510,668	From Table 2
31	2021B Refunding Bonds (\$55.7 million)	\$221,419	\$221,675	\$219,800	\$217,675	\$220,175	\$217,300	From Table 2
32	SVCW SRF for WWTP Phase I (C-06-5216-120)	\$506,765	\$506,765	\$506,765	\$506,765	\$506,765	\$506,765	From Table 2
33	SVCW SRF Conveyance Planning Loan (\$4.1 million)	\$0	\$0	\$0	\$143,482	\$143,482	\$143,482	From Table 2
34	SWRCB SRF Loan (RESCU)	\$0	\$0	\$0	\$1,682,633	\$1,682,633	\$1,682,633	From Table 2
35	New WIFIA Loan(s)	\$0	\$0	\$0	\$0	\$0	\$0	From Table 2
36		\$5,089,251	\$5,078,669	\$5,076,034	\$6,910,197	\$6,905,915	\$6,899,685	
37	Sharon Heights SRF	\$662,911	\$662,911	\$662,911	\$662,911	\$662,911	\$662,911	Per District budget FY 2021-22
38	Total Debt Service	\$5,752,162	\$5,741,580	\$5,738,945	\$7,573,108	\$7,568,826	\$7,562,596	
39								
40								
41	Debt coverage ratio	2.94	2.90	2.99	2.22	2.25	2.25	
42								



Sewer System Management Plan

4E Fees, Rates & Charges, District Code

WBSD Master Fee Schedule – 2022

Class 1 A - E

The permit and inspection fees for a Class 1 Sewer Permit (open-trench) for service to residential structures shall be \$290.00.

Class 2 A - E

The permit and inspection fees for a Class 2 Sewer Permit (open-trench) for service to non-residential structures shall be \$290.00.

Class 1F and Class 2F.

The permit and inspection fees for a Class 1F Sewer Permit (trenchless) for service to residential or non-residential structures shall be \$355.00 plus San Mateo County recording fee.

Class 3.

The permit fee for a Class 3 Sewer Permit for construction of sewer mains, pumping stations and other wastewater facilities, shall be 585.00. The inspection fee for a Class 3 sewer permit requires a \$2,000 deposit.

Class 4A and 4B

The permit and inspection fees for a Class 4 Disconnect Sewer Permit for service to residential or non-residential structures shall be \$170.00.

Additional or Re-Inspection .

\$85.00 per additional inspection or re-inspection.

CCTV Review Only.

\$95.00 for review of CCTV of sewer lateral.

Estimated & Metered Volume Permits.

\$175.00 for estimation of discharge for commercial customers upon determination by the District Manager.

Private Wastewater Disposal Permits.

\$185.00 for maintaining and operating, or proposes to maintaining and operating, a private wastewater disposal system.

Enforcement Hearing.

\$670.00 per public hearing.

Plan Review (Construction or Regulatory Compliance).

\$140.00 per hour for review by Projects & IT Manager or Regulatory Coordinator.

Charges for Staff Time.

Staff salary multiplied by 1.75%.

Charges for District Materials.

Cost of materials multiplied by 10%.

Annexation Fee*.

\$585 annexation processing fee per parcel;

\$585 annexation into the On-Site Wastewater Disposal Zone per parcel;

\$2,200 publication deposit per parcel (for annexation into the On-Site Wastewater Disposal Zone)

* Additional fees may be due other agencies.

Review of Proposals for Accidental Discharges & HMBP's.

\$405.00 for any accidental spills or discharges that do not conform to the conditions of a facilities permit or the code must be reported immediately to the POTW and the WBSD. Hazardous Material Business Plan (HMBP): A Business Plan is required when businesses handle and/or stores a hazardous material equal to or greater than the minimum reportable quantities. These quantities are 55 gallons for liquids, 500 pounds for solids and 200 cubic feet (at standard temperature and pressure) for compressed gases. Radioactive materials and extremely hazardous substances are reportable in any amount. The District reviews these plans and inspects facilities to ensure compliance with the District's Code.

Non-Routine Discharge Permit.

\$300.00 plus treatment fees based on flow and loadings plus SVCW fee of \$50.00.,

Non-routine discharges (slugs) are defined as any quantity of industrial (non-domestic) wastewater that is discharged to the sanitary sewer on less than a daily frequency, and has the potential to cause interference with or pass-through the wastewater treatment plant or collection system.

Ground Water Discharge.

\$405.00 plus treatment fees based on current ccf rate plus SVCW fee of \$436.00 (as of 4/7/14)

Groundwater discharge is defined as the movement of water out of an area of saturated soil, to the sanitary sewer

Mandatory Wastewater Discharge Compliance Permit (& 5-year Permit Renewal).

\$700.00 plus SVCW fee of \$1,112.00 (as of 4/7/14). Required for chemically treated wastewater to make acceptable for discharge into the sanitary sewer.

Self Monitoring Report (Review).

\$175.00 for sampling is performed and the results of the sampling indicate a violation the user shall notify the POTW and the WBSD within 24 hours of becoming aware of the violation.

Discharge Report Review.

\$175.00

Discharge report review is defined as a report prepared by industries and other facilities discharging to sanitary sewer. The facilities collect wastewater samples, conduct chemical and/or biological tests of the samples, and submit the reports for review.

Swimming Pool Discharge “Residential”.

\$35.00 plus treatment fees based on current ccf rate for discharge of pool in sanitary sewer.

Swimming Pool Discharge “Commercial”.

\$160.00 plus treatment fees based on current ccf rate for discharge of pool in sanitary sewer.

FOG Non-Compliance Inspection.

\$175.00

Re-inspection fee for facilities in violation of the Districts Code of General Regulations, Sections 602 & 603

Commercial/Industrial Non-Compliance Inspection.

\$175.00

Re-inspection fee for facilities in violation of the Districts Code of General Regulations, Sections 600, 601, 602, 603

Flow Meter Operations and Maintenance Fee.

\$595.00 monthly



Sewer System Management Plan

4F List of Sewers on High Frequency Cleaning Schedules

US Structure	DS Structure	High Frequency
D15105	D15126	1 Month
D16030	D15104	1 Month
D15125	D15105	1 Month
F13045	F13047	1 Month
F15057	F15061	1 Month
F15075	F15037	1 Month
F16061	F16060	1 Month
G16011	G16010	1 Month
D15136	D15105	1 Month
H13113	H13086	3 Month
K11059	K11058	3 Month
F13110	F13111	3 Month
D16026	D16028	3 Month
F14058	F14152	3 Month
E15072	E15071	3 Month
I16049	I16044	3 Month
I16050	I16049	3 Month
I16051	I16050	3 Month
I16052	I16051	3 Month
I16053	I16052	3 Month
I16054	I16053	3 Month
I16055	I16054	3 Month
I16056	I16055	3 Month
I16057	I16056	3 Month
J10001	J11058	3 Month
J11014	J11081	3 Month
J11018	J11014	3 Month
J11019	J11018	3 Month
J11021	J11022	3 Month
J11029	J11028	3 Month
J11036	J11029	3 Month
J11044	J11036	3 Month
J15027	J15005	3 Month
J15028	J15027	3 Month
J15029	J15028	3 Month
J16001	I16057	3 Month
J16003	J16002	3 Month
J16004	J16003	3 Month
K10017	K10013	3 Month
K10027	K10017	3 Month
F13130	F13131	3 Month
J15005	J16004	3 Month
K11014	K11002	3 Month
H14016	H14018	3 Month
H15040	H15041	3 Month
I12047	I12040	3 Month

I14105	I14106	3 Month
I16033	I16034	3 Month
I16034	I16032	3 Month
I16040	I16033	3 Month
I16044	I16040	3 Month
J16002	J16001	3 Month
E13078	E13130	3 Month
J15030	J15029	3 Month
J15031	J15030	3 Month
E16054	E16055	3 Month
E16030	E16077	3 Month
E15113	E15109	3 Month
F13087	F13088	3 Month
F14008	F14007	3 Month
F15029	F15027	3 Month
G14045	G15022	3 Month
E15074	E15072	3 Month
E13072	E13075	3 Month
E15077	E15076	3 Month
E15086	E15085	3 Month
E15093	E15086	3 Month
E15131	E15132	3 Month
E16012	E16011	3 Month
E13027	E13026	3 Month
E12091	E12079	3 Month
E13067	E14096	3 Month
E13068	E13067	3 Month
E13068	E13070	3 Month
E13079	E13085	3 Month
E13087	E13068	3 Month
E13088	E13087	3 Month
E13089	E13088	3 Month
E13093	E13094	3 Month
E13094	E13089	3 Month
E14084	E15108	3 Month
E14085	E14084	3 Month
E14086	E14089	3 Month
E14091	E14089	3 Month
E14096	E14095	3 Month
E14097	E14096	3 Month
D15123	D15089	3 Month
C11130	C11023	3 Month
C12028	C12147	3 Month
C11044	C11041	3 Month
C11048	C11044	3 Month
C11113	C11128	3 Month
D15025	D15032	3 Month

C15049	C15038	3 Month
B10017	B10013	3 Month
B10025	B10017	3 Month
B10039	B10041	3 Month
B10041	B11027	3 Month
B10044	B10030	3 Month
B11041	B10041	3 Month
A10012	A10016	3 Month
A10015	A10016	3 Month
A10016	A10020	3 Month
A10020	A10024	3 Month
A10024	A10027	3 Month
B10007	A10027	3 Month
B10010	B10007	3 Month
B10012	B10010	3 Month
B10013	B10012	3 Month
B13037	B13064	3 Month
B12007	B12008	3 Month
B12008	B12130	3 Month
B12063	B12087	3 Month
B12064	B12053	3 Month
C11023	C11022	3 Month
B12087	B12086	3 Month
C11041	C11042	3 Month
C11054	C11047	3 Month
C12043	C12028	3 Month
C12139	C12136	3 Month
C13186	C13105	3 Month
C13189	C13141	6 Month A
C14022	C14015	6 Month A
C14039	C14023	6 Month A
C14051	C13103	6 Month A
C14086	C14085	6 Month A
C14087	C14086	6 Month A
C14088	C14087	6 Month A
C14097	C14088	6 Month A
C14101	C14097	6 Month A
C14108	C14101	6 Month A
C14109	C14108	6 Month A
C13071	C13069	6 Month A
C13098	C13097	6 Month A
C13106	C13101	6 Month A
C13134	C13133	6 Month A
C13144	C13140	6 Month A
C13145	C13189	6 Month A
C13149	C13136	6 Month A
C13150	C13145	6 Month A

C11056	C11052	6 Month A
C11088	C11089	6 Month A
C11096	C11089	6 Month A
C11098	C11097	6 Month A
C11042	C11004	6 Month A
B12088	B12085	6 Month A
B13030	B13016	6 Month A
C11024	C11023	6 Month A
C11026	C11030	6 Month A
C11028	C11021	6 Month A
B12086	B12084	6 Month A
B14038	B14034	6 Month A
C11003	B12064	6 Month A
C11005	C11006	6 Month A
C11006	B11069	6 Month A
C11016	C11005	6 Month A
C11020	C11003	6 Month A
C11021	C11124	6 Month A
C11022	C11016	6 Month A
B10014	B10012	6 Month A
B10016	B10017	6 Month A
B11060	B11057	6 Month A
B11062	B11064	6 Month A
B11065	B11064	6 Month A
B11066	B11091	6 Month A
B11067	B11060	6 Month A
B11069	B11062	6 Month A
B11070	B11065	6 Month A
B11071	B11066	6 Month A
B11080	B11081	6 Month A
B11081	B11070	6 Month A
B11084	B11071	6 Month A
B11087	B11067	6 Month A
B11091	B11065	6 Month A
C15057	C15058	6 Month A
C15071	C15057	6 Month A
C15112	C15049	6 Month A
C16013	C16014	6 Month A
C16036	C15082	6 Month A
D11050	D11037	6 Month A
D11083	D11084	6 Month A
D11112	D11111	6 Month A
D12033	D12042	6 Month A
D12036	D12037	6 Month A
D12037	D12038	6 Month A
D12038	D12039	6 Month A
D12039	D12040	6 Month A

D12042	D12048	6 Month A
D12069	D12065	6 Month A
D12076	D12073	6 Month A
D12078	D12122	6 Month A
D12103	D12099	6 Month A
D13015	C13161	6 Month A
D13027	D13028	6 Month A
D13033	D13034	6 Month A
D13057	D13047	6 Month A
D13063	D13057	6 Month A
D13064	D13055	6 Month A
D13086	D13072	6 Month A
D14007	C14109	6 Month A
D14026	D14025	6 Month A
D14033	D14027	6 Month A
D14041	D14042	6 Month A
D14057	D15068	6 Month A
D14062	D14057	6 Month A
D14076	D14064	6 Month A
D15014	D15013	6 Month A
D15031	D15030	6 Month A
D15032	D15031	6 Month A
D15035	D15034	6 Month A
D15041	D15028	6 Month A
D15055	D15048	6 Month A
D15085	D15084	6 Month A
D15091	D15084	6 Month A
D15094	D15093	6 Month A
D15099	D15098	6 Month A
C11124	C11003	6 Month A
C11125	C11096	6 Month A
C11049	C11048	6 Month A
C12031	C12148	6 Month A
E11001	D11121	6 Month A
E12009	E12068	6 Month A
E12016	E12015	6 Month A
E12038	E12026	6 Month A
E12043	E12040	6 Month A
E12044	E12043	6 Month A
E12046	E12037	6 Month A
E12052	E12044	6 Month A
E12057	E12058	6 Month A
E12066	E12055	6 Month A
E12067	E12052	6 Month A
E12068	E12059	6 Month A
E12073	E12067	6 Month A
E12074	E12057	6 Month A

E12083	E12073	6 Month A
E12084	E12083	6 Month A
E12085	E12074	6 Month A
E12086	E12009	6 Month A
E12087	E12075	6 Month A
E13102	E13025	6 Month A
E14056	E14052	6 Month A
E12092	E12091	6 Month A
E12096	E12095	6 Month A
E13025	E14136	6 Month A
E13030	E14049	6 Month A
E13031	E13030	6 Month A
E13033	E13032	6 Month A
E13034	E13033	6 Month A
E13039	E13038	6 Month A
E13042	E13034	6 Month A
E13043	E13042	6 Month A
E13052	E13051	6 Month A
E16015	E16016	6 Month A
E16018	E16078	6 Month A
E16024	E16023	6 Month A
D16015	D16016	6 Month A
E15016	E15017	6 Month A
E15024	E15017	6 Month A
E15028	E15021	6 Month A
E15029	E15022	6 Month A
E15032	E15034	6 Month A
E15042	E15035	6 Month A
E15051	E15041	6 Month A
E15052	E15042	6 Month A
E15061	E15058	6 Month A
E15062	E15061	6 Month A
E16032	E16025	6 Month A
C16030	C16063	6 Month A
B12013	B12093	6 Month A
E12049	E12153	6 Month A
E12039	E12150	6 Month A
D15072	D15073	6 Month A
C11052	C12181	6 Month A
B12143	B12030	6 Month A
E14060	E14154	6 Month A
E14058	E14154	6 Month A
E13054	E13044	6 Month A
F14141	F14156	6 Month B
N10136	N10050	6 Month B
G14099	G14182	6 Month B
G14084	G14185	6 Month B

E15147	E15087	6 Month B
E15145	E15151	6 Month B
E15152	E15093	6 Month B
H16078	H16066	6 Month B
E15145	E15146	6 Month B
E15146	E15147	6 Month B
F15041	F15096	6 Month B
K11085	K11083	6 Month B
K11102	K11081	6 Month B
K11104	K11108	6 Month B
K11107	K11105	6 Month B
K11108	K11107	6 Month B
K11122	K11123	6 Month B
K11125	K11124	6 Month B
K11133	K11121	6 Month B
K12038	K12035	6 Month B
K12042	K12043	6 Month B
M10026	M10027	6 Month B
H13135	H13125	6 Month B
H13074	H13073	6 Month B
H13049	H13039	6 Month B
E14139	E14078	6 Month B
F14142	F14009	6 Month B
F15088	F15081	6 Month B
H12058	H12036	6 Month B
H13021	H13012	6 Month B
H13030	H13029	6 Month B
H13075	H13056	6 Month B
K11019	J11054	6 Month B
K11022	J11057	6 Month B
K11033	K11032	6 Month B
K11034	K11033	6 Month B
J15010	J15006	6 Month B
F13171	F13172	6 Month B
K10029	K10024	6 Month B
J11057	J11056	6 Month B
J14002	J14003	6 Month B
J11024	J11034	6 Month B
I16063	I16045	6 Month B
I16064	I16063	6 Month B
I16067	I16066	6 Month B
I16079	I16078	6 Month B
I16084	I16014	6 Month B
I16045	I16046	6 Month B
I16046	I16047	6 Month B
I16038	I16029	6 Month B
I16039	I16040	6 Month B

I14106	I14107	6 Month B
I14107	I14155	6 Month B
I14109	I14108	6 Month B
I14135	I14085	6 Month B
I14147	I14110	6 Month B
I14155	I14109	6 Month B
I15079	I15075	6 Month B
I15092	I15091	6 Month B
I15097	I15102	6 Month B
I16015	I16084	6 Month B
I16016	I16017	6 Month B
I16026	I16079	6 Month B
I16027	I16019	6 Month B
I16031	I16028	6 Month B
I13023	I13016	6 Month B
I13033	I13032	6 Month B
I13040	I13009	6 Month B
I13041	I13040	6 Month B
I14033	I14034	6 Month B
I14060	I14056	6 Month B
I14069	I14070	6 Month B
I14084	I14086	6 Month B
H15046	H15039	6 Month B
H15047	H15040	6 Month B
H15054	H16034	6 Month B
H15097	H15098	6 Month B
H15100	H15091	6 Month B
H15123	H15082	6 Month B
H16027	H16028	6 Month B
H16072	H16073	6 Month B
H17047	H16060	6 Month B
H14033	H14032	6 Month B
H14034	H14033	6 Month B
H14035	H14034	6 Month B
H14089	H14078	6 Month B
H14091	H14079	6 Month B
H14097	H14082	6 Month B
H14129	H14131	6 Month B
H14131	H14132	6 Month B
H14167	H14088	6 Month B
H15010	G15062	6 Month B
H15030	H16013	6 Month B
G16021	G16020	6 Month B
G16039	G16038	6 Month B
G16040	G16039	6 Month B
G16041	G16040	6 Month B
G16056	G16055	6 Month B

H12016	H12015	6 Month B
H13164	H13192	6 Month B
H13166	H13167	6 Month B
H13167	H12063	6 Month B
H13174	H13173	6 Month B
H13176	H13165	6 Month B
G13019	G13030	6 Month B
G13032	G13021	6 Month B
G13062	G13063	6 Month B
G13110	G13109	6 Month B
G13132	G13117	6 Month B
G13150	G13133	6 Month B
G14032	G14033	6 Month B
G14033	G14034	6 Month B
G14041	G14040	6 Month B
F15080	E15140	6 Month B
F15082	F15023	6 Month B
F15083	E15120	6 Month B
F15084	F15083	6 Month B
F15085	F15086	6 Month B
F15086	F15084	6 Month B
F15061	F16051	6 Month B
F15072	F15082	6 Month B
F15073	F15072	6 Month B
F15074	F15073	6 Month B
F14171	F14026	6 Month B
F13037	F13257	6 Month B
E13131	E14139	6 Month B
E16045	E16047	6 Month B
E16050	E16051	6 Month B
E16051	E16047	6 Month B
F13109	F13102	6 Month B
E15120	E15113	6 Month B
F15031	F15029	6 Month B
F15032	F15031	6 Month B
F15038	F15075	6 Month B
F15056	F15057	6 Month B
F14027	F14171	6 Month B
F14075	F14076	6 Month B
F15014	F15085	6 Month B
F15018	F15014	6 Month B
F15023	F15018	6 Month B
F15027	F15074	6 Month B
E16066	E16064	6 Month B
E16069	E16066	6 Month B
F12010	E12107	6 Month B
F12016	F12010	6 Month B

F12032	F12031	6 Month B
F12039	F12030	6 Month B
F12040	F12032	6 Month B
F12050	F12046	6 Month B
F12063	F12055	6 Month B
F12066	F12065	6 Month B
F12073	F12074	6 Month B
F12096	G12010	6 Month B
F13031	F13018	6 Month B
F13043	F13044	6 Month B
F13046	F13048	6 Month B
F13048	F13049	6 Month B
F13060	F12038	6 Month B
F13065	F13047	6 Month B
F13067	F13050	6 Month B
F13074	F13073	6 Month B
F13082	F13070	6 Month B
G14047	G14037	6 Month B
G14048	G14038	6 Month B
G14064	G14066	6 Month B
G14068	G14066	6 Month B
G14069	G14068	6 Month B
G14085	G14084	6 Month B
G14086	G14085	6 Month B
G14087	G14069	6 Month B
G14088	G14072	6 Month B
G14093	G14086	6 Month B
G14120	G14111	6 Month B
G14123	G14121	6 Month B
G14125	G14126	6 Month B
G14174	G14075	6 Month B
G15002	G15001	6 Month B
G15003	G15002	6 Month B
G15004	G15003	6 Month B
G15010	G15009	6 Month B
G15011	G15004	6 Month B
G15016	G15010	6 Month B
G15017	G15011	6 Month B
G15020	G15017	6 Month B
G15021	G15020	6 Month B
G15022	G15075	6 Month B
G15024	G15019	6 Month B
G15026	G15025	6 Month B
G15027	G15026	6 Month B
G15034	G15027	6 Month B
G15035	G15034	6 Month B
G15040	G15039	6 Month B

G15041	G15040	6 Month B
G15042	G15041	6 Month B
G15047	G15048	6 Month B
G15048	G15042	6 Month B
G15050	G15047	6 Month B
G15058	G15051	6 Month B
E15075	E15074	6 Month B
E15076	E15075	6 Month B
E13073	E13074	6 Month B
E13075	E13077	6 Month B
E13076	E13078	6 Month B
E13077	E13079	6 Month B
E15132	E15133	6 Month B
E15137	E15100	6 Month B
E15139	E15104	6 Month B
E15140	E15139	6 Month B
E15099	E16058	6 Month B
E15100	E15099	6 Month B
E15104	E15145	6 Month B
E15087	E15076	6 Month B
E15088	E15134	6 Month B
E15082	E15073	6 Month B
E15085	E15075	6 Month B
E13070	E13073	6 Month B
E14105	E14104	6 Month B
E14106	E14105	6 Month B
E14120	E14097	6 Month B



Sewer System Management Plan

4G Comprehensive List of Spare Parts Pump Stations, STEP Systems & Grinders

4G - Comprehensive Spare Parts List



[Operations Inventory Listing](#)

[Unit 210 Inventory](#)

[Force Main Coupling List](#)

[Critical Spare Parts List](#)

[Spare Pumps for List Stations](#)



Pump Station Inventory Listing 05-26-2022

Component Inventory List, Operations Building / Pump Repair Facility									
Manufacturer	Component	Control Voltage	Quantity	Part #	Storage	Pump	STEP	Grinder	
Aero M	Capacitor	220/240VAC	2		Ops Bldg	X			
Agastat	Timing Module	24VDC to 240VDC	1		Ops Bldg	X			
Agastat	Timing Relay	120VAC	1	SSC12ABA	Ops Bldg	X			
Artisan	Universal Adjustable Switch	24VDC to 240VDC	1		Ops Bldg	X			
Challenger	Circuit Breaker	120/240VAC 30A	4		Ops Bldg	X	X	X	
Challenger	Circuit Breaker	120/240VAC 20A	1		Ops Bldg	X	X	X	
Cutler-Hammer	Starter	600VAC	2	CE15UN3	Ops Bldg	X			
Cutler-Hammer	Starter	600VAC	2	W200M3CFC	Ops Bldg	X			
Cutler-Hammer	Soft Starter	480VAC	3	U801N37N3S	Ops Bldg	X			
Cutler-Hammer	Starter	140VAC	2	W200M1CFC	Ops Bldg	X			
Cutler-Hammer	Power Supply	24VDC	3		Ops Bldg	X			
Cutler-Hammer	Starter	115VAC	7		Ops Bldg	X	X		
Cutler-Hammer	Def. Purpose Cont.	120VAC	2		Ops Bldg	X			
Danahor	Start Timer	120VAC	4	HK410A6	Ops Bldg	X			
Dayton	Relay 1A485A	24VDC	2		Ops Bldg	X			
Dayton	Relay 8418	24VDC	1		Ops Bldg	X			
Dayton	Relay 8414	24VDC	1		Ops Bldg	X			
Dayton	Relay 5X827	24VDC	9		Ops Bldg	X			
Dayton	Time Delay Relay	120/240 VAC	1	5X830N	Ops Bldg	X			
Dayton	Power Relay SPST-NO-DM	120VAC	2		Ops Bldg	X			
Diversified Electronics.	Attenuating Relay	240VAC	2	ARA-120-ABA	Ops Bldg	X			
Diversified Electronics.	Sequencing Relay	120VAC	1	ARA-120-ARE	Ops Bldg	X			
Durant	Strat Counter	110VAC	3		Ops Bldg	X			
Eaton	Power Supply	240V	2	PSG240E-A2	Yard	X			
E-One	2000 Series Grinder Pumps	240VAC	5		Ops Bldg			X	
E-One	Extreme Pumps	240VAC	8		Corte Madera			X	
E-One	Control Panels	240VAC	2		Corte madera			X	
Flygt	3152 Pump	480VAC 3-phase	3		Ops Bldg	X			
Flygt	3153 Pump	480VAC 3-phase	5		Ops Bldg	X			
Flygt	3202 Pump	480VAC 3-phase	1		Ops Bldg	X			
Flygt	3120 Pump	230VAC	1		Ops Bldg	X			
Flygt	3127 Pump	240VAC	1		Ops Bldg	X			
Flygt	3171 Pump	480VAC	1		Stowe station	X			
Flygt	3153 Pump for village square	480VAC	1		Corte madera	X			
Flygt	3102 Pump	480VAC	1		village square	X			
Flygt	3102 Basic Repair Kits	240VAC	2		Ops Bldg	X			
Flygt	3102 Basic Repair Kits		4		Ops Bldg	X			
Flygt	3127 Basic Repair Kits		1		Ops Bldg	X			
Flygt	3152 Basic Repair Kits		3		Ops Bldg	X			
Flygt	Float	110VAC	5		Ops Bldg	X			
Franklin	Relay	230VAC	3		Ops Bldg	X			
Grundfos	STEP System Pumps	110VAC	3		Ops Bldg	X		X	
Gems	Safe-Pak	120VAC	4		Corte Madera	X		X	
General Electric	Circuit Breaker	120/240VAC	2		Ops Bldg	X			



Pump Station Inventory Listing 05-26-2022

Component Inventory List, Operations Building / Pump Repair Facility						
Manufacturer	Component	Control Voltage	Quantity	Part #	Storage	Grinder
Hammond	Transformer	115VAC	3		Ops Bldg	
IDEC	Relay RH2B	12VDC	7		Ops Bldg	X
IDEC	Relay RH3B-U	120VAC	2		Ops Bldg	
IDEC	Relay RR3PA-L	120VAC	5		Ops Bldg	
IDEC	Relay RB2P-UL	120VAC	15		Ops Bldg	
IDEC	Relay RH4B-U	120VAC	1		Ops Bldg	
IDEC	Relay RH1B-U	120VAC	6		Ops Bldg	
IDEC	Electronic Timer	120/240VAC	1	RTE-PIZ	Ops Bldg	X
Kele Associates	Amp Meter 20-A		2		Ops Bldg	
Kep	Start Counter	220VAC	6		Ops Bldg	
Klockner Moeller	Circuit Breaker	600VAC	3	NZM-6b-63	Ops Bldg	
Klockner Moeller	Shunt Trip	600VAC	2	PKZM3-16-NA	Ops Bldg	
Klockner Moeller	Shunt Trip	600VAC	1	PKZM3-25-NA	Ops Bldg	
Klockner Moeller	Bi-Metal Relay	600VAC	1		Ops Bldg	
N.K.	Amp Meter	4-20 mA	2		Ops Bldg	
Omnron	Relay	120VAC	5	MK2EPN-UA	Ops Bldg	
Orengo	Float Tree	110VAC	7		Ops Bldg	X
Orengo	Control Panels	110VAC	5		Ops Bldg	X
Potter Brumfield	Realy	120VAC	5	KRP11A	Ops Bldg	
Redd	Hour Meters	120VAC	4		Ops Bldg	
R.B. Denison	Intrinsically Safe Relay	240VAC	8		Ops Bldg	
Siemens	Ultrasonic Head	4-20 mA	3		Ops Bldg	
Siemens	Hydroranger 200HMI	110VAC	4		Ops Bldg	
Siemens	Heavy Duty Relay	240VAC	1	PRD11AG02405	Ops Bldg	
Siemens	Heavy Duty Relay	240VAC	1	PRDSAY02405	Ops Bldg	
Veeder Root	Hour Meter	110VAC	3		Ops Bldg	
Warrick Controls	Intrinsically Safe Relay	110/240VAC	2		Ops Bldg	
Westing House	Circuit Breaker	600 VAC	2	HMCP100C3C	Ops Bldg	
Westing House	Circuit Breaker	600 VAC	2	HMCPO15FO	Ops Bldg	
Westing House	Starter	480 VAC	2	A200M3CAC	Ops Bldg	
Westing House	Circuit Breaker	120/240VAC 15A	4		Ops Bldg	X
Westing House	Circuit Breaker	120/240VAC 30A	4		Ops Bldg	X
Westing House	Indicator Lights	110VAC	15		Ops Bldg	
Westing House	Puh-Button	110VAC	4		Ops Bldg	
Westing House	Motor Control Starter	480VAC	3	A200M1CAC	Ops Bldg	
Westing House	Motor Control Starter	480VAC	1	A200MICW	Ops Bldg	
Westing House	Normally Open Contact Block	600VAC	1	PB-1A Model-B	Ops Bldg	
Zenith	Solid State Volt Sensor	208/240VAC	1	ARSM-2	Ops Bldg	
Zenith	Volt Sensitive Realy Assembly	208/240VAC	2		Ops Bldg	
Zerostart	Engine Heater	110VAC	2		Ops Bldg	



Unit 210 Parts Inventory 05-26-2022

A	B	C	D	E	F	G	H
Component Inventory List, Operations Building / Pump Repair Facility							
1							
2							
3	Manufacturer	Component	Quantity	Part #	Pump Station	STEP SYSTEM	Grinder System
4	Agastat	Timing Relay	3		X		
5	Alan Bradley	Starter	2			X	
6	Cutler-Hammer	Relay Coil	1		X		
7	Cutler-Hammer	Timer	1		X		
8	Cutler-Hammer	Multi-Pole Relay	1		X		
9	Cutler-Hammer	Indicator Light Assembly	1		X		
10	Cutler-Hammer	Transformer	1		X		
11	Cutler-Hammer	Power Supply	2		X		
12	Cutler-Hammer	Starter	2		X		
13	Cutler-Hammer	Soft-Starter	1		X		
14	Cutler-Hammer	Circuit Breaker	1		X		
15	Cutler-Hammer	Starter	2			X	
16	Deltron	Power Supply	2		X		
17	Danahor	timer	4		X		
18	Dayton	Time Delay Relay	1		X		
19	Diversified Electronics	Alternating Relay	3		X		
20	Durant	counter	4		X		
21	Design Aire	Electric Heater	1		X		
22	Eaton	SE Counter	3		X		
23	Edwards	Transformer	1		X		
24	E-One	Control Panel for 2000 pump	1				X
25	Flygt	Float	2		X		
26	Franklin	Step Pump	1			X	
27	Fuse-Amp	Trap Ltl fuse ATQ R7	7		X		
28	Fuse-Amp	Trap Ltl fuse FIQ 3	7		X		
29	Fuse-Amp	Trap Ltl fuse FNM	7		X		
30	Fuse-Amp	Trap Ltl fuse KTK-R-1	15		X		
31	Fuse-Amp	Trap Ltl fuse BAF6	5		X		
32	Fuse-Amp	Trap Ltl fuse TRM 1	5		X		
33	Fuse-Amp	Trap Ltl fuse KTK R-10	5		X		
34	Fuse-Amp	Trap Ltl fuse ACG10	15		X		
35	Fuse-Amp	Trap Ltl fuse 3N10	10			X	



Unit 210 Parts Inventory 05-26-2022

	A	B	C	D	E	F	G	H
36	Fuse-Amp Trap Ltl fuse		2A-250VAC	10			x	
37	Fuse-Amp Trap Ltl fuse		100mA	150		x		
38	Grundfos	pump heads		1			x	
39	IDEC	Relay FH1B	24VDC	3		x		
40	IDEC	Relay RH3B-UL	120VAC	3		x		x
41	IDEC	Relay RR2BA-UL	120VAC	3		x		x
42	IDEC	Relay RH1B-U	120VAC	7		x		x
43	IDEC	Relay RH3B-UL	120VAC	4		x		x
44	IDEC	Relay RR2P-UL	120VAC	10		x		x
45	IDEC	Electronic Timer	120VAC	2		x		
46	Kep	Start Counter	240VAC	4		x		
47	Lights		775	1		x		
48	Lights		12 PSB	15		x		
49	Lights		12 DSB LED	8		x		
50	Lights		12 PSB LED	8		x		
51	Lights		120 MB	5		x		
52	Lights		4715 RER	11		x		
53	Lights		1819	11		x		
54	Lights		Mb 403 r 28 r cr	11		x		
55	N.K.	Amp Meter	4-20 mA	2		x		
56	Omron	Relay	120VAC	2	MK2EPN-UA		x	
57	Omron	Relay	110/120VAC	12	LY2		x	
58	Orenco	Control Panel		1			x	
59	Orenco	Float Tree	110VAC	2			x	
60	Power Source	Battery Charger	12VDC	1			x	
61	Reddington	Timer	120VAC	4		x		
62	red lion	counter	120VAC	2		x		
63	R.B. Denison	Intrinsically Safe Relay	120VAC	3		x		
64	Siemens	Ultrasonic Head	24VDC	2		x		
65	Siemens	Hydro ranger 200HMI		2		x		
66	Warrick Controls	intrinsically safe relay	600vac	2		x		
67	Westinghouse	Mechanical Interlock Switch		2		x		
68	Weber	Circuit Breaker	240VAC	2				x
69	Westing House	Horizontal Mechanical Interlock Switch	600VAC	1		x		
70	Westing House	Starter	480VAC	1		x		
71								



Critical Spare Parts List

Part	Quantity	Location
HDPE 4" twist on compression coupling	1	corte madera
HDPE 4" electrofusion coupling	3	corte madera
HDPE 4" straight pipe 10' lenthgts	30'	village square
HDPE 3" Poly ball valve	1	corte madera
HDPE 3" twist on compression couplings	4	corte madera
HDPE 3" electrofusion couplings	10	corte madera
PVC 3" Sch. 40 expansion coupling	2	corte madera
HDPE 3" SDR 11 straight pipe	10'	corte madera
HDPE 2" Poly ball valve	1	corte madera
HDPE 2" electrofusion couplings	4	corte madera
HDPE 2"x2"x2" tee	1	corte madera
HDPE 2" roll of pipe	30'	village square
HDPE 2"x1 1/4" reducer	3	corte madera
HDPE 1 1/4" Poly ball valve	2	corte madera
HDPE 1 1/4"x 1 1/4"x 1 1/4" tee	2	corte madera
HDPE 1 1/4" electrofusion couplings	8	corte madera
HDPE 1 1/4" 45degree elbows	16	corte madera
HDPE 1 1/4" male threaded ends	20	corte madera
HDPE 1 1/4" pipe	10'	village square
PVC 1 1/4" Sch. 40 check valves	5	corte madera
PVC 1 1/4" Sch. 80 couplings	5	corte madera
PVC 1 1/4: Sch. 80 ball valve	2	corte madera
PVC 1 1/4 Sch. 40 pipe 5' lenthgts	4	corte madera
machines/parts for force mains		
Nupigeco electrofusion machine	1	corte madera
hand scrappers	2	corte madera
Rigid pipe cutter 1"-3"	1	corte madera
1 gallon acetone	1	corte madera
shop wipes box	2	corte madera
GF 2" pipe peeler blue box	1	corte madera
GF 3" pipe peeler blue box	1	corte madera



Force Main Coupling List

SIZE	PIPE MATERIAL	QTY	PUMP STATION
8"x15"	DI/PVC C900	4	UNIVERSITY
4"	AC	2	MENLO INDUSTRIAL
4"	P.E./STEEL/PVC/SCH 40&80/DI/C900/AC	2	MENLO INDUSTRIAL/LOS TRANCOS/ village square (leaving station)
3"	P.E./STEEL/PVC/SCH 40&80/DI/C900/AC	2	Village square (coming into station)
10"x12.5"	DI/PVC	1	WILLOW
6"x15"	PVC	1	VINTAGE OAKS 1&2/STOWE
4"x15"	AC	1	MENLO INDUSTRIAL
4"x12.5"	AC	1	MENLO INDUSTRIAL
8"x7.5"	C900/DI/AC/CLASS 150	1	UNIVERSITY
8"x12.5"	C900/DI/AC/CLASS 150	1	UNIVERSITY
6"x7.5"	DI/PVC	1	VINTAGE OAKS 1&2/STOWE/ILLINOIS
6"x12.5"	AC/DI	1	ILLINOIS
6"x12.5"	DI/C900	1	ILLINOIS
10"x12.5"	DI/C900	1	WILLOW/SAUSAL VISTA
10"x15"	DI/C900	1	WILLOW/SAUSAL VISTA
8"x15"	DIP	1	UNIVERSITY
4"	PVC	1	LOS TRANCOS
30"x10"		1	FERF FORCE MAIN
12"x6"	PE	2	HH



Spare Pumps for Lift Stations

Pump Stock #	Model Number	Serial Number	Impeller Code	Discharge	Wired v (Sticker)	Station
1	3102.07	2010018	462	4"	230V	VO 2/Trancos
2	3127.095	1280033	489	4"	230V	menlo spare used not rebuilt
3	3102.07	1850113	499	4"	230V	univeristy
4	3102.07	1920035	462	4"	230V	VO 2/Trancos
5	3102.095	1420021	462	4"	240V	university - Previously used at sharon h recycle plant
6	3102.07	1870086	462	4"	240V	university
7	3153.095	198022	433	6"	230 V	willow
8	3153.091	860094	462	4"	460V	Illinois
9	3153.095	1830176	462	4"	460V	Illinois
10	3153.091	860095	462	4"	460V	Illinois
11	3153.095	1570043	433	6"	460V	willow rebuilt
12	3152.12	52056	454	6"	460V	C impeller pump for illinois emergency
13	3202.09	1270014	642	8"	460V	HH New
14	3201	unknown			460V	HH older style c impeller no data plate rebuilt
on pallet w/control PNL	3102.095	1580089	462	4"	230V	Pump on stand with panel and hose emergency purp
no # stored @ corte	3171.095	1670017	454		460V	Sausal New stored at Corte Madera
15	3171.095	2130018	454		460V	Sausal New stored at FERF
At village square shed	3153.095	1460141	273	4"	460V	village square stored at village square PS
no #	3120	9660028	442		240V	Vintage Oak 1, used/ not rebuilt/has some wear
At Stowe Lane	3127					Stowe Ln. sitting inside station



Sewer System Management Plan

4H By-Pass Equipment/Pump Stations

WEST BAY

SANITARY DISTRICT



Emergency Response Plan Pump Stations

Updated 9-1-2022

Emergency Response Plan Pump Stations

The information provided within this document is for the sole purpose of responding to pump station failures and implementing protocols to mitigate sanitary sewer overflows.

The following pages include the equipment selection for by-passing each individual or multiple pump stations.

This document is a supplement to the Districts “Disaster Response Plan” (DRP) for pump stations; it is not all inclusive and shall be updated on an on-going basis.

Training shall be conducted on an on-going basis; observations will be noted and critiqued with those participating in the training exercise.

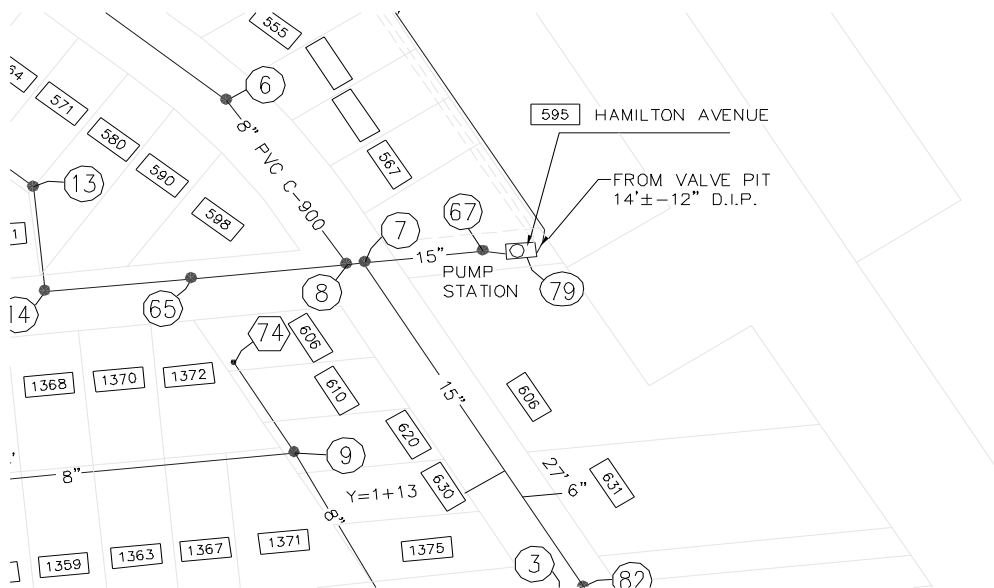


Updated 9-1-2022

HAMILTON-HENDERSON PUMP STATION
 595 Hamilton Avenue x Willow Road
 Menlo Park, (B-13)



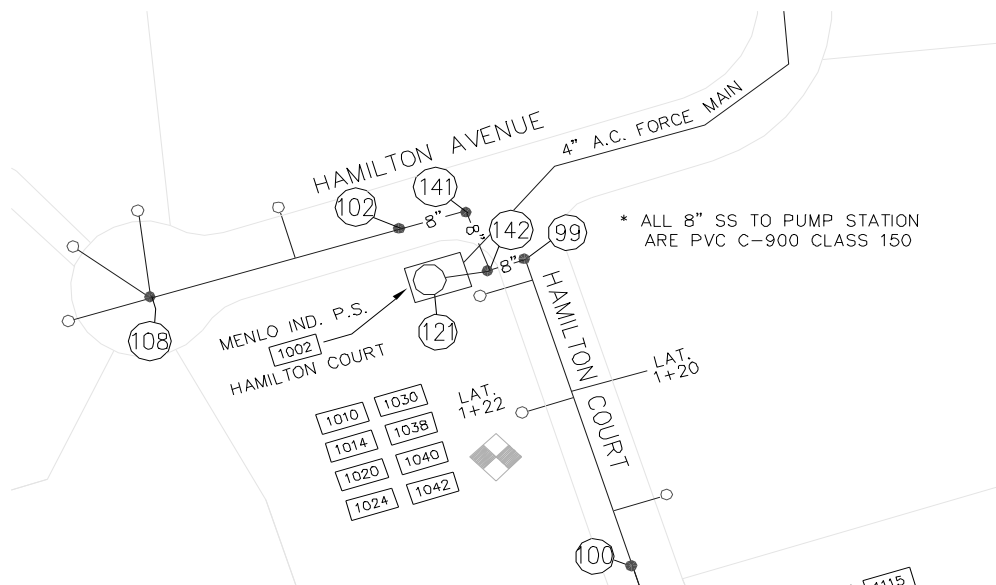
Required equipment for by-passing this station, 6-inch trash pump, suction hose & discharge hose (6" By-Pass)



MENLO INDUSTRIAL PUMP STATION
1002 Hamilton Court x Hamilton Avenue
Menlo Park, (B-12)



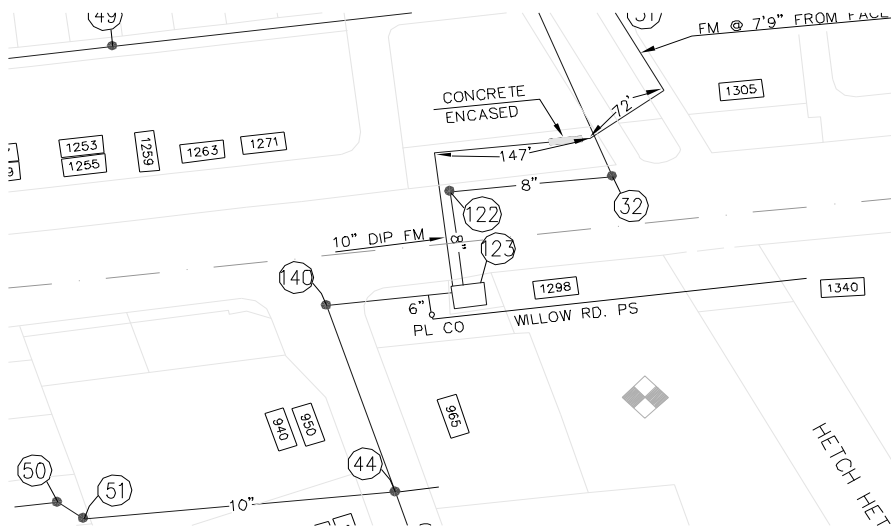
Required equipment for by-passing this station, 6-inch trash pump, **6”** suction hose & **4”** discharge hose, 2-6”X4” female to male camlocks. (4” By-Pass)



WILLOW ROAD PUMP STATION
1298 Willow Road x O'Brien Drive
Menlo Park, (B-12)



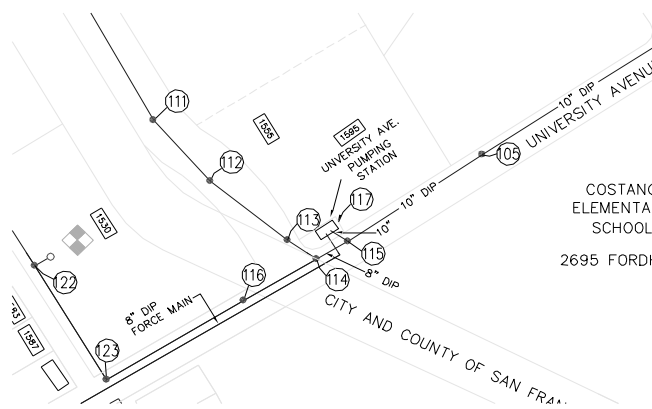
Required equipment for by-passing this station, 6-inch trash pump, 6" suction & discharge hose (6" By-Pass).



UNIVERSITY PUMP STATION
1595 O'Brien Drive x University Avenue
East Palo Alto, (B-11)



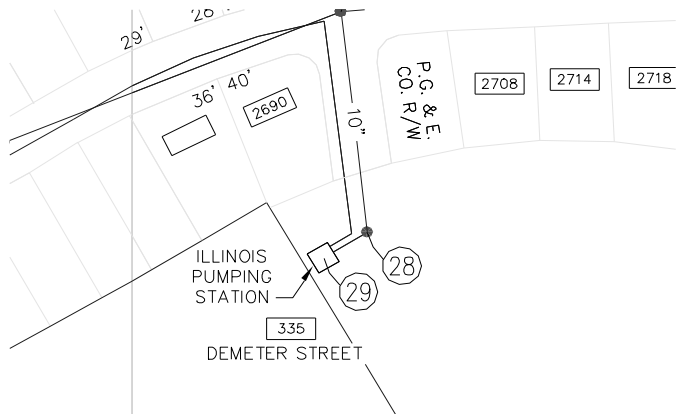
Required equipment for by-passing this station: 6-inch trash pump, 6” suction hose & 6” discharge hose.



ILLINOIS PUMP STATION
335 Demeter Street x Bay Road
East Palo Alto, (A-10)



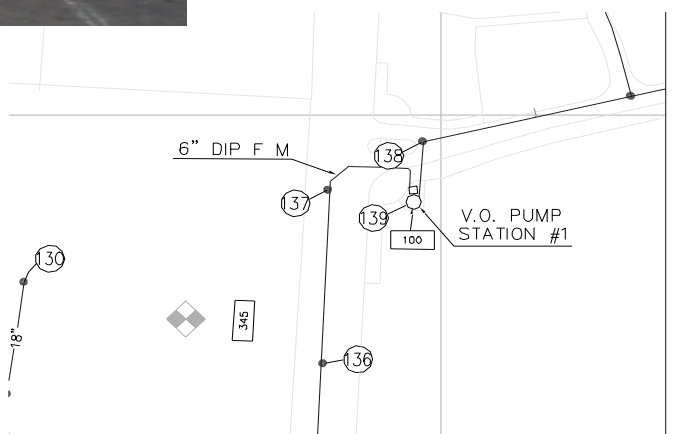
Required equipment for by-passing this station: 6-inch trash pump, 6" suction hose & discharge hose (6" By-Pass).



**VINTAGE OAKS-I
PUMP STATION**
100 Seminary Road x Middlefield Road
Menlo Park, (D-12)



Required equipment for by-passing this station, 6-inch trash pump, 2- 6"X4" camlocks fitting, 6" suction hose & 4" discharge hose (4" By-Pass).



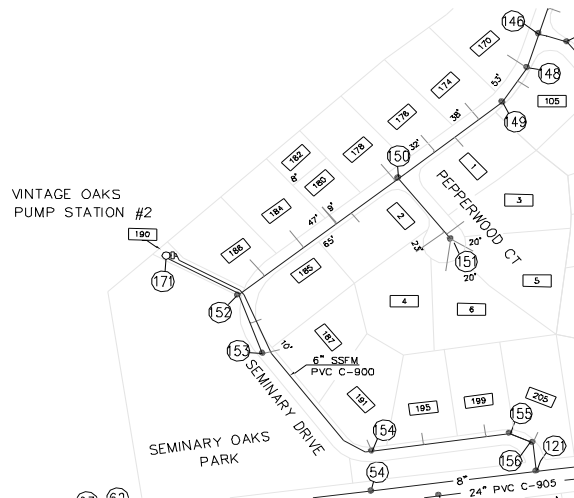
**VINTAGE OAKS-II
PUMP STATION**
190 Seminary Road x Middlefield Road
Menlo Park, (E-12)



Required equipment for by-passing this station, 6-inch trash pump, 2- 6"X4" camlocks fittings 6" suction hose & 4" discharge hose (4" By-Pass).



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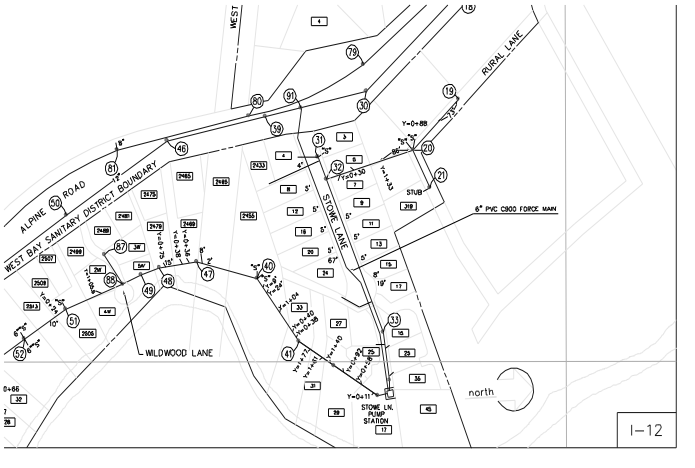


STOWE LANE LIFT STATION

17 Stowe Lane x Alpine Road
Menlo Park, (I-12)



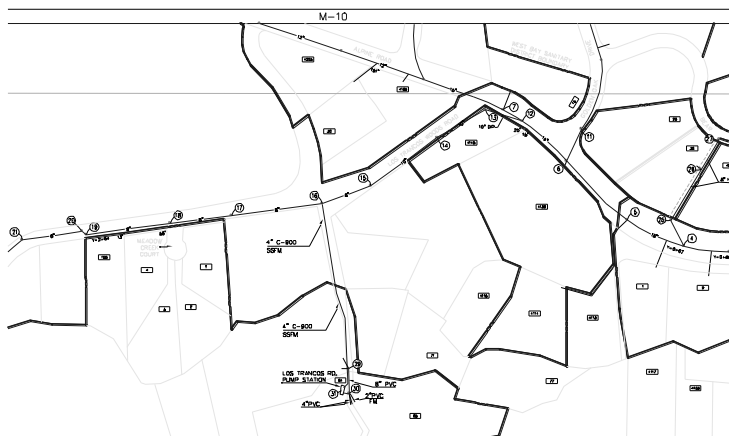
Required equipment for by-passing this station, 6-inch trash pump, 6” suction hose & discharge hose. (6” By-Pass).



LOS TRANCOS LIFT STATION
63 Los Trancos Road x Alpine Road
Portola Valley, CA (M-9)



Required equipment for by-passing this station, 6-inch trash pump, 2- 6"X4" camlocks fittings, 6" suction hose & 4" discharge hose (4" By-Pass).



SAUSAL VISTA LIFT STATION

250 Georgia Lane x Portola Road
Portola Valley (N-11)



Required equipment for by-passing this station, 6-inch trash pump, 2- 6"X4" camlocks fittings, 6" suction hose & 6" discharge hose (6" By-Pass).



Force main discharges into manhole N 10137
4050 feet away from station

VILLAGE SQUARE LIFT STATION
884 Portola Road x Alpine Road
Portola Valley (M-13)



Required equipment for by-passing this station, Truck #205 (Vactor)





Updated 9-1-2022



Sewer System Management Plan

4I Rehabilitation Parts Inventory

Re-Hab On-Hand Inventory List

QTY	Part # / Description	Vender	Address	Phone #
10	5-Gal/Bucket, Granite Seal	Granite Rock	PO BOX 50001, Watsonville, CA 95077-5001	1-831-768-2000
1	5-Gal/Bucket, Crack Seal	Granite Rock		
12	60 lb sacks, Cut-Back	Granite Rock		
2	5-Gal/Bucket, Speed Plug	Peninsula Buliding Materials	P.O. BOX 5807, Redwood City, CA 94063	
6	80 lb. sacks Concrete	Peninsula Buliding Materials		
3	55 lb. Fast Setting Concrete	Peninsula Buliding Materials		
40YDS	Yards, 3/4 Rock	Stevens Creek Quarry		
30YDS	Yards, Class II Base Rock	Stevens Creek Quarry		
24 ft.	12" VCP	Mission Clay	P.O. BOX 1839, Corona, CA 9178-1839	1-510-568-0800
6 ft.	15" VCP	Mission Clay		
2	15" Couplers, VCP to VCP	Mission Clay		
24 ft.	4" VCP	Mission Clay		
6	4" x 4" Wye VCP	Mission Clay		
6	4" x 4" Tee VCP	Mission Clay		
12	4" 1/8th Bend VCP	Mission Clay		
12	4" 1/16th Bend VCP	Mission Clay		
8'	4" Cast Iron Pipe	Mission Clay		
12	4" 1/16th Bend Cast Iron	Mission Clay		
12	4" 1/8th Bend Cast Iron	Mission Clay		
12	4" Coupler (Very)	Mission Clay		
24	4" Bushing (Thin)	Mission Clay		
24	4" Bushing (Thick)	Mission Clay		
12	6" x 4" Wye	Mission Clay		
12	6" x 4" Tee	Mission Clay		

Re-Hab On-Hand Inventory List

QTY	Part # / Description	Vendor	Address	Phone #
72 ft.	6" VCP	Mission Clay		
10	6" Couplers	Mission Clay		
6	8" x 4" Wye	Mission Clay		
6	8" x 4" Tee	Mission Clay		
36 ft.	8" VCP	Mission Clay		
6	8" Couplers	Mission Clay		
4	10" x 4" Wye	Mission Clay		
4	10" x 4" Tee	Mission Clay		
36 ft.	10" VCP	Mission Clay		
3	12" Couplers	Mission Clay		
2	10" C-900	Roberts & Brune Company	910 BERN COURT #150, San Jose, CA 95112	1-650-366-3833
60ft	8" C-900	Roberts & Brune Company		
60 ft	6" C-900 Pipe	Roberts & Brune Company		

VENDER CONTACT LIST 07-31-17

10002	AAA FENCE CO., INC.	2746 SCOTT BLVD	SANTA CLARA	CA	95050	1-408-727-5465
10010	A-A LOCK & ALARM	P O BOX 909	MENLO PARK	CA	94025-0909	1-800-422-5625
10005	A-A-A RENTALS	82 FIFTH AVENUE	REDWOOD	CA	94063	1-650-365-6743
10126	A TOOL SHED	2550 LAFAYETTE	SANTA CLARA	CA	95050	1-800-286-6574
10290	A-V REPAIR	448 E MIDDLEFIED ROAD	MOUNTAIN VIEW	CA	94043	1-877-633-8866
10483	ACE FIRE EQUIPMENT & SERVICE	P.O. BOX 1142	PALO ALTO	CA	94302	650-321-7440
10495	AIR-OIL SYSTEMS	PO BOX 195 753 WAMBOLD	MAINLAND	PA	19451-0195	1-215-721-9595
10604	ALAN STEEL & SUPPLY CO.	505 E BAYSHORE	REDWOOD	CA	94063	1-650-369-2526
10710	ALLEN EQUIPMENT COMPANY, INC.	755 HAMILTON AVENUE	MENLO PARK	CA	95025	1-650-323-6155
10720	ALLEN-RICCI ROOFING CO.	1306 JAMES AVE	REDWOOD	CA	94062	1-650-363-2706
10880	AMERICAN INDUSTRIAL PUMPS	PO BOX 8086	PITTSBURG	CA	94565	1-925-252-1693
12023	ATLAS PELLIZZARI ELECTRIC, INC	450 HOWLAND STREET	REDWOOD CITY	CA	94063	1-650-364-1204
12345	BACKFLOW PREVENTION SPECIALIST	3750-E CHARTER PARK DRIVE	SAN JOSE	CA	95136-1356	1-408-269-2600
12703	BARRON PARK SUPPLY CO.	377 SAN ANTONIO ROAD	MOUNTAIN VIEW	CA	94040	1-650-948-7160
12705	BARRI ELECTRIC COMPANY	991 BAKER WAY,	SAN MATEO	CA	94404	1-415-468-6477
12750	BAY ALARM	P O BOX 218	RODEO	CA	94572-0218	1-925-935-1100
12856	BAY AREA BOBCAT	42800 BOYCE ROAD	FREMONT	CA	94538	1-510-651-8200
12870	BAY AREA FLOORS	249 EL CAMINO	REDWOOD	CA	94063	1-650-324-8453
12890	BAY AREA PAVING CO.	PO BOX 6339	SAN MATEO	CA	94403	1-650-341-0351
	Bay Area Paving	P.O. Box 34D	SAN CARLOS	CA		
12896	BAY CITIES DIESEL	765 MONTAGUE EXPRESSWAY	MILPITAS	CA	95305	1-408-263-1510
12910	BAY EQUIPMENT COMPANY INC.	44221 S GRIMMER BLVD	FREMONT	CA	94538	1-510-266-8800
13600	BOBCAT WEST	47132 KATO ROAD	FREMONT	CA	94538	1-510-661-5716
14140	BUCHANAN AUTO ELECTRIC	2300 MANDELA	OAKLAND	CA	94067	1-510-452-4025
14573	C & L CONCRETE PUMPING	PO BOX 310	SAN CARLOS	CA	94070-0310	1-650-366-7677
15098	CALHOUN BROTHERS GRADING & PAVING	2784 SOUTH BASCOM AVENUE	SAN JOSE	CA	95124	1-408-727-4895
15708	CALIFORNIA WATER SERVICE	3351 EL CAMINO	ATHERTON	CA	94027-3844	1-650-854-5454
15990	CARPENTER RIGGING & SUPPLY	222 NAPOLEON	SAN	CA	94124-1028	1-415-285-1954
16210	CASE POWER & EQUIPMENT	45051 INDUSTRIAL	FREMONT	CA	94538	1-650-369-1876
16960	CIARDELLA-S GARDEN SUPPLY INC.	2027 EAST BAYSHORE ROAD	PALO ALTO	CA	94303	1-650-321-5913
17612	CONNEY SAFETY PRODUCTS	3202 LATHAM DRIVE P.O. BOX 44575	MADISON	WI	53744-4575	1-608-271-3300
18123	D & D Pipelines	PMB 408 336 Bon Air Center	Greenbrae	CA	94904-3017	1-415-441-2006
18135	D & L SUPPLY	P.O. BOX 580	OREM	UT	84059	1-801-785-5015
18139	R. J. DAILEY CONSTRUCTION	401 FIRST STREET	LOS ALTOS	CA	94022	1-650-780-0653
18179	DAVEY TREE EXPERT COMPANY	P O BOX 94532	CLEVELAND	OH	44101-4532	1-800-445-TREE
18434	DECON ENVIRONMENTAL SERVICES	23490 CONNECTICUT ST.	HAYWARD	CA	94545	1-510-265-8020
18480	DEWEY PEST CONTROL	PO BOX 7114	PASADENA	CA	91109-7214	1-877-339-3973
20450	FANTASTIC FENCE, INC.	1900 SPRING CITY	REDWOOD	CA	94063	1-408-730-1539

VENDER CONTACT LIST 07-31-17

21560	FOUR WHEEL PARTS WHOLESALERS	550 W. SAN CARLOS	SAN JOSE	CA		1-510-436-4979
22000	GALL-S, INC.	P O BOX 55208	LEXINGTON	KY	40555-5208	1-800-477-7766
22008	ALFREDO GARCIA ROOFING	3504 OAK DRIVE	MENLO PARK	CA	94025	1-650-322-4402
22060	GARRETSON CONSTRUCTION	731 UPTON STREET	REDWOOD	CA	94061	1-650-364-9436
22438	GRAINGER	DIV. OF W.W. GRAINGER, INC. 1100 INDUSTRIAL	SAN CARLOS	CA	94070	1-650-591-7200
22674	GRANITE ROCK, INC.	PO BOX 50001	WATSONVILLE	CA	95077-5001	1-831-768-2000
23295	GUY PLUMBING	1265 EL CAMINO	MENLO PARK	CA	94025	1-650-323-8415
23381	HALF MOON BAY GRADING & PAVING	1780 HIGGINS CANYON ROAD	HALF MOON BAY	CA	94019	1-650-726-3588
23970	HARBOR FREIGHT	3491 MISSION OAKS BLVD	CAMARILLO	CA	93011-6010	1-510-793-5425
24177	HARRINGTON PLASTIC	1100 INDUSTRIAL	SAN CARLOS	CA	94070	1-408-734-4470
24230	HARTY PIPELINES	4085 19TH AVENUE	SAN	CA	94132	1-415-585-6023
24684	HOME DEPOT misc					1-800-504-9128
24730	HOWARD'S SMALL ENGINE REPAIR	801 ARGUELLO ST P O BOX 1057	REDWOOD CITY	CA	94064-1057	1-650-368-1136
24797	HYDRAULIC CONTROLS	PO BOX 8157	EMERYVILLE	CA	94662	1-510-658-8300
24814	IDEAL DRYING, INC.	432 N. CANAL STREET SUITE #16	SOUTH SAN FRANCISCO	CA	94080	1-650-873-3229
25281	INTERSTATE GRADING & PAVING	128 SOUTH MAPLE AVENUE	SOUTH SAN FRANCISCO	CA	94080-6302	1-650-952-7333
27628	LYNGSO GARDEN MATERIALS, INC	19 SEAPORT BLVD.	REDWOOD CITY	CA	94063	1-650-364-1730
28950	MENLO CHEVRON	1200 EL CAMINO	MENLO PARK	CA	94025	1-650-323-4239
29400	MENLO PARK HARDWARE CO. #14016	700 SANTA CRUZ AVE.	MENLO PARK	CA	94025	1-650-327-7222
29754	MENLO PARK POLICE DEPT.	701 LAUREL STREET	MENLO PARK	CA	94025	1-650-330-6300
30210	MILLER PIPELINE CORP.	P.O. BOX 34141	INDIANAPOLIS	IN	46234	1-317-203-0278
30344	MISSION CLAY PRODUCTS	P.O. BOX 1839	CORONA	CA	91718-1839	1-510-568-0800
30350	MISSION VALLEY FORD	780 EAST BROKAW	SAN JOSE	CA	95112-1007	1-408-933-2300
30715	MOREALI ELECTRIC	C10#629296 478 STOCKTON AVE.	SAN JOSE	CA	95126	1-408-271-5072
31918	NICHOLS DIAMOND TOOL, INC	2625 FAIR OAKS AVE	REDWOOD	CA	94063	1-650-364-6088
32535	OMEGA INDUSTRIAL SUPPLY, INC.	4950-B FULTON DRIVE	FAIRFIELD	CA	94534-1615	1-707-864-8164
32724	ORCHARD SUPPLY HARDWARE	P.O. BOX 49016	SAN JOSE	CA	95161-9016	1-888-746-7674
33249	NORTHERN TOOL & EQUIP CO.	P O BOX 1219	BURNSVILLE	MN	55337-0219	1-952-894-0326
33540	PACIFIC PIPE COMPANY	PO BOX 23711	OAKLAND	CA	94623	1-510-537-0182
33800	PALO ALTO HARDWARE	875 ALMA STREET	PALO ALTO	CA	94301	1-650-327-7222
33797	PALMER ELECTRIC, INC	801-C AMERICAN	SAN CARLOS	CA	94070	1-650-592-7171
34320	PENINSULA TREE CARE	1654 WOLFE DRIVE	SAN MATEO	CA	94402	1-650-593-9367
35054	PLANET AUTO REPAIR & MUFFLERS	301 EL CAMINO REAL	MENLO PARK	CA	94025	1-650-328-0287
36680	R & L CONSTRUCTION	3863 ALAMEDA DE LAS PULGAS	MENLO PARK	CA	94025	1-650-323-1424
36704	R & S ERECTION NORTH PENINSULA	133 SOUTH LINDEN AVE	SOUTH SAN FRANCISCO	CA	94080	1-650-966-1800
36780	RANGER PIPELINES	P O BOX 24109	SAN	CA	94124	1-415-822-3700
37187	REDWOOD GENERAL TIRE SERVICE	1630 BROADWAY	REDWOOD CITY	CA	94063	1-650-369-0351

VENDER CONTACT LIST 07-31-17

37210	REDWOOD PLUMBING	1590 TACOMA WAY	REDWOOD CITY	CA	94063	1-650-369-1793
37356	RESCUE ROOTER	1479 BERGER DRIVE	SAN JOSE	CA	95112	1-866-800-3827
37510	ROBERTS & BRUNE CO	910 BERN COURT	SAN JOSE	CA	95112	1-650-366-3833
37810	ROTO-ROOTER	1205 CHRYSLER	MENLO PARK	CA	94025	1-877-729-7686
39340	SEWER EQUIP. CO OF AMERICA	1148 DEPOT STREET	GLENVIEW	IL	60025	1-847-729-3316
39510	SHAW PIPELINE INC.	5244 MISSION	SAN	CA	94112	1-415-337-0190
40120	SOUTH BAY TRUCK & EQUIPMENT	1677 LITTLE ORCHARD STREET	SAN JOSE	CA	95125-1002	1-408-493-9005
42230	TOOLAND, INC.	1369 INDUSTRIAL	SAN CARLOS	CA	94070	1-650-631-9636
42303	TRACTOR EQUIPMENT SALES	25886 CLAWITER R	HAYWARD	CA	94545	1-510-783-0430
42304	TRAILER HITCH INC.	3033 MIDDLEFIELD	REDWOOD	CA	94063	1-650-368-2125
42330	TRIPLE A PLUMBING	PO BOX 305	MOUNTAIN VIEW	CA	94042	1-650-366-6050
42435	UNITED RENTALS INC.	PO BOX 671400	DALLAS	TX	75267-1400	1-800-877-3687
43130	VALLEN SAFETY SUPPLY	P O BOX 200097	HOUSTON	TX	77216-0097	1-925-439-2287
43167	VANGUARD CLEANING SYSTEMS, INC	655 MARINERS ISLAND BOULEVARD SUITE 303	SAN MATEO	CA	94404	1-650-594-1500
43420	VICKERS CONCRETE SAWING, INC.	392 EAST GISH ROAD	SAN JOSE	CA	95112-4301	1-408-441-8820
45516	WECO INDUSTRIES, INC.	120 CORPORATE PLACE	VALLEJO	CA	94590	1-707-644-6661
45595	WEST MARINE		MOUNTAIN VIEW	CA		1-650-494-6660
45597	WEST VALLEY CONSTRUCTION	PO BOX 5639	SAN JOSE	CA	95150	1-408-371-5510
46435	ZANKER ROAD LANDFILL	625 CHARLES	SAN JOSE	CA	95112	1-408-263-2385



Sewer System Management Plan

4J WBSD Injury Illness Prevention Program

West Bay Sanitary District



Injury and Illness Prevention Program

Prepared by



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- E Safety Suggestion Form
- F Safety Program and Training Checklist
- G Injury / Incident / Near Miss Investigation Report Form
- H New Employee Equipment Training Log
- I Toolbox Safety Meeting Report
- J Record Retention Requirements

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REVISION HISTORY LOG

Date	Section	By	Correction Made
6-29-11	All	JRS	Based on GAP analysis of August 2011 and recent accident of 11-10-2011
12-01-2011	All	JRS	Temporary Worker initial training criteria, revised training list, added SSMP & OERP to list of training, periodic inspections/observations schedule.
9-25-12	All	JRS	Safety Committee Schedule to every other month or more often as needed.
7-1-13		JRS	Added web-based training & video list
7-14-14		JRS	Added 208 Operations
8-11-15	Appendix Q	JRS	Updated new location
12-22-16	Appendix K	JRS	Safety Committee Member Update
7-27-17	Appendix D	JRS	Revision Date Change
7-27-17	Cover Sheet	JRS	Alternate Title change
7-27-17	3.0	JRS	Updated Roster
7-27-17	Page 7	JRS	Updated Roster
7-27-17	Appendix G	JRS	Previous IIPP in public Safety Folder
			Program replaced with Du-All Safety IIPP
5-31-18	ALL	JRS	Based on GAP analysis of August 2011 and recent accident of 11-10-2011
10-02-18	ALL	Du-All	Complete review and integration
1-6-2020	6.2	Du-All	New CalOSHA reporting requirements

PROGRAM ADOPTION

The Management of West Bay Sanitary District is adopting this Injury and Illness Prevention Program to meet or exceed the requirements of California Code of Regulations, Title 8, Section 3203 and 1509. It applies to all full and part-time employees, temporary and seasonal employees, workers over whom West Bay Sanitary District has an employer relationship according to 8 CCR 336.10

The person with the authority and responsibility for implementing the Program:

Name _____ Title _____

Signature _____ Date _____

1.0 PURPOSE

The purpose of this Injury and Illness Prevention Program is to provide employees at West Bay Sanitary District (WBSD) with a safe and healthy workplace by identifying responsibilities to be followed by management, employees and the employer. Employees have a right to a safe workplace and their employer has a duty to ensure that every manager and supervisor is aware of WBSD's safe work practices and that they are being followed by each employee.

WBSD is adopting this Injury and Illness Prevention Program to meet or exceed the requirements of California Code of Regulations, Title 8, Section 3203. It applies to all full and paid-time employees, temporary and seasonal employees and volunteers working for WBSD.

2.0 EVALUATING HAZARDS

Before a task or job is to be started, an evaluation of the hazards associated with it needs to be completed. For example, a supervisor cannot task an employee to enter or even open a manhole cover without ensuring that the employee has been properly trained on the potential hazards of this task.

The employer, supervisors, managers, etc. must be aware of all hazards related to operating equipment or tasks being performed by their employees.

A tool that can be used in identifying and evaluating work place hazards is the Job Safety Analysis Form (Appendix A).

When hazards need to be identified & evaluated:

- i. When Safety Orders of the California Code of Regulations that govern the operation or activity (e.g. General Industrial Safety Orders, Construction Safety Orders, etc.) are revised.
- ii. During the accident investigation process.
- iii. When revealed during a routine inspection.
- iv. Whenever new substances, processes, procedures, or equipment are introduced to the work place that represents a new safety hazard.
- v. Whenever WBSD is made aware of a new or previously unrecognized hazard. When employee safety suggestions are made regarding a hazard.

This IIPP is not intended to cover all safety procedures at WBSD. WBSD has developed specific programs that may be found at each applicable department. These programs include, but are not limited to:

- Emergency Action Plan
- Emergency Operations

- Ergonomics
- Excavation and Trenching
- Exposure Control Plan (Bloodborne Pathogens)
- Concrete Dust Generating Operations
- Confined Spaces
- Fall Protection
- Hazard Communication Program
- Hearing Conservation
- Heat Illness Prevention
- Hotwork
- Lockout/Tagout (Hazardous Energy Control)
- Respiratory Protection

3.0 SAFETY RESPONSIBILITIES & JOB SAFETY CLASSIFICATIONS

3.1 EMPLOYER RESPONSIBILITIES

California employers have many different responsibilities under the California Occupational Safety and Health Act of 1973 and Title 8 of the California Code of Regulations. The following represents a list of the most important ones.

- i. Establish, implement and maintain an Injury and Illness Prevention Program and update it periodically to keep employees safe. At the latest, the IIPP should be reviewed each year by management with any employee input taken into consideration.
- ii. Inspect workplace(s) to identify and correct unsafe and hazardous conditions (Section 5.0 of this IIPP)
- iii. Make sure employees have and use safe tools and equipment and that the equipment is properly maintained.
- iv. Use color codes, posters, labels or signs to warn employees of potential hazards.
- v. Establish or update operating procedures and communicate them so employees follow safety and health requirements (Section 4.0 of this IIPP).
- vi. Provide medical examinations and training when required by Cal/OSHA standards.
- vii. Report immediately by telephone or fax to the nearest Cal/OSHA Enforcement Unit district office any serious injury or illness, or death, of an employee occurring in a place of employment or in connection with any employment as required by section 342(a), Title 8, California Code of Regulations (T8CCR). Serious injury or illness is defined in section 330(h), T8CCR (Section 6.2 of this IIPP).
- viii. Keep records of work-related injuries and illnesses on the log 300. At the end of the calendar year, copy the totals from the log 300 and transfer the information to the log 300A which must be posted February 1 through April 30 each year.

- ix. Post, at a prominent location within the workplace, the Cal/OSHA poster informing employees of their rights and responsibilities.
- x. Provide employees, former employees and their representatives' access to the Log and Summary of Occupational Injuries and Illnesses, Cal/OSHA form 300, at a reasonable time and in a reasonable manner.
- xi. Provide access to employee medical records and exposure records to employees or their authorized representatives.
- xii. Provide the Cal/OSHA enforcement personnel with names of authorized employee representatives who may be asked to accompany enforcement personnel during an inspection.
- xiii. Do not discriminate against employees who exercise their rights under the California OSH Act.
- xiv. Post Cal/OSHA citations at or near the work area involved. Each citation must remain posted until the violation has been corrected, or for three working days, whichever is longer. Post abatement verification documents or tags.
- xv. Correct cited violations by the deadline set in the Cal/OSHA citation and submit required abatement verification documentation. The Safety Coordinator will be responsible to ensure that any citation is abated.

3.2 DISTRICT MANAGER

The District Manager has primary authority and responsibility to ensure implementation of the IIPP and to ensure the health and safety of WBSD staff. This is accomplished by communicating WBSD's emphasis on health and safety, analyzing work procedures for hazard identification and correction, ensuring regular workplace inspection, providing health and safety training and encouraging prompt employee reporting of health and safety concerns without fear of reprisal.

3.3 SAFETY COORDINATOR

The Safety Coordinator for WBSD is Jed Beyer.

- i. Serve as Safety Committee Chair-Person
- ii. Assuming the lead role and the general authority to supervise all aspects of the IIPP and other safety related matters.
- iii. Utilizing all available resources to ensure hazards are reasonably resolved in a timely manner.
- iv. Working with management to ensure that safety is compliant in all departments by periodic inspections, training or site visits.
- v. Working and coordinating with any contracted safety consulting company to ensure safety compliance.

- vi. Working with Managers and Supervisors to ensure that safety training is being properly scheduled.
- vii. Ensuring that employees who fail to follow safe procedures outlined by WBSD are being disciplined.
- viii. Working with management and the safety committee to make final decisions in responding to employee safety suggestions.
- ix. Working with Managers and Supervisors to ensure that Cal/OSHA has been notified within 8 hours of any serious injury or death.
- x. Ensure that any Cal/OSHA citation is being abated by working with management and Cal/OSHA.
- xi. Coordinate and schedule safety training.
- xii. Ensure that all affected employees are notified of upcoming safety classes.
- xiii. Document and maintain training records for each employee.
- xiv. Maintain all Cal/OSHA related documentation.

3.4 SAFETY COMMITTEE

The safety committee is comprised of employees from different departments. There are no term limits for any committee member. The Safety Committee Charter may be found in Appendix B and the Safety Committee Meeting Agenda Template may be found in Appendix C. Generally, the safety committee will include the following job titles:

- District Manager
- Operations Maintenance and Assistant Superintendent
- Field Supervisor
- CCTV Tech II
- Pump Station Representative
- Project Manager
- Regulatory Compliance Coordinator (RCC, Committee Chair-Person)

Along with implementing the program, the safety committee members will, at a minimum, be responsible for the following:

- i. Attend, at a minimum, quarterly safety committee meetings.
- ii. Transfer all safety related information to their supervisors so that each department is aware of upcoming safety classes, safety inspections or otherwise.
- iii. Relate any safety concerns within their department to the safety committee for remediation and/or compliance. Report any unsafe conditions to their supervisor.
- iv. Support good housekeeping standards and cleanliness.
- v. Report any safety suggestions brought to their attention to the committee.
- vi. Evaluate causes of injuries and what actions need to be taken to protect other employees.

3.5 MANAGERS, SUPERVISORS, FIELD SUPERVISORS, CREW LEAD WORKERS

All personnel responsible for employee supervision shall:

- i. Ensure that his/her employees are following safety procedures and policies.
- ii. Be current on all safe work practices.
- iii. Ensure that employees are wearing all required personal protective equipment (PPE).
- iv. Not direct employees to perform tasks for which they have not received proper training.
- v. For those employees who work under the construction orders (Section 3.7.2), conduct "tailgate" or "toolbox" safety meetings at least every 2 weeks to ensure the safety mindset in every employee.
- vi. Report any injury or near miss (non-injury incidents) to the next highest supervisor who will then forward any report to Human Resources.
- vii. Ensure that every employee required to attend safety training is in attendance and attentive. If an employee misses a class, work with Human Resources and/or the Safety Coordinator to ensure that said employee receives make-up training prior to job assignment.
- viii. Understand and be aware of all hazards associated with job assignments.

3.6 HUMAN RESOURCES

Human Resources responsibilities towards safety include:

- i. Coordinate and ensure that all accident and injury reports have been filled out correctly so if a workers' compensation claim is made, all documentation is correct.
- ii. Maintain the OSHA Log 300 form. Post the OSHA 300A form from February 1 through April 30 of the previous year's accident summary in prominent locations throughout WBSD so that employees may have easy access to the summary.
- iii. Work with management and the safety committee to ensure that all employees' safety concerns or suggestions are being handled with due diligence.
- iv. Provide any forms required to be filled out by managers and employees in the event of an injury or accident.
- v. Provide departments with the most up-to-date Cal/OSHA posters informing employees of their rights and responsibilities.

3.7 EMPLOYEES

Although the employer and management have the primary responsibility in providing employees with a safe and healthy workplace, employees are ultimately responsible for their own safety.

Employees are often the eyes and ears of WBSD and their responsibilities toward safety include:

- a. Attend all required safety classes. This includes participating and being attentive.
- b. Follow established safety policies, procedures and programs.
- c. Report any unsafe or potentially dangerous situation to their supervisor so that the situation may be abated.
- d. Report all injuries and near misses to the immediate supervisor.
- e. If an employee has a safety concern, notify management either in writing or verbally. If the employee feels that their observation, suggestion or concern is going unnoticed and that the hazard still exists, the employee may contact Human Resources, the Safety Coordinator, or their Supervisor to explain the situation.
- f. Understand that an employee shall be disciplined for failure to follow safe procedures. (See Section 9.0).
- g. Work with management in updating and “fine-tuning” the Code of Safe Practices or any other work practice so that the most up-to-date and comprehensive safety procedure is being followed. (See Section 4.0)
- h. Encourage fellow employees to keep the safety “mindset.”

3.8 JOB CLASSIFICATIONS

At WBSD, employees are protected under the Cal/OSHA California Code of Regulations General Industrial Safety Orders (GISO), or the Construction Safety Orders (CSO), depending on the type of work being performed.

When employment exists in connection with the construction, alteration, painting, repairing, construction maintenance, renovation, removal, or demolition of any fixed structure or its parts, that work will be considered construction, and will be regulated by the CSO.

OSHA definition of structure: That which is built or constructed, an edifice or building of any kind, or any piece of work artificially built up or composed of parts joined together in some definite manner

Managers, supervisors or any person who has responsibility in directing or supervising an employee should be aware if the work being performed fall under the GISO or CSO. By understanding the work being performed and knowing which set of orders employees fall under, managers and supervisors may train and educate their employees on proper safety procedures regulated by Cal/OSHA. An important way for managers to learn about OSHA regulations is to attend safety classes taught by consultants and third parties and by reading the OSHA regulations that may be found on-line at www.dir.ca.gov.

It is possible that because of the diverse nature of their assignments, field staff could be governed by either set of orders depending on the task. At construction projects, the CSO take precedence over any other general orders that are inconsistent with them, except for Tunnel Safety Orders or Compressed Air Safety Orders

Where this distinction is significant, notice shall be made in this and all subordinate programs, practices, and documents.

3.8.1 General Industry Safety Orders (GISO)

Examples of work at WBSD that would be considered falling under the GISO may include:

- i. General administration
- ii. Limited automotive repair and maintenance
- iii. Warehouse maintenance
- iv. General driving
- v. Inspections (Construction, Source Control)
- vi. Machine and/or power tool use

3.8.2 Construction Safety Orders (CSO)

Examples of work/job classification at WBSD that would be considered falling under the CSO may include:

- i. Maintenance Work (plumbing)
- ii. Field Supervisors
- iii. Pump Station Crews Electrical
- iv. Painting and/or Plastering
- v. Plumbing
- vi. Operating heavy equipment or earth moving equipment
- vii. Rehabilitation Department
- viii. Carpentry
- ix. Trench and shoring, excavation
- x. Confined Space Entry

4.0 CODE OF SAFE PRACTICES

Once all hazards are identified and evaluated by using the General Industry Safety Orders (GISO), the Construction Safety Orders (CSO), other pertinent regulations, employee input, and available published statistics, the Code of Safe Practices is then developed. The code includes all the proper preventive measures to work in the environment safely.

Note that although under California Code of Regulations, the Term "Code of Safety Practices" pertains only to Construction Safety Orders, for the purposes of WBSD's IIPP, it will refer to safe work rules used for both Construction and General work.

Some departments may have specific work practices that are unique to that department. Supervisors and managers of each department should evaluate the hazards associated within their department and along with employee input develop a Code of Safe Practice to be followed by all employees to minimize injury while performing each task.

Employees are to receive specific instruction by their supervisor with respect to hazards specific to each employee's job assignment, as found in the Code of Safe Practices.

- i. The Code of Safe Practices must be reviewed and updated periodically as new hazards are identified. Each Code of Safe Practice should be reviewed at least annually by each department.
- ii. When the Code of Safe Practices is updated, workers must be trained and/or alerted by their managers, supervisors, etc. to the new hazard and the new proper safe practice(s) being implemented.

All Code of Safe Practices may be found in the binder titled "Code of Safe Practices" located in the Maintenance Department, and with the Safety Coordinator (Safety library). All of the training programs are available in the electronic file located in the Public folder on the W:/Drive under Safety.

5.0 PERIODIC INSPECTIONS

Periodic inspections are designed to ensure that the Code of Safe Practices is being followed and to help identify new or previously unrecognized hazards. Inspection reports will be kept by the Safety Coordinator and copies will be given to the appropriate managers and supervisors responsible for the inspected area(s).

Routine regulatory inspections are conducted by the Fire Marshal, San Mateo County Department of Environmental Health, and by the District's insurance carrier CSRMA. Internal inspections are coordinated through the Safety Coordinator. Capital improvement projects will be inspected upon inception and monthly until completion of project. The administration building will be inspected annually, and the maintenance area semi-annually. In addition to these facility inspections, the following specific areas are inspected: Fire Extinguishers, emergency eyewash/shower, automated electronic defibrillator, and hazardous material storage are inspected monthly. The forklift is inspected prior to each shift when it is used.

Managers and Supervisors should be conducting inspections as often as possible to ensure safe working conditions at all times.

- i. When a hazard is identified by any person, all personnel exposed to the hazard are to be warned and notified of the hazard and potential danger. This may be done by any supervisor or employee.
- ii. Hazards identified during inspections shall be corrected in a timely manner based on the risk assessment code found later in this section. If a serious hazard cannot be immediately abated without endangering workers and/or property, WBSD will remove all exposed workers from the area except those necessary to correct the existing condition.
- iii. Workers correcting any hazardous condition shall be provided with the necessary protection.
- iv. If there is a piece of equipment or a procedure that is immediately dangerous to life and health, the condition is to be corrected immediately. If the condition cannot be corrected immediately, the hazardous equipment should be locked and/or tagged out of service (or procedure discontinued).
- v. If any employee fails to follow safety procedures, the employee's supervisor should:
 - Inform the employee of the violation
 - Inform or remind the employee of the correct procedure
 - Tell the employee to comply and correct the violation(s)
 - Remind the employee of the disciplinary policy.
- vi. All safety violations, hazards and safety concerns will be documented, and a risk assessment code assigned, based on the descriptions given below.
- vii. A supervisor will designate who will fix the hazard and a completion date is to be established and checked off by the supervisor.
- viii. When the problem is fixed, the Safety Inspection Form (Appendix D) should be signed and dated by the person responsible for the work.

5.1 SAFETY RISK ASSESSMENT CODE

The Risk Assessment Code is determined as follows:

Class 1 - Critical (may cause death, serious injury, significant environmental impact, or substantial financial losses) and/or is likely to occur soon.

Class 2 - Serious (may cause injury, occupational illness, or environmental or property damage) and/or probably will occur in time.

Class 3 - Minor (probably would not significantly affect personnel or environmental safety or health, but is a violation of specific criteria).

The correction protocol that is used may include one or more of the following:

- i. Engineering control (i.e. cones, flags, lights, etc.)
- ii. Personal Protective Equipment (PPE)

- iii. Administrative control (i.e. no cell phone use while driving or flagging),
- iv. New safety rule
- v. Employee training

6.0 INJURY & ILLNESS INVESTIGATIONS AND RECORD KEEPING

6.1 INVESTIGATIONS OF OCCUPATIONAL INJURY OR ILLNESS AND CORRECTIVE ACTIONS

Once an occupational illness, accident, or injury occurs, a report must be completed by the employee and the employee's supervisor immediately. All required and necessary forms may be found in Appendix G.

In the event of a near miss (non-injury incident), the incident is still to be investigated.

6.2 REPORTING TO OSHA

The District shall report immediately by telephone to the nearest District Office of the Division of Occupational Safety and Health any serious injury or illness, or death, of an employee occurring in a place of employment or in connection with any employment.

Immediately means as soon as practically possible but not longer than 8 hours after any supervisor knows of or with diligent inquiry would have known of the death or serious injury or illness. If the District can demonstrate that exigent circumstances exist, the time frame for the report may be made no longer than 24 hours after the incident.

With regard to reporting to Cal/OSHA, a serious injury or illness is defined as one involving:

- any hospitalization, regardless of length of time, for other than medical observation or diagnostic testing;
- amputation;
- loss of an eye; or
- serious degree of permanent disfigurement.

Accidents that result in serious injury or illness, or death that occur in a construction zone on a public street or highway are now included by statute. Work-related injuries, illnesses and deaths caused by the commission of a Penal Code violation are no longer excluded from the definition of "serious injury or illness".

A serious exposure is now defined as an exposure to a hazardous substance that occurs as a result of an incident, accident, emergency, or exposure over time and is in a degree or amount sufficient to create a realistic possibility that death or serious physical harm in the future could result from the actual hazard created by the exposure.

- i. During normal work hours, employees who report a serious injury shall immediately notify a supervisor. If a supervisor is not immediately reachable, the employee shall call

Human Resource/or the Safety Coordinator to notify them of the situation. Once notified of the serious injury, the supervisor, Human Resource office, or Safety Coordinator is to notify the nearest Cal/OSHA Enforcement District Office of the serious injury or death no longer than 8 hours after the incident. A full listing of district offices is online at <http://www.dir.ca.gov/dosh/DistrictOffices.htm>. The Cal/OSHA office that is closest to WBSD, at which notification is to be made is the Cal/OSHA Enforcement District Office at:

Foster City
1065 East Hillsdale Blvd., Ste. 1 10,
Foster City 94404
(650) 573-3812
fax (650) 573-3817

- ii. If a contractor is injured, the contractor's employer must notify Cal/OSHA.
- iii. When making notification the reporting party shall include the following information, if available:
 - I. Time and date of accident.
 - II. Employer's name, address and telephone number.
 - III. Name and job title, or badge number of person reporting the accident.
 - IV. Address of site of accident or event.
 - V. Name of person to contact at site of accident.
 - VI. Name and address of injured employee(s).
 - VII. Nature of injury.
 - VIII. Location where injured employee(s) was (were) moved to.
 - IX. List and identity of other law enforcement agencies present at the site of accident.
 - X. Description of accident and whether the accident scene or instrumentality has been altered.

6.3 CAL/OSHA RECORD KEEPING

- i. Whenever an Employer's Report of Occupational Injury or Illness Form 5020 is filed, an entry must be made in the Cal/OSHA Form 300 by Human Resources.
- ii. Human Resources will also complete the Cal/OSHA Form 30 I.

6.4 GENERAL SAFETY RECORD KEEPING

Safety Coordinator will keep records of:

- i. Documented safety and health training including:
- ii. Documented accident, injury and illness investigations including the completed form(s).
- iii. Copies of all required injury- and illness-related forms

- iv. Safety Committee meeting minutes.
- v. Disciplinary records.
- vi. Inspection reports.
- vii. Training records including toolbox/tailgate meetings (Appendices H and I). Supervisors are responsible for giving a copy of their tailgate meetings to the Safety Officer/Safety Consultant and HR.
- viii. Safety suggestions (Appendix E).
- ix. Safety Committee meeting minutes.
- x. Accident reports.

6.5 RECORDS RETENTION

The legally mandated minimum records retention durations are given in Appendix J.

7.0 COMMUNICATION

Communication is an important part of the IIPP. WBSD management believes the best way to maintain the safety "mind set" is through the following means:

- a. A safety bulletin board for written communication, relevant safety topics, and posted temporary hazards.
- b. Since the employee is often in a better position to spot potential hazards in the work areas we have placed a suggestion box and forms in the Maintenance Area. Employee input with regard to safety is encouraged. All suggestions will be reviewed at the Safety Committee Meeting with a response given in a timely manner to the person making the suggestion. In the event of an anonymous suggestion, a response will be written and posted on the safety bulletin board by a committee member.
- c. Employees may also utilize the "Report ohm-safe Condition" form to communicate hazards to the Safety Committee.
- d. Safety posters and signs will be posted in common areas to help remind employees of certain hazards and to protect themselves.
- e. A standing Safety Committee meets quarterly. The Charter for the committee may be found in Appendix B.
- f. Supervisors with field staff shall conduct "toolbox" or "tailgate" safety meetings, or equivalent, with their crews at least every 10 working days to emphasize safety.
- g. Report any unsafe or potentially dangerous situation to their supervisor so that the situation may be abated. (May utilize the un-safe condition form.)
- h. Report any injury or near miss (non-injury related accident) to the next highest supervisor who will then forward any report to Human Resources.

8.0 TRAINING

Training is the most important part of this program. It is critical that everyone understand their workplace hazards and is trained in the following areas related to this IIPP:

- i. Safety procedures and policies.
- ii. Procedures to document and record workplace injuries or illnesses
- iii. Employee and management responsibilities towards safety.
- iv. WBSD's disciplinary policy.

Supervisors and/or Safety Coordinators shall receive training to familiarize them with the health and safety hazards to which employees under their immediate direction and control may be exposed.

Supervisors and/or Safety Coordinators are responsible for ensuring that those under their direction receive training on general workplace safety as well as on health and safety issues specific to their job.

Training is provided:

- i. To all employees and those given new job assignments for which training has not yet been received.
- ii. Whenever new substances, processes, procedures or equipment are introduced to the workplace that represents a new hazard.
- iii. Whenever the employer is made aware of a new or previously unrecognized hazard.

The Training Log for all employees is to be filled out completely, upon the completion of any training. All training logs, including tailgate meetings, should be forwarded to the Safety Coordinator.

9.0 DISCIPLINARY PROCEDURES

Employees who fail to comply with WBSD's safety policies and procedures will be subject to disciplinary action, up to and including, termination.

Employees should understand that the actions of managers and supervisors through the disciplinary process are intended to positively redirect their behavior toward the achievement of WBSD's goals and objectives.

While management wants to remain as positive as possible, management must properly address the adverse actions of employees.

The disciplinary policy is detailed in the Personnel Procedure Manual and the District's MOU.

Appendix A

Job Safety Analysis Form

JOB SAFETY ANALYSIS FORM

		Job:	Example	Date
JOB SAFETY ANALYSIS FORM		Title of Person who does the Job:	Title of Supervisor:	Analysis by:
		Division/Section:		Reviewed by:
Department		Approved by		
Required person protective equipment		Required Material Safety Data Sheets		
SEQUENCE OF BASIC STEPS		RECOMMENDED SAFE JOB PROCEDURE		
<p>Break the job down into its basic steps, e.g. what is done first, what is done next, and so on. You can do this by 1) observing the job, 2) discussing it with a knowledgeable person, 3) drawing on your knowledge of the job, or 4) a combination of the three. Record the steps in the normal order of occurrence. Describe what is done, not the details of how it is done. Usually three or four words are sufficient to describe each basic job step.</p>		<p>POTENTIAL ACCIDENTS OF HAZARDS</p> <p>For each job step, ask yourself what accidents could happen to the person doing this job step. You can get the answers by, 1) observing the job, 2) discussing it with a knowledgeable person, 3) recalling past accidents, or 4) a combination of the three. Ask yourself, can the person be struck by or contacted by anything, can the person strike against or come in contact with anything; can the person be caught in, on or between anything, can the person fall, can the person overexert, does the step require repetitive motions; is the person overexposed to anything injurious, such as hazardous chemicals, noise, extreme temperatures, etc.?</p>		
		<p>For each potential accident or hazard, ask yourself how the person should do the job step to avoid the potential accident, or what should the person do or not do to avoid the accident. You can get your answers by, 1) observing the job for leads, 2) discussing precautions with a knowledgeable person, 3) drawing on your personal experience, or 4) a combination of all three. Be sure to describe specifically the precautions a person must take. Don't leave out important details. Number each separate recommended precaution with the same number as the potential accident or hazard. Use specific do and don't statements. Where appropriate, include the use of personal protective equipment, and safety apparatus, materials, and facilities that would mitigate the hazard.</p>		

JOB SAFETY ANALYSIS FORM

	Job:	Example	Date
JOB SAFETY ANALYSIS FORM	Title of Person who does the Job:	Title of Supervisor:	Analysis by:
	Department	Division/Section:	Reviewed by:
Required person protective equipment	Required Material Safety Data Sheets		Approved by
SEQUENCE OF BASIC STEPS	POTENTIAL ACCIDENTS OF HAZARDS		RECOMMENDED SAFE JOB PROCEDURE

Appendix B
Safety Committee Charter

Committee Name	Committee Chair Person	Committee Members
WBSD Safety Committee	TBD, RCO	Safety Coordinators as identified in the Injury and Illness Prevention Program
Meeting Times / Location:	At a minimum Quarterly, currently meetings are held the fourth Wednesday of each month, WBSD Administrative Building	
Purpose	<p>To help insure a safe and healthful workplace and compliance with federal, state, and local safety regulations through participation in:</p> <ul style="list-style-type: none"> • Monthly safety committee meetings per CCR, 8 3203, (c) et. al. • Review quarterly safety inspections to help identify and correct hazards • Injury and illness investigations to evaluate cause of injury and corrective action to prevent recurrence • Communication between employees and management • Schedule and review employee safety training 	
Scope/Authority	<ul style="list-style-type: none"> • Provide advice and input to individual departments on safety matters • Ensure that all employees are provided with a safe and healthy workplace • Identify and discontinue unsafe practices and/or use of unsafe equipment • Schedule required safety training • Recommend corrective actions to address safety hazards • Serve as communications conduit between employees and management on safety concerns 	
Success Criteria	<ul style="list-style-type: none"> • Compliance with safety regulations and receive no OSHA citations. • Provide regularly scheduled employee safety training • Fewer accidents and injuries • Establishment of required safety programs • Improved feedback regarding employees' sense of safety and well-being 	
Decision-Making Process	<ul style="list-style-type: none"> • Strive for consensus; majority vote by area safety coordinators present to pass on recommendations or take action. Roberts Rules of Order will be loosely followed. 	
Product(s)	<ul style="list-style-type: none"> • Develop written safety programs in compliance with CCR, 8. • Provide safety training and recordkeeping • Produce quarterly periodic inspections reports • Respond to employee safety concerns and/or suggestions 	
Decision Communications	<ul style="list-style-type: none"> • Agenda and minutes of meetings to members and posted at employee worksites • Use of internal and external communication tools to disseminate major actions 	
Evaluation	<ul style="list-style-type: none"> • Annual review by the Safety Committee and Management on committee effectiveness. 	

Appendix C

Safety Committee Meeting Agenda Template



SAFETY COMMITTEE GROUP MEETING

WEDNESDAY, _____ @ 0700-0800 HOURS

AGENDA

1) CALL TO ORDER & ROLL CALL:

Start Time: _____

- _____ Jed Beyer, RCC (Chairperson)
- _____ Rupert Sandoval, Source Control Inspector
- _____ Henry Santos, Field Supervisor
- _____ Jonathon Werness, Engineer Technician
- _____ Steve Pierre, DuAll Safety
- _____ Heath Cortez, Operations Supervisor
- _____ Marvin Argueta, Field Supervisor

2) Approval of Minutes from Previous Safety Committee on: _____

3) REVIEW OF AND UPDATE ON 2018 TRAINING SCHEDULE:

4) REVIEW OF ACCIDENT, INCIDENT & NEAR MISS REPORTS:

5) REVIEW & DEVELOPMENT OF S.O.P.'s:

6) MONTHLY SAFETY INSPECTION REVIEW & AUDITS:

7) SAFETY RECOGNITION / NOMINATION:

8) EMPLOYEE SUGGESTIONS:

9) OPEN DISCUSSION:

ACTION ITEMS:

NEXT MEETING DATE: _____ @ 0700 ADJOURNED AT: _____

Appendix D
Safety Inspection Form

West Bay Sanitary District Safety Inspection Form

DATE:	Inspection Conducted by:
-------	--------------------------

The following are violations of Cal/OSHA regulations, California Fire Code, California Building code, other standards, or are hazardous conditions that may cause injury or illness to employees at the WBSD, or possibly cause negative environmental impact, or interrupt the WBSD's ability to do business. These conditions require corrective action to ensure a safe and healthful workplace for employees and employer.

Findings which may not be directly traceable to an enforceable code or regulation are given in italics. Note that failure to abate these hazards may still put the WBSD at risk of injury and/or loss, civil litigation, citation under the General Duty Clause (California Labor Code Section 6400), or other action.

For explanation of Risk Assessment Codes see the last page.

Item	Finding Description	Risk Rating	Work Order Number	Date Fixed	Initials

The following items were previously identified and still need to be resolved:

Item	Finding Description	Risk Rating	Work Order Number	Date Fixed	Initials

Please initial and date corrections as they are completed.

Risk Assessment Class

Class 1 - Critical (may cause death, serious injury, significant environmental impact, or substantial financial losses) and/or is likely to occur soon.

Class 2 - Serious (may cause injury, occupational illness, or environmental or property damage) and/or probably will occur in time.

Class 3 - Minor (probably would not affect personnel or environmental safety or health, but is a violation of specific criteria).

Appendix E
Safety Suggestion Form

West Bay Sanitary District

Safety Suggestion Form

This form is for use by employees who wish to make suggestions or report an unsafe condition or practice.

Area of unsafe condition or action: _____

What unsafe condition did you see? _____

What do you think might have caused this? _____

How would you suggest improving safety? _____

Has this been reported to the Safety Coordinator? _____

Name (Optional) _____ Date: _____

WBSD encourages employees to participate in communications involving safety.
WBSD will investigate every suggestion and advise the employee of the response in a timely manner.

Anonymous Suggestions: A response will be written and posted in the Safety Committee meeting minutes.

Appendix F
Safety Program and Training Checklist

SAFETY PROGRAM AND TRAINING CHECKLIST

For all employees: at hire, transfer and annual performance review

Employee Name	
Hire/Review Date	
Job title	
Department/Division/Unit	
<i>Initial and date each item when completed, updated and reviewed</i>	

Injury and Illness Prevention Program (IIPP):

- _____ Identify the Safety Coordinator and review the coordinators duties
- _____ Review the safety inspection and accident investigation procedures
- _____ Review avenues of safety communication (safety tailgate box, tailgates)
- _____ Review the safety discipline procedures (if not compliant with regulations)
- _____ Review of Codes of Safe Practices specific to the employee's area
- _____ Identification of necessary employee training on specific equipment:
 _____ Spill Equipment, Forklift, Respirator, Lifts, Power Tools, etc.

Personal Protective Equipment (PPE):

- _____ PPE Hazard Assessment (what to wear, how to properly use, limitations, etc.)
- _____ Provided: _____

Hazardous Materials:

- _____ Review the Hazard Communication program and chemical inventory
- _____ Review Safety Data Sheets (SDS) and locations(s)
- _____ Review labeling requirements and the NFPA placard numbering system
- _____ Review how to safely handle chemicals on site
- _____ Review the spill procedures and spill equipment (location, etc.)
- _____ Review what to do in the event of an emergency or exposure

Fire and Evacuation

- _____ Review the primary and secondary evacuation routes
- _____ Review evacuation relocation area
- _____ Review evacuation Do's and Don'ts
- _____ Drill procedures
- _____ Emergency Plan and Contact Phone Numbers

Fleet & Equipment Program

- _____ Commercial/Non-Commercial Driver License(s) & Certification
- _____ Pre & Post Trip Vehicle Inspection: (Training, Defensive Driving, Documentation, etc.)
- _____ Seatbelt Use & Requirements
- _____ Radio, Cell Phone Use & Requirements
- _____ Vehicle Accident Process & Reporting
- _____ Equipment Specific Training & Refreshers:

Safety Programs & Training (Identify as required for specific job classification/title)

- _____ Knowledge, Awareness & Use of all Policy/Procedures/Instructions, etc.
- _____ Aerial Lift, Bucket Truck, Scissor/Man/Genie Lift Safety Certification
- _____ Asbestos Awareness Safety Training
- _____ Bloodborne Pathogens Program & Training
- _____ Confined Space Program/Permit and Entry/Rescue Training & Certification
- _____ Boom/Crane Safety Certification
- _____ DOT Requirements & Testing
- _____ Driver Safety, Defensive Driving Training
- _____ Electrical Safety Program & Training (Non-Electrician & Electrician NFPA 70E)
- _____ Ergonomics & Back Safety Training
- _____ Excavation/Trench/Shore Program/SOP & Training
- _____ Fall Protection Program & Training
- _____ Fire Extinguisher Training
- _____ First Aid/CPR/AED Certification Training
- _____ Traffic Work Zone and Flagging Safety Training
- _____ Forklift Safety Training
- _____ Hazard Communication Program & Training
- _____ Hazardous Materials Program & Safety Training
- _____ Hearing Conservation Program, Training & Annual Audiometric Testing
- _____ Heat Stress & Illness Program & Training
- _____ Ladder & Scaffold Safety Training
- _____ Lead Awareness Safety Training
- _____ Lockout/Tagout Program & Training (Equipment Specific Procedures)
- _____ Respiratory Protection Program, Medical Evaluation, FIT Testing & Training
- _____ Hotwork Program/Permit & Welding Safety Training
- _____ Management Regulatory Work Shop
- _____ Emergency Action Plan
- _____ Accident Investigation Training
- _____ IIPP Program, Tailgate, Training
- _____ Regular Safety Tailgates – ongoing provided by supervisor every 10 days
- _____ Additional Safety Training or Certification (s) identified as required: _____

Safety area equipment & Safety rules reviewed:

Add pages as needed to comply with all regulations and as identified on the Training Matrix.

Employee Signature: _____ Date: _____

Supervisor Signature: _____ Date: _____

Appendix G

Injury / Incident / Near Miss Investigation Report Form

Location:				
Supervisor:				
Incident Date / Time / Day of week		Date / Time Reported		
Investigation Date / Time	Incident Type:	<input type="checkbox"/> Employee Injury/ Illness	<input type="checkbox"/> Incident or Near Miss	<input type="checkbox"/> Vehicle
		<input type="checkbox"/> Environmental Release	<input type="checkbox"/> Property Damage	<input type="checkbox"/> Other
Name of Employee:				
Injured Body Part(s):				
Chronological Sequence of Events: Track incident from significant events prior to incident through investigation. If an injury was sustained, include medical treatment. Attach additional pages as needed. State only the facts. Do not include assumptions. Attach additional pages as needed. 1. 2. 3. 4. 5.				
Contributing Causes of Incident: Any cause that contributed to the incident, but would not by itself have caused the accident. 1. 2.				
Were Personal Protective Equipment (PPE), and safety procedures in use at time of incident? <input type="checkbox"/> Yes <input type="checkbox"/> No				
List Relevant Details:				
Witness(es) to Incident:				
Investigated by:		Title:		Date:

Does any other party (other than WBSD) have responsibility in any way? Yes No
If so, who and how?

Preliminary Summary: Incident resulted from (check all that apply):

<input type="checkbox"/> Unsafe Act _____	<input type="checkbox"/> Unsafe Condition _____
<input type="checkbox"/> Unauthorized work _____	<input type="checkbox"/> Failure to use P.P.E. _____
<input type="checkbox"/> Procedure violation _____	<input type="checkbox"/> Equipment Failure _____
<input type="checkbox"/> External condition _____	<input type="checkbox"/> Other _____

CORRECTIVE ACTIONS

Immediate Action:	Responsible Party:	Date:
Safety tailgate training with crew & supervisor		
Issue Employee Warning(s) to:		
Other Corrective Actions:		
Long-Term Action:	Responsible Party:	Target Date:
Schedule re-inspections until compliance is regular		
Supplemental tailgate training with whole division		

INVESTIGATION STATUS

Corrective Action Implemented: Yes No Initials: _____ Date: _____

Corrective Action is Satisfactory: Yes No Initials: _____ Date: _____

If no, what further action is needed? Describe below. Use additional form if necessary.

Investigation Reviewed with Manager and/or Human Resources & Closed: Yes No Initials: _____ Date: _____

STATEMENT OF EMPLOYEE		
Location:		
Date of Incident:	Time of Incident:	
Your statements and answers have no effect on your recovery or treatment. The goal is to determine the causes so we can prevent another injury from happening to someone else.		
Are you injured? <input type="checkbox"/> Yes <input type="checkbox"/> No	If yes, where?	
What happened before the incident?		
What happened during the incident?		
What happened after the incident?		
If you could do it over again, what would you do differently?		
Name:	Signature:	Date:
Statement Witness:	Signature:	Date:

PHOTO & DIAGRAM INFORMATION SHEET		
Location:	Project Name, Number:	Date of Incident:
Photo No.		
Photo Date:		
Time of Day:		
Location:		
Brief Description: (Provide direction of photo)		
Notes:		
Photographer:		
Photo No.		
Photo Date:		
Time of Day:		
Location:		
Brief Description: (Provide direction of photo)		
Notes:		
Photographer:		

Appendix H

New Employee Equipment Training Log

New Employee Equipment Training Log

Job Related Duties	Trainer	Trainee Initials	Beginning Date	Completion Date
<i>Trailer Jet / Hydro Operation</i>				
Vehicle Maintenance and General Upkeep				
Safe Operating Procedures				
Knowledge of Various Nozzles and Uses				
Safe Traffic Set-Up Procedures				
<i>Rodder operation</i>				
Vehicle Maintenance and General Upkeep				
Safe Operating Procedures				
Knowledge of Various Cutter Blades and Uses				
Safe Traffic Set-Up Procedures				
<i>TV Operation</i>				
Camera Maintenance and Upkeep				
General Understanding of Camera Functions				
Safe Operating and Set-Up Procedures				
<i>Combination Cleaner Operation</i>				
Vehicle Maintenance and General Upkeep				
Safe Operating Procedures				
Knowledge of Various Nozzles and Uses				
Safe Traffic Set-Up Procedures				
<i>Other Essential Duties</i>				
Understanding of District Maps				
U.S.A. Marking				
Ability to Maintain Simple Written Records				
Perform Emergency Work on Sewer Lines				
Confined Space Procedures				

Appendix I

Toolbox Safety Meeting Report

Toolbox Safety Meeting Report

Date:

Department/Shop:

Meeting Leader (print):

Meeting Leader (signature):

Topic Discussed

Personnel in Attendance

Employee Name (print clearly)	Employee Signature

Appendix J

Record Retention Requirements

Record Retention Requirements

Record	Minimum Retention (yrs)	Code citation
Workplace inspections	1	8CCR3203(b)(1)
Training records (See below for exceptions)	1	<u>8CCR3203(b)(2)</u>
Safety committee meeting records	1	8CCR3203(c)(2)
Accident investigation records OSHA300, 300A, 301	5	8CCR14300.33
Employee medical records	Termination of employment + 30 yrs	8CCR3204(d)(1)(A)
Employee exposure records (Includes all workplace monitoring data, MSDSs, Chemical inventories)	"At least" 30 yrs	8CCR3204(d)(1)(B)
Bloodborne Pathogens	3	8CCR5193(h)(2)(B)
Training Sharps injury log	5	8CCR5193(h)(3)
Hazwaste manifest receipts	3	HSC25160.2(b)(3)&(4)
Asbestos training records	Termination of employment + 1 year	8CCRI 529(n)(4)
Notification of identification, location and quantity of asbestos	Duration of ownership of building; must be transferred to new owner	8CCR I 529(n)(6)
Noise exposure measurements	2	8CCR5100(d)(1)
Audiometric test records	Duration of employment	8CCR5100(d)(2)
Maintenance of fire extinguishing systems	5	19CCR904.1(b)
Fire Alarm systems acceptance tests & as-builts	Life of system	NFPA 72, 7-5.1
Fire Alarm systems annual maintenance, inspection & testing	1 year past next test (e.g., 2 years)	NFPA 72, 7-5.2.1
Fire Sprinkler Maintenance & Service Reports	5 yrs	19 CCR 904.1 & 904.2
Fire Sprinkler Maintenance & Service Reports	1 year past next test (e.g., 2 years)	NFPA 25, 4.3.5
Reports of testing on mechanical ventilation systems such as fume hoods	5 yrs	8 CCR 5143
Reports of testing on HYAC systems for building ventilation	5 yrs	8 CCR 5142(b)(2)



Sewer System Management Plan

4K Outreach to Plumbers & Contractors

Plumbers & Sewer Contractors: Your Actions Can Prevent Sanitary Sewer Overflows!

What are Sanitary Sewer Overflows or SSOs?

SSOs discharge untreated or partially treated human and industrial waste, debris and disease-causing organisms from the sanitary sewer onto the ground near and into homes and potentially into creeks, rivers, lakes or streams.

What are the impacts of SSOs?

SSOs may result in property damage, environmental damage and/or potential liability to you or your company. Allowing sewage to discharge to a gutter, storm drain or waterway may subject you to penalties and/or out-of-pocket costs to reimburse cities or public agencies for clean-up efforts and regulatory penalties.

How can you prevent SSOs?

How to avoid associated penalties & fines

When clearing plugged sewer laterals:

- ☑ Remove root balls, grease blockages and any other debris; don't push debris from the lateral to the sewer main.
- ☑ If you can't prevent a root ball from entering the sewer main when working in our service area, **please call us** at (650) 321-0384, so we can work with you (free of charge) to remove the root ball from the sewer main to prevent blockages further downstream.
- ☑ Use plenty of water to flush lines.
- ☑ Don't open manholes. Hazardous sewer gases from manholes are odorless, undetectable and can be deadly. Call us to open manholes for you and please note that discharge into a publicly-owned manhole requires a permit. Contact our Source Control Section at (650) 321-0384, for an application.

When constructing sewer laterals:

- ☑ Check your work area. Gravel, backfill material and test plugs can become lodged in the sewer line and cause blockages. Make sure no debris is left in the sewer line before you backfill.
- ☑ Avoid offset joints – offset joints make sewer lines vulnerable to root intrusion & grease accumulation, cause debris hang-ups and make lines harder to clean. Properly bed your joints!
- ☑ Contact our Administration Office regarding types of permits required and construction specifications at (650) 321-0384.



4K



Who Do I Call to Avoid an SSO?

Help us help you...

If you require our assistance to help clear root balls, grease blockages and other debris from a main sewer line to prevent an SSO or to open a manhole in our service area, please call us at

(650) 321-0384

WEST BAY
SANITARY DISTRICT



SERVING AREAS IN MENLO PARK, PORTOLA VALLEY, ATHERTON, EAST PALO ALTO, REDWOOD CITY, WOODSIDE AND UNINCORPORATED SAN MATEO & SANTA CLARA COUNTIES



Bay Area Clean Water Agencies
A Joint Powers Public Agency





Sewer System Management Plan

5A Design & Construction of Sanitary

WEST BAY
SANITARY DISTRICT
SAN MATEO COUNTY, CALIFORNIA

STANDARD SPECIFICATIONS
FOR
DESIGN AND CONSTRUCTION OF
SANITARY SEWER COLLECTION AND
CONVEYANCE FACILITIES

June 2015

West Bay Sanitary District
500 Laurel Street
Menlo Park, CA 94025
(650) 321-0384

WEST BAY
SANITARY DISTRICT
SAN MATEO COUNTY, CALIFORNIA

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PART A

GENERAL INFORMATION

SECTION A1 - INTRODUCTION AND SCOPE

SECTION A2 - DEFINITIONS

SECTION A1 - INTRODUCTION AND SCOPE

A1.01 INTRODUCTION

These Standard Specifications shall govern the design and installation of sanitary sewage collection and conveyance facilities under the jurisdiction of the West Bay Sanitary District. Reference is made hereby to the ordinances, rules and regulations of the District regarding sewage collection which shall be considered a part of these specifications as set forth in full, specifically Code of General Regulations Article IV.

The District's Standard Specifications have been prepared to aid all persons engaged in the design or construction of sewerage facilities for the District. These specifications are periodically updated to reflect changes in the technology affecting the District's sewerage facilities. Copies of changes will be distributed to interested parties upon receipt of request to the District office.

The information contained herein is not intended to be used as a contract document either for contracts between the District and a contractor or for contracts between a subdivider or private person and a contractor. Separate contract documents must be prepared for each project, with each such contract containing a "Special Provisions" section applicable to that particular project. In such contracts, construction details included herein may be included by reference.

The District Standard Specifications are divided into four parts, each of which is briefly described below:

1. Part A - General Information

Part A includes a general description of the intent and purpose of the District's Standard Specifications, a brief description of the District's Master Sewerage Plan, and definitions of terms used herein.

2. Part B - Design Standards

Part B describes standards to be used in the design of all sewerage facilities for the District.

3. Part C - Construction Standards

Part C, written in the form of typical specifications, covers the District's construction standards. These standards must be followed in any work constructed for the District's acceptance, and may be included by reference in construction contracts.

4. Part D - Standard Drawings

Part D consists of standard drawings and details which must be followed where applicable, in any work done for the District's acceptance.

A1.02 DISTRICT BOUNDARY

The boundary of the West Bay Sanitary District is available at the District Office. All sanitary sewers constructed within that boundary come under the jurisdiction of the District and must comply with the standards set forth herein.

A1.03 MASTER SEWERAGE PLAN

In July 2011, the District Board of the West Bay Sanitary District officially adopted a report entitled "Collection System Master Plan" to serve as a guide for future construction of sewerage system facilities. The Master Plan was revised in 2013.

That report identifies existing wastewater collection capacity and structural deficiencies and provides a staged capital improvements program to correct the existing deficiencies and to insure adequate capacity over the next 20 years to buildout of the service area. Copies of the report are on file in the District Office and it is suggested that any person who proposes to construct sewers within the District consult the report prior to design or layout.

SECTION A2 - DEFINITIONS

A2.01 DEFINITIONS

Terms that appear throughout these Standard Specifications shall have the following meanings:

1. APPLICANT shall mean the person making application for a permit for a sewer or plumbing installation and shall be the owner of the premises to be served by the sewer for which a permit is requested, or his authorized agent.
2. BOARD shall mean the Board of Directors of West Bay Sanitary District.
3. BUILDING shall mean any structure used for human habitation or a place of business, recreation or other purposes.
4. BUILDING SEWER shall mean the extension from the building drain to the public sewer or other place of disposal.
5. CITY shall mean the City of Menlo Park, Town of Atherton, City of East Palo Alto, Redwood City, Town of Woodside or Town of Portola Valley, California.
6. COMBINED SEWER shall mean a sewer that was designed to receive both surface runoff and sewage.
7. COMMERCIAL USER AND/OR INDUSTRIAL USER (both private and public) shall mean any user of the sewage works of the District located on property or in structures not classified as a single family unit or multiple dwellings.
8. CONTRACTOR shall mean an individual, firm, corporation, partnership, or association duly licensed by the State of California who shall do work for the District.
9. COUNTY shall mean the County of San Mateo or County of Santa Clara, California.
10. DAY means a calendar day of 24 hours, except when preceded by "working" as defined below.
11. DEFECTIVE WORK whenever used shall be understood to mean workmanship, materials, equipment or tools furnished by the Contractor

which in the opinion of the Engineer do not conform to the drawings and specifications or are otherwise unsatisfactory.

12. "Directed", "designated", "permitted", "required", "accepted", and words of like import, wherever and in whatever manner used, with or without reference to the Engineer, means as directed, designated, permitted, required, and accepted by the Engineer.
13. DISTRICT shall mean the West Bay Sanitary District.
14. DISTRICT ENGINEER as used in these specifications shall be taken to designate the party or parties authorized or employed by the District to observe completed work, and to observe their general compliance with plans, specifications, design and planning concept.
15. DISTRICT MANAGER shall mean the person appointed by the Board to administer and enforce the rules and regulations of the District.
16. DWELLING shall mean any house, duplex, apartment, commercial establishment, or any other building to be connected to a public or main sewer.
17. GARBAGE shall mean solid wastes from the preparation, cooking, and dispensing of food and from the handling, storage, and sale of produce.
18. INSTALL, wherever and in whatever manner used, shall mean the installation complete in place of an item of equipment.
19. LATERAL SEWER shall mean the portion of a side sewer lying within a public street/easement connecting a building sewer to the main sewer.
20. MAIN SEWER shall mean a public sewer designed to accommodate more than one lateral sewer.
21. MASCULINE gender words include the feminine.
22. MAY, wherever and in whatever manner used, is permissive.
23. MULTIPLE DWELLING shall mean a building containing two or more units for rental, lease, or similar legal instrument, for residential occupancy purposes, including, but not limited to the following: Hotels, Motels, Auto Courts, Trailer Courts, Mobil Home Parks, Apartment Houses, Duplexes, Rooming Houses, Boarding Houses, and Dormitories.

24. ORDINANCE shall mean the latest version of the West Bay Sanitary District's Code of General Regulations.
25. OUTSIDE SEWER shall mean a sanitary sewer beyond the limits of the District not subject to the control or jurisdiction of the District.
26. PERMIT shall mean any written authorization required pursuant to this or any regulation of the District for the installation of any sewerage works.
27. PERSON shall mean any human being, individual, firm, company, partnership, association and private or public and municipal corporation, the United States of America, the State of California, Districts, and all political subdivisions, governmental agencies and mandataries thereof.
21. PROVIDE, wherever and in whatever manner used, shall be understood to mean provide complete in place, that is, furnish and install.
22. PRIVATE SEWER shall mean that portion of a sewer serving an independent sewage disposal system not connected with a public sewer and which accommodates one or more buildings or industries.
23. PUBLIC NUISANCE shall mean continued habitation of any building or continued operation of any industrial facility in violation of the provisions the District's Ordinances, Rules or Regulations.
24. PUBLIC SEWER shall mean a sewer lying within a street or easement, and which is controlled by or under the jurisdiction of the District.
25. SANITARY SEWER shall mean a sewer which carries sewage and to which storm, surface, and ground waters are not intentionally admitted.
26. SEWAGE shall mean a combination of water-carried wastes from residences, business buildings, institutions, and industrial establishments.
27. SEWAGE TREATMENT PLANT shall mean any arrangement of devices and structures used for treating sewage.
28. SEWAGE WORKS shall mean all facilities owned or controlled by the District for collecting, pumping, treating, and disposing of sewage (Excepting private sewers).
29. SEWER shall mean a pipe or conduit for carrying sewage.
30. SHOWN, "indicated", "detailed", and words of like import, wherever and in

whatever manner used, with or without reference to the drawings, means shown, indicated or detailed on the drawings.

31. SHALL or "will", whenever used to stipulate anything, means shall or will be done or be performed.
32. SIDE SEWER shall mean the sewer line connecting any dwelling to a public sewer beginning at the foundation wall of any building and terminating at the main sewer and includes the building sewer and lateral sewer together.
33. SINGLE FAMILY DWELLING is defined to mean and refer to the place of residence, detached or attached unit, that can be legally owned by the occupant or occupants, including, but not limited to, condominiums, townhouses, houses or similar design.
34. SINGULAR words include the plural.
35. STANDARD SPECIFICATIONS shall mean a set of documents containing design and construction standards for all sewerage works within the District (i.e., this set of documents).
36. STATE STANDARD SPECIFICATIONS shall mean the Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation Standard Specifications, latest edition.
37. STORM SEWER OR STORM DRAIN shall mean a sewer which carries storm and surface ground waters and drainage, but excludes sewage and polluted industrial wastes.
38. STREET shall mean any public highway, road, street, avenue, alley, way, public place, public easement, or right of way.
39. SUBMITTED, wherever and in whatever manner used, means submitted to the Engineer for his acceptance.
40. SUFFICIENT, "necessary", "proper", "acceptable", "satisfactory", "desirable", and works of like import, wherever and in whatever manner used, with or without reference to the Engineer, means sufficient, necessary, proper, acceptable, satisfactory and desirable in the judgement of the Engineer.
41. USER shall mean any owner, possessor, tenant, occupier, inhabitant, holder or person owning or occupying premises which are connected

directly or indirectly with the sewage works of the District.

42. WASTEWATER FACILITIES shall mean any part of the sewage collection system of the District.
43. WORK means and includes anything and everything to be done for the execution, completion and fulfillment of the contract to the satisfaction of the District.
44. WORKING DAY is any day except Saturdays, Sundays, or legal holidays, on which the normal working forces of the Contractor may proceed with regular work on the controlling operation or operations on the accepted work schedule for at least six hours toward completion of the contract, unless work is suspended for causes beyond the Contractor's control.

END PART A

PART B
DESIGN STANDARDS

SECTION B1 - GENERAL REQUIREMENTS

SECTION B2 - GRAVITY SEWERS, FORCE MAINS,
AND STEP SYSTEM

SECTION C2 - EARTHWORK

C2.01 SCOPE

Earthwork includes all plant, labor, equipment, appliances, and materials as required or necessary to excavate, trench, fill, backfill, and grade for the construction of structures, sewers, and graded areas.

C2.02 GENERAL REQUIREMENTS

1. Control of Water

The Contractor shall furnish, install, and operate all necessary machinery, appliances, and equipment to keep excavations reasonably free from water during construction and he shall dispose of the water so as not to cause injury to public or private property, or to cause a nuisance or a menace to the public. He shall at all times have on hand sufficient pumping equipment and machinery in good working condition for all ordinary emergencies and shall have available at all times competent mechanics for the operation of all pumping equipment.

The control of ground water shall be such that softening of the bottom of the excavation, or the formation of "quick" conditions or "boils" shall be prevented. Dewatering systems shall be designed to operate so as to prevent the removal of the natural soils.

During excavation, installation of sewers, placing of trench backfill, and the placing and setting of concrete, the excavation shall be kept reasonably free of water. When specified, the static water level shall be drawn down below the bottom of the excavation so as to maintain the undisturbed state of the natural soil and to allow the placement of backfill to the required density. The dewatering system shall be installed and operated so that the ground water level outside the excavation is not reduced to the extent that would damage or endanger adjacent structures or property.

The release of ground water to its static level shall be performed in such a manner as to maintain the undisturbed state of the natural foundation soil, prevent disturbances of compacted backfill, and prevent floatation or movement of structures and sewers.

If area is potentially contaminated or known to be contaminated, the Contractor shall notify the Regional Water Quality Control Board (RWQCB) prior to discharge of groundwater. Contractor shall adhere to the requirements of the RWQCB.

2. Excavated Material

Arrangements for proper disposing of excess excavated material unsuitable for backfill shall be made by the Contractor at his own expense. Excavated material suitable for backfill shall be stored temporarily in such a manner as will facilitate work under the contract.

Except as indicated elsewhere in these specifications, excess materials from trench and structure excavation shall become the property of the Contractor and shall be disposed of offsite. The Contractor is responsible for obtaining all necessary easements, rights, and permits pertaining to such proper disposal. The Contractor shall furnish a copy of all such easements, rights, and permits to the District prior to disposal of excavated materials. All expenses involved with offsite disposal shall be borne by the Contractor

3. Shoring, Sheeting and Bracing

Where sheet piling, shoring, sheeting, bracing, or other supports are necessary, they shall be furnished, placed, maintained and removed by the Contractor. At all times the rules of the California Department of Industrial Relations, Division of Industrial Accidents sec 6705, with respect to excavation and construction shall be strictly observed. Sheet piling and other supports shall be withdrawn in such a manner as to prevent subsequent settlement of the pipe, or additional backfill on sewer lines which might cause overloading.

Pursuant to State law, all open excavations greater than five feet shall be constructed with bracing, shoring, or other equipment method designed for the protection of life and limb. The contractor must at all times comply with the requirements of the construction safety orders of the Division of Industrial Safety.

The minimum required protection will be that described in the Construction Safety Orders of the Division of Industrial Safety. It shall be the contractor's responsibility to provide the additional strength required to support the sides of the excavation against loads that may exceed those employed to derive the criteria set forth in the Industrial Safety Orders. The contractor shall be solely responsible for any and all liabilities which may arise from his failure to provide adequate shoring, bracing or sheeting as necessary to support the excavation under any and all of the conditions of loading which may exist or which may arise during construction.

In addition, the Contractor shall obtain, pay for, and comply with all provisions of the permit required by Section 6500 of the California Occupational Safety and Health Act.

The design, planning, installation, and removal of all shoring, sheeting, and bracing shall be by a registered engineer and accomplished in such a manner as to maintain the undisturbed state of the soil adjacent to the trench and below the excavation bottom.

4. Removal of Obstructions

The Contractor shall remove, or cause to be removed, all trees, including stumps, fences, and all structures where the proper construction and completion of the work require their removal. The Contractor shall also remove all rock, stones, debris, and obstructions or whatsoever kind or character, whether natural or artificial, encountered in the construction of the work.

Material that is removed as hereinabove specified, and is not to be incorporated in the improvement being constructed, shall be disposed of according to applicable laws by the Contractor at his expense.

C2.03 CLEARING AND GRUBBING

1. Clearing shall consist of the satisfactory removal and disposal of vegetation designated for removal, including brush and rubbish occurring within the area to be cleared. Grubbing shall consist of the removal and disposal of matted roots from the designated clearing and grubbing areas. Clearing shall be limited to only the construction area and in no case shall it extend onto adjacent private property.
2. Unless otherwise shown or required, existing trees shall be preserved and protected. Limbs on trees which are to remain shall be trimmed by the Contractor in a professional manner if they interfere with construction to the satisfaction of the District and City or Town.
3. Roots, brush, grass and other vegetation in areas to be cleared shall be removed completely and disposed of by the Contractor.
4. The materials, together with organic items, masonry, concrete or metallic debris in the clearing and grubbing areas shall be excavated and removed to a depth of not less than 12 inches below the original surface level of the ground.

5. Depressions made by grubbing shall be filled with approved material and compacted in accordance with Section C2.04.3 to make the surface conform with the original adjacent surface of the ground, or with the rough finish surface as shown on the drawings.
6. Brush, rotten wood, and other refuse from the clearing and grubbing operations shall be completely removed and disposed of by the Contractor unless the property owner requests in writing that the material to remain.
7. Permission to dispose of cleared and grubbed material on the property of others shall be in writing, and a copy of this permission shall be filed with the District Manager.
8. Damages caused by the execution of this work shall be paid for by the Contractor.

C2.04 SITE GRADING

1. General Excavation
 - a. General excavation shall be performed in the areas shown on the Drawings to bring surface levels to the elevations indicated. Excavation shall include the removal of earth, loose rock, boulders, and other items or materials encountered in the work.
 - b. Common excavation shall include silt, clay, sand, gravel, topsoil, hard and compact materials such as hardpan, cemented gravel, shale, soft or disintegrated rock and boulders or detached pieces of solid rock or masonry less than 1/2 cubic yard in volume that can be removed by hand, power shovels, draglines and other excavating equipment and without continuous and systematic blasting or without the use of pneumatic tools for successful removal.
 - c. Excavated material suitable for fill or backfill shall be stockpiled as needed on the site in an area designated by the District Manager. Stockpiles shall be graded to shed water. Excess excavation not required shall be removed from the site and properly disposed of by the Contractor.
 - d. Material found unsuitable for use as fill or backfill shall be removed from the site and properly disposed of by the Contractor.

2. Filling

- a. Fill required to bring low areas to grade shall be clean, non-expansive, selected material with a plasticity index (PI) less than 10 and maximum dimension of 6 inches. Fill shall be obtained from excavations on site, or from off-site borrow sources if the amount of suitable material from on-site excavation is insufficient. No rocks larger than 4 inches in maximum dimension shall be placed in the upper two feet of fill.
- b. Subgrades on which fill material is to be placed shall be scarified to a depth of not less than 4 inches by plowing or discing. A layer of suitable fill material, approximately 3 inches in depth, shall be spread over the scarified surface and compacted as specified herein.
- c. Dumping, spreading and compacting of fill material shall be carried out in sequence as closely as possible. Unless otherwise specified, fill material shall be spread and compacted in uniform layers not exceeding 8 inches in depth (loose measure) until the total thickness of fill, as shown on the Drawings, is completed.
- d. When the quantity of material required for filling is not available within the limits of the job site, the Contractor shall provide sufficient material to construct the fills to the lines, elevations and cross-sections as shown on the Drawings from offsite borrow areas. If required, borrow areas shall be provided by the Contractor and at his expense. Borrow material shall meet the requirements and conditions of the fill in which it is to be deposited. Borrow areas selected by the Contractor and the materials contained there shall be approved by the District Manager prior to the placing of any such materials excavated from the borrow pit in fill or backfill.
- e. Procedures and requirements specified here for other excavation are also applicable to excavation from borrow areas.
- f. The Contractor shall notify the District Manager at least 10 days in advance of the opening of any borrow pit to permit any necessary elevations or measurements to be taken or any desired material tests to be made.
- g. Aggregate Base where indicated on the Drawings shall conform to section 26, Aggregate Bases, of the State Standard Specifications for Class 2 Aggregate Base as to materials and workmanship.

3. Compaction

- a. Compaction of each fill layer shall be performed with equipment and methods approved by the District Manager. Equipment shall be operated in one direction along the full length of each layer until the area has been thoroughly and uniformly compacted to the specified density. Fill areas shall be crowned and sloped to drainage ditches as shown on the Drawings, or as required to prevent ponding of surface water.
- b. In places inaccessible to rolling equipment, the required compaction may be obtained with mechanical tamps, single-shoe vibrators, or other approved equipment.
- c. Fills failing to meet the requirements for density, shall be further processed by mixing, rolling or other approved methods.
- d. Fill shall be compacted to 90 percent relative density per ASTM D 1557 test method.

4. Soil Testing

- a. A soil testing laboratory will be employed by the Contractor at his expense to determine sieve analysis and Proctor curves necessary to make field density tests for all work pertaining to the general construction.
- b. Compaction density will be based on the percent of standard Proctor ASTM D1557 for each of the materials and for the particular application as specified above.
- c. Method of determining the density in place of compacted soil will be in accordance with ASTM D2167.
- d. Density test will be run for each 1 foot of compacted fill unless otherwise required by the District Manager and/or the jurisdictional agency.
- e. It will be the Contractor's responsibility to keep the fill material near the optimum moisture content so as to obtain proper compaction and to notify the Engineer in sufficient time to observe the necessary field density tests. It will be the responsibility of the District Manager to determine the number and location of these tests.

- f. Proctor tests will be obtained at each new source of backfill material or when the characteristics of the material change sufficiently, in the opinion of the District Manager, to require further tests.
- g. A copy of all test results shall be provided to the District upon the completion of the tests.

C2.05 EXCAVATION BACKFILL AND COMPACTION FOR STRUCTURES

1. Excavation

The site shall be cleared of all natural obstructions, pavement, utilities, and other items which will interfere with construction. Unless otherwise specified, any method of excavation may be employed which, in the opinion of the Contractor, is considered best.

Ground shall not be dug by machinery nearer than 3 inches from any finished subgrade without the express approval of the District Manager. The last 3 inches shall be removed without disturbing the subgrade. Should the excavation be carried below the required lines and grades because of the Contractor's operations, the Contractor at his own expense shall refill such excavated space to the proper elevation in accordance with the procedure specified for backfill, or if under footings, the space shall be filled with concrete as directed by the District Manager.

Bearing surfaces under footings and foundations shall be level, except as otherwise shown on the Drawings. Interfering boulders in bearing surfaces shall be removed and replaced with concrete, at least equal in strength to the soil bearing value of the surrounding or overlying soil, or interfering portions jack hammered out, as directed by the District Manager.

Should bearing surfaces under footings, foundations or slabs appear inadequate at the design elevations for the loads indicated on the Drawings. The Contractor shall immediately notify the District Manager. The Contractor shall then proceed in accordance with the District Manager's direction.

Materials unsuitable for structure foundations encountered at the established elevation of the bottom of footings or the bottoms of floors of structures shall be removed to the depth required by the District Manager. The volume resulting from the removal of such unsuitable materials shall be backfilled with material approved by the District Manager and compacted to 95 percent of maximum density, as determined by ASTM D1557. Method

of determining the density in-place of compacted soil shall be in accordance with ASTM D2167.

Where, in the opinion of the District Manager, the undisturbed condition of the natural soil is not adequate to support the structure, the District Manager shall direct the Contractor to over excavate to adequate supporting soil and refill the over excavated space as directed by the District Manager. The quantity and placement of such material shall be as ordered by the District Manager.

Excavation shall extend a sufficient distance from walls and footings to allow for placing and removal of forms, installation of services, and for inspection, except where concrete is authorized to be deposited directly against excavated surfaces or against existing concrete surfaces.

2. Backfill and Compaction

After completion of foundation footings and walls, and of other construction below the elevation of the final grade, all forms shall be removed and the excavation shall be cleaned of all debris. Substructure surfaces shall be waterproofed if required and as specified. Sheet piling shall not be removed until backfilling operations are completed.

The Contractor shall keep all excavations free of water at his own expense. Contractor shall provide all dams, flumes, channels, sumps, or other works necessary to keep the excavation entirely clear of water, and shall provide and operate pumps and other suitable equipment of adequate capacity for dewatering the excavations. Contractor shall avoid producing mud in the excavated bottom by his operations, and, if necessary or so ordered, shall place crushed rock at his own expense to maintain a firm dry excavated bottom and base.

Backfill shall be composed of clean natural material or imported material acceptable to the District Manager. Backfill shall be placed in layers not exceeding 8 inches in loose depth and compacted by tamping or rolling. Jetting is not permitted.

The finished subgrade shall be brought to the elevations indicated on the Drawings and sloped to drain water away from the structure walls. Backfill shall be brought up to required elevations for any areas where settlement occurs. Density tests will be run for each 6 inches of compacted fill.

Backfill shall be placed against foundations and concrete walls only after approval of the District Manager has been obtained. Backfill shall be placed

and compacted so as to minimize settlement and avoid any damage to concrete walls, to waterproofing, and other work in place.

No backfill shall be placed against structure walls until test specimens indicate that the concrete has developed the required compressive strength.

Backfill material shall be placed in such a manner that unbalanced loading will be prevented except in the case of retaining walls.

During backfilling, the Contractor shall take adequate precautions to prevent damage to or misalignment of work already in place, as a result of his methods of work, or the operation of his equipment, and shall pay the cost of rectifying any damage or misalignment thus caused.

Compacted backfill shall not be placed when, in the judgement of the District Manager, the weather or the condition of the fill preclude obtaining the degree of compaction specified.

Regardless of the method of compaction, the final density shall be as shown in the District's Standard Detail No. 8 with a maximum density at optimum moisture as determined by AASHTO T180 or by California Test 216.

C2.06 EXCAVATION AND BACKFILL FOR SEWER LINES

1. Trench Excavation

Unless otherwise indicated on the plans or in the special conditions, excavation for sewer lines shall be by open cut. Trenching machines may be used except where their use will result in damage to existing facilities. For sewers to be constructed in filled areas, the entire area fill shall be placed and compacted to at least five feet above the proposed sewer invert before the sewer trench is excavated.

Trenches shall be excavated at least 4 inches below the barrel of the pipe and the bottom refilled with select, virgin, imported material of the type specified under Article C2.06 2a - Bedding Material or as shown in the District's Standard Detail No. 8.

The maximum allowable width of trench measured at the top of the pipe shall be the outside diameter of the pipe, exclusive of bells and collar, plus 24 inches, and such maximum width shall be inclusive of all trench timbers.

A minimum of 6 inches shall be maintained between pipe and trench wall. Whenever the maximum allowable trench width is exceeded for any reason, the Contractor shall embed or cradle the pipe in a manner satisfactory to

the District Manager.

Excavations shall be supported as set forth in the rules, orders and regulations of the California Department of Industrial Relations, Division of Industrial Accidents. Sheet piling and other timbers shall be withdrawn so as to prevent subsequent settlement of the pipe, or additional backfill that might overload the pipe. No sheeting will be withdrawn from below the top of the pipe after completion of backfill to that level.

Where water is encountered in pipe trenches, the Contractor shall furnish, install and operate such pumps or other devices that may be necessary for removing the water during the construction of the pipelines. Trenches shall be kept free from water while the pipe or other structures are installed, while concrete is setting and until backfill has progressed to a sufficient height to anchor the work against possible flotation or leakage. Water shall be disposed of in such a manner as not to cause injury to public or private property, or be a menace to the public health.

Whenever the bottom of the trench is rocky, soft, yielding, or in the opinion of the District Manager otherwise unsuitable as a foundation for pipe, the unsuitable material shall be removed to a depth such that when replaced with crushed rock it will provide a stable and satisfactory foundation. Special compaction of the imported material may be required.

Trenching adjacent to, or near, structures shall be made using construction methods that will not result in damage to the structure. Excess excavated material not required for backfilling shall be properly disposed of by the Contractor.

2. Trench Backfill

- a. Bedding Material. After the pipe has been properly laid and inspected, select, virgin, backfill material shall be placed under and around the pipe to a depth of 12 inches above the top of the pipe and shall be thoroughly consolidated to a final density of at least 90 percent of maximum density as determined by AASHTO T180 or by California Test 216. Consolidation shall be obtained by mechanical means. The select material shall be free from organic matter, and of such size and gradation that the desired compaction can be readily attained. The size of gradation shall fall within the following limits.

Bedding Material: Granular Bedding Requirements (ASTM D448 Size #67 and California Test 202).

<u>SIEVE SIZE</u>	<u>PERCENTAGE PASSING SIEVE</u>
1 inch	100
3/4"	90-100
3/8"	20-55
No. 4	0-10
No. 8	0-5

- b. Subsequent Backfill. Above the level of bedding material, the trench shall be filled with structural backfill as designated by Standard Detail No. 8. Backfill shall be placed in layers not exceeding 8 inches in loose depth and compacted by mechanical means to a density of not less than 95 percent maximum density at optimum moisture as determined by California Test 216 or 231 (Nuclear Gauge). In trenches where the structural backfill is deeper than 3.0 feet, the upper 3.0 feet of the structural backfill should be compacted to 95% relative compaction. Lower portions of the backfill material shall be compacted to a minimum of 90% relative compaction.

The size of gradation shall fall within the following limits:

Structural Backfill: Structural backfill requirements (CalTrans California Test 202) Minimum Sand Equivalent 20:

<u>SIEVE SIZE</u>	<u>PERCENTAGE PASSING SIEVE</u>
1-1/2"	100
3/4"	80-100
#4	30-60
#30	5-35
#200	0-12

The finishing of the roadway (aggregate base and asphalt concrete) shall match the existing finishing and be constructed to the requirements of San Mateo County, Caltrans, the Town or the City, whichever requirements apply.

Contractor shall provide a gradation analysis from the source or from a soil engineering firm to ascertain that the material used for bedding or structural backfill is in compliance with the District's Specifications.

C2.07 SITE DRAINAGE

The Contractor shall control the grading in the vicinity of any structure or trench

such that the surface of the ground will be properly sloped to prevent water from running into the excavated areas. Excavation shall be formed in such a manner that the area of the site and the area immediately surrounding the site for a distance of 25 feet, including slopes and ditches, will continually and effectively drain away from the excavated areas.

Pumps and discharge lines of sufficient capacity to prevent the accumulation of groundwater and rain water in the excavation shall be at the site and in proper operating condition at all times.

Except as authorized by the District Manager in writing, the excavation shall be continuously maintained dry until the progress of construction of the structure to be built in the excavation is above grade and the backfill is complete.

The Contractor's method for removal of water from foundation excavations shall be subject to the approval of the District Manager.

Water discharged from the excavation shall be disposed of in a manner to protect the work and adjacent property from damage. Except when authorized by the District Manager, no water shall be drained into work already built or under construction.

The Contractor shall be responsible for and shall repair at his expense any damage to the foundations, structures, or any other part of the work caused by floods, water, or failure of any part of the diversion or protective work.

C2.08 CLEAN UP

The Contractor shall not allow the site of the work to become littered with trash and waste material but shall maintain the site in its normal neat and orderly condition throughout the construction period. On or before the completion of the work, the Contractor shall carefully clean out all pits, drain lines and drains, chambers or conduits and shall tear down and remove all temporary structures built by him and shall remove rubbish of all kinds from any of the grounds which he has occupied and leave them in first-class condition.

After completing all work, the Contractor shall leave the site in a neat and clean condition, doing such grading as is required to restore the site to its original shape and configuration. Any existing features, improvements, structures, and other facilities damaged or affected by the work shall be replaced, repaired, or restored to their original condition or better.

C2.09 ARCHAEOLOGICAL MATERIALS

If archaeological materials are uncovered during earthwork or trenching, stop work within 100 feet of archaeological materials until a professional archaeologist certified by the Society of California Archaeology or the Society of Professional Archaeology has evaluated the significance of the find. Depending on significance of find, archaeologist may suggest mitigation measures.

In the event that archaeological remains are uncovered by work of this project and examination of remains delays Work, Contractor shall be entitled to an extension of contract duration equal to the number of days Contractor is delayed. No compensation or additional time will be allowed for delays caused by examination of archaeological remains.

C2.10 DISCOVERY OF PROTECTED ANIMAL AND PLANT LIFE

If protected animal or plant life is discovered during earthwork or trenching, work shall be stopped within 100 feet of the protected animal or plant life. The District will notify the effective agency and evaluate the significance of the find. Depending on significance of find, the District may suggest mitigation measures.

In the event that a discovery is uncovered by work of this project and examination of the discovery delays Work, Contractor shall be entitled to an extension of contract duration equal to the number of days Contractor is delayed. No compensation or additional time will be allowed for delays caused by examination of discovery of protected animal or plant life.

C2.11 STORM WATER POLLUTION PREVENTION PROGRAM

The City of Menlo Park adopted an ordinance to control the discharge of pollutants into storm sewers for protecting the water quality pursuant to the Clean Water Act. In order to implement the Federal Regulatory requirements, the Contractor and his subcontractors shall undertake all practicable measures specified herein to reduce pollutants.

The following are recommended construction materials handling and disposal practices for construction sites and a list of recyclers and disposal services to guide contractors/subcontractors in safe and non-polluting methods of disposal. The City of Menlo Park will enforce any of the provisions of this Section. The violation of any provisions of this Section or failure to comply with any of the mandatory requirements of this Section shall constitute a misdemeanor to be charged and prosecuted as provided by City code.

A. ROADWORK AND PAVING: Road construction often involves extensive earth work and grading, which loosens soils and creates opportunities for

erosion and deposition of sediments in storm drains and creeks. Road paving, surfacing and pavement removal happen right in the street where there are numerous opportunities for storm drain pollution by asphalt sawcut slurry or excavated material. Efforts should be made to store and dispose of materials properly and to guard against pollution of storm drains and creeks.

1. Check all equipment for leaks and repair leaking equipment promptly.
 2. Perform major maintenance, repairs and washing of equipment away from storm drains and creeks.
 3. When refueling or vehicle/equipment maintenance must be done on site, designate a completely contained area away from storm drains and creeks.
 4. Recycle used oil to lubricate (clean equipment and/or parts).
 5. Cover and seal catch basins and manholes when applying seal coats, slurry seal, and fog seal.
 6. Never wash excess material from exposed aggregate concrete or similar treatments into a street or storm drain. Collect, recycle or dispose to dirt area.
 7. Cover stockpiles and other construction materials with plastic tarps. Protect from rainfall to prevent run-off with temporary roofs or plastic sheets and berms.
 8. Catch drips from paver with drip pans or absorbent material. Place under machine when not in use.
 9. Clean all Spills and leaks using “dry methods” and dig up and remove contaminated soil.
 10. Avoid creating excess dust when breaking asphalt or concrete. After breaking up of pavement, be sure to remove all chunks and pieces from the site.
 11. Protect nearby storm drain inlets during sawcutting. Shovel or vacuum sawcut slurry deposits and remove from the site. Never hose down streets to cleanup tracked dirt. Use dry sweep methods.
- B. **HEAVY EQUIPMENT OPERATION:** Poorly maintained vehicles and heavy equipment leaking fuel, oil, anti-freeze or other fluids on the construction site are common sources of storm drain pollution. Prevent spills and leaks by isolating equipment from run-off channels and by watching for leaks and other maintenance problems. Remove such equipment from the site as soon as possible.
1. Maintain all vehicles and heavy equipment. Inspect frequently for and repair leaks.
 2. Perform major maintenance, repair jobs and vehicle equipment washing off site.
 3. If you must drain and replace motor oil, radiator coolant or other fluids on site, use drip pans or drop cloths to catch drips and spills. Collect all

fluids, store in separate containers and recycle whenever possible or dispose of fluids as hazardous waste.

4. Recycle used vehicle batteries.
5. Never hose down “dirty” pavement or impermeable surfaces where fluids have spilled. Use dry clean-up methods whenever possible.
6. Sweep up spilled dry materials immediately. Never attempt to wash them away with water or bury them.
7. Report significant spills to the appropriate spill response agencies immediately.

SECTION B2 - GRAVITY SEWERS, FORCEMAINS AND PRESSURE SYSTEMS

B2.01 SCOPE

This section covers basic design criteria and standards relating to gravity sewers, forcemains, and pressure systems.

B2.02 GRAVITY SEWERS

Design calculations for sewers and pipelines shall be presented in tabular form and shall include the following information for each section of sewer: terminal manhole designation, ground elevations at the terminal manholes, incremental and cumulative tributary areas, incremental and cumulative tributary population, incremental average and maximum domestic sewage flow, incremental infiltration allowance, cumulative design flow, invert elevations of terminal manholes, length of sewer run, and sewer size, slope, capacity, and velocity.

Gravity sewers shall be designed for obtaining reeration velocities and to prevent sulfide buildup by maintaining a self oxidizing condition. No surcharging of gravity sewers shall be allowed. Inverted siphons shall be avoided if at all possible. Design criteria for inverted siphons shall be established by the engineer on an individual basis only.

1. Minimum Size Main Sewer

The minimum diameter for main sewers shall be 8-inches. The use of 6-inch pipe may be allowed for the following conditions, if approved by the District Manager:

- a. Little or no possibility of future extension.
- b. Maximum tributary population of 25.
- c. Minimum slope of 1 percent on dead-end runs less than 200 feet in length.

2. Gravity Sanitary Sewer Lateral Connections

The minimum diameter for gravity sewer laterals shall be 4-inches. For gravity sewer laterals serving commercial or industrial buildings, or multiple family living units having more than three units, the minimum diameter shall be 6-inches.

The District Manager may grant a variance for commercial or industrial buildings, with only rest room facilities, to allow the use of a 4-inch side sewer. Such use must be guaranteed for future use of the facilities and no additional change will be allowed.

3. Minimum Slopes

The minimum slope of gravity sewer laterals shall be 2 percent for 4-inch sewers and 1 percent for 6-inch sewers. The minimum slope for main sewers shall be that required to obtain a velocity of 2 feet per second when the sewer is flowing full or one-half full. For the purpose of computing velocity, the Manning's coefficient of roughness "n" shall be 0.015 for sewers 8-inches in diameter and smaller, and 0.013 for sewers larger than 8-inches in diameter.

4. Steep Slopes

Special design features may be required for main sewers installed on steep slopes. Depending upon conditions of the specific installation, such items as underdrains, check dams, special anchorage, or special pipe material may be required. Based upon data supplied, the District Manager will assess each case and recommend certain special requirements.

5. Minimum Depth

The minimum depth of cover for any public sewer shall be 3 feet. If it is impossible to obtain the specified minimum depth, the sewer shall be either PVC-C900 DR 18 or ductile iron pipe for the entire length from manhole to manhole.

For gravity sewer laterals, minimum depths of cover shall be 3 feet, from property line to connection to sewer main. Where the minimum depths of cover is impossible to obtain, the use of PVC-C900 DR 18, or polyethylene encased ductile iron pipe will be required.

The use of public or gravity sewer laterals with less than 2 feet of cover will require special approval from the District Manager. Concrete Caps will not be permitted except where specifically approved by the District Manager.

6. Manholes

Manholes shall be provided at every line or grade change and at every point where the sewer changes size or material. In addition, manholes shall be

provided at maximum intervals of 300 feet on sewers 21-inches in diameter and smaller, and 400 feet on sewers larger than 21-inches in diameter.

7. Flushing Inlets or Rod Holes

Flushing inlets or rod holes will not be allowed.

8. Types of Pipe Permitted

Complete specifications for all approved pipe materials are given in Article C5.02. Limitations on the use of specific pipe materials are listed below.

- a. Gravity Sewers. Corrugated metal, high density polyethylene pipe and reinforced concrete pipes will not be permitted except where specifically approved by the District Manager. Asbestos cement pipe is not permitted. Plastic pipe with slopes greater than 10 percent will not be permitted except where specifically approved by the District Manager.
- b. Force Mains. In general, any pressure pipe material listed in Article C5.02 may be used. Asbestos cement pressure mains are not permitted.

The District Manager is the sole judge as to what types of pipe may or may not be used for each specific project.

9. Cleanouts

Each side sewer shall have a cleanout installed, at the property line, as shown on District Standard Drawing No. 7. The cleanout shall be the same size as the lateral. Each side sewer shall have a cleanout installed at the property line as per the requirements of the District's Code of General Regulations.

10. Backwater Check Valve

Gravity sewer laterals connecting houses having a finished floor elevation less than 12" above the top elevation of the nearest upstream structure (manhole) shall have a backwater check valve as required by the Uniform Plumbing Code. When conditions exist where the sewage cannot overflow on the area surrounding such installation without damage to property, a Backwater Check Valve and Shutoff System shall be installed.

11. Sampling Manhole

When required by the District Manager, any property served by a building sewer carrying non-residential wastes shall install a suitable control manhole in the building sewer in place of a cleanout as shown on District Standard Drawing No. 14.

12. Trace Wire

All new gravity sewer laterals and public main sewers shall have coated #8 gauge copper wire for tracing purposes placed over the pipe.

13. Root Control

All pipe joints shall be wrapped with an approved root control fabric, such as Biobarrier root control system or equal, to prevent future root intrusion into the new sewer. Root Control shall be placed over all joints, including laterals.

14. Lateral Abandonment

Laterals to be abandoned shall be disconnected at the main sewer connection as shown on District Standard Drawing No. 25. Laterals to be re-used shall be disconnected at the property line. The District shall approve all lateral abandonments.

B2.03 FORCEMAINS

1. Forcemains shall be designed using a Hazen and Williams coefficient for roughness "C" of 100 for non-plastic pipe, and 130 for plastic pipe.

2. Minimum Size Forcemain

The minimum diameter forcemain shall be 3-inches for septic tank effluent pumping (STEP) systems, 2-inch for grinder pump systems, and 4-inches for raw wastewater pump stations. Forcemains shall be sized for a maximum fluid velocity of 8 feet per second and of a pressure not to exceed half the pressure rating of the pipe, unless approved by the District Manager.

3. Slope and Termination

Forcemains shall have a uniform slope preventing high spots forming possible air pocket traps. Where high spots cannot be prevented, suitable air and/or vacuum release valve shall be installed at the high points. Each forcemain shall terminate in a vented transition structure designed to provide hydraulic characteristics compatible with the pump performance curve.

4. Maximum Size Forcemain

Forcemains shall be sized to carry grit and settleable solids expected in sewage tributary to the pump station. Minimum velocities of 2 feet per second should be maintained. Long forcemains and transition structures shall be designed resistant to corrosion resulting from sulfide generation.

5. Thrust Blocks

Concrete thrust blocks must be provided at all bends of the forcemain with angles 11 degrees or more. Thrust block must be sized based on soil conditions and maximum force exerted.

B2.04 PRESSURE SYSTEMS

1. SEPTIC TANK EFFLUENT PUMPING (STEP) SYSTEM (within On-Site Wastewater Disposal Zone)

a. Size of Septic Tank

1. Residential

2,500 gallons as shown on Standard Detail 18.

2. Commercial

Sewage flow up to 1,500 gallons per day: Daily Flow x 1.5

Sewage flow over 1,500 gallons per day: Daily Flow x 0.75 + 1,125

Reserve Capacity add: 500 gallons

b. Design

1. Septic tanks shall have two compartments, as shown on Standard Detail 18.

2. Septic tanks shall conform to the standard outlined in the manual for Septic Tank Practice of the U.S. Department of Health, Education and Welfare.

3. Septic tanks shall be of reinforced concrete material unless otherwise approved by the District Manager.
4. Septic tanks shall be structurally designed to withstand all anticipated earth, vehicle, or other loads. Complete plans and design calculations for the tanks shall be submitted to the District for approval.

Septic tanks shall be designed for the following minimum loading condition: Lateral Loads - 45 PCF (EFP)

5. Cleanout Stations shall be installed along the small diameter forcemain as shown on District Standard Drawing No. 11. The location of the cleanout station shall be submitted to the District for approval.
6. The lateral discharge line shall be 1- $\frac{1}{4}$ " from the STEP system pumps to the small diameter forcemain.
7. For each STEP system a Lateral Check Valve Station shall be installed along the lateral discharge line as shown on District Standard Drawing No. 12. The location of the lateral check valve station shall be submitted to the District for approval.
8. A Control/Telemetry unit with electrical bypass shall be installed at the STEP system as shown on District Standard Drawing No. 17. The location of the Control/Telemetry unit shall be submitted to the District and the Town of Portola Valley for approval. A dedicated phone line shall be supplied by the property owner for the telemetry system.
9. A Hose Bib shall be installed near the STEP system as shown on District Standard Drawing No. 15. The location of the hose bib shall be submitted to the District for approval.
10. Design plans and specifications shall direct contractor to provide one spare pump to the District prior to final approval of the system.
11. In the event that an on-site ejector pump is required to convey wastewater from a residential unit to the STEP system, the on-site ejector pump shall be sized to discharge at a rate no more than the STEP system discharge rate, unless approved by the District.

c. Location

1. The septic tank shall be located so as to provide vehicle access for maintenance unless otherwise approved by the District Manager. The District shall approve the location.
2. The septic tank shall be installed outside of traffic areas.
3. A recorded ingress/egress and maintenance easement must be dedicated to the District to gain access and maintain the pump.

2. GRINDER PUMP SYSTEM (Residential Only, in On-Site Wastewater Disposal Zone)

a. Minimum Size of Basin

1. Single Family Residential (simplex) 150 Gallons

Basin size must be submitted to the District for approval.

b. Design

1. Grinder pump system shall be a complete unit, including grinder pump, check valve, tank basin, electrical quick disconnect (NEMA 4X), pump removal system, shut-off valve, anti-siphon valve, internal wiring and controls. Grinder pump shall be as manufactured by Environmental One.
2. Concrete anchor shall be poured-in-place.
3. The pump shall be an integral, vertical rotor, motor driven, solids handling pump of the progressing cavity type with mechanical seal.
4. The pump shall be capable of delivering 15 gpm against a rated total dynamic head of 0 feet and 9 gpm against a rated total dynamic head of 138 feet. The pump must also be capable of operating at negative total dynamic head without overloading the motor. Under no conditions shall in-line piping or valving be allowed to create a false apparent head.
5. The grinder shall be placed immediately below the pumping elements and shall be direct-driven by a single, one-piece stainless steel motor shaft. The grinder impeller assembly shall be securely

fastened to the pump motor shaft.

6. A Cleanout Station shall be installed along the small diameter forcemain as shown on District Standard Drawing No. 11. The location of the cleanout station shall be submitted to the District for approval.
7. The lateral discharge line shall be 1-¼" from the grinder pump(s) to the small diameter forcemain.
8. For each Grinder pump system a Lateral Check Valve Station shall be installed along the lateral discharge line as shown on District Standard Drawing No. 12. The location of the lateral check valve station shall be submitted to the District for approval.
9. A Control/Telemetry unit shall be installed for the grinder pump(s) as shown on District Standard Drawing No. 17. The location of the Control/Telemetry unit shall be submitted to the District and the Town for approval. A dedicated phone line shall be supplied by the property owner for the telemetry system.
10. A Hose Bib shall be installed near the grinder pump(s) as shown on District Standard Drawing No. 15. The location of the hose bib shall be submitted to the District for approval.
11. Design plans and specifications shall direct contractor to provide one spare pump to the District prior to final approval of the system.
12. In the event that an on-site ejector pump is required to convey wastewater from a residential unit to the grinder pump, the on-site ejector pump shall be sized to discharge at a rate no more than the grinder pump discharge rate, unless approved by the District..

c. Location

1. The grinder pump system shall be located so as to provide vehicle access for maintenance unless otherwise approved by the District Manager. The District shall approve the location.
2. The tank shall be installed outside of traffic areas.
3. A recorded easement must be dedicated to the District to gain access and maintain the pump(s).

END PART B

PART C

CONSTRUCTION STANDARDS

SECTION C1-	SPECIAL CONDITIONS AND CONSTRUCTION REQUIREMENTS
SECTION C2-	EARTHWORK
SECTION C3-	CONCRETE WORK
SECTION C4-	METALWORK
SECTION C5-	PIPELINES AND SEWERS
SECTION C6-	PAINTING
SECTION C7-	RESURFACING
SECTION C8-	SEWER LINE CLEANING
SECTION C9-	SMOKE TESTING
SECTION C10-	SEWER FLOW CONTROL
SECTION C11-	TELEVISION INSPECTION
SECTION C12-	PRESSURE SYSTEMS
SECTION C13-	GREASE INTERCEPTORS

SECTION C1 - SPECIAL CONDITIONS AND CONSTRUCTION REQUIREMENTS

C1.01 ARRANGEMENT OF SPECIFICATIONS

The Construction Standards are arranged in sections covering various phases of the work as follow:

<u>SECTION NUMBER</u>	<u>TITLE</u>
C1	Special Conditions and Construction Requirements
C2	Earthwork
C3	Concrete Work
C4	Metal Work
C5	Pipelines and Sewers
C6	Painting
C7	Resurfacing
C8	Sewer Line Cleaning
C9	Smoke Testing
C10	Sewer Flow control
C11	Television Inspection
C12	Pressure Systems
C13	Grease Interceptors

C1.02 STANDARD SPECIFICATIONS

Whenever Standard Specifications, codes, or regulations are referred to, they shall be the latest edition of those specifications, codes, or regulations, and they shall be considered to be a part of these standard insofar as they apply. Such documents from the following sources may be referred to herein:

- American Assoc. of State Highway and Transportation Officials (AASHTO)
- American Concrete Institute (ACI)
- American Gas Association (AGA)
- American Institute of Electrical Engineers (AIEE)
- American Institute of Steel Construction (AISC)
- American National Standards Institute, Inc. (ANSI)
- American Public Works Association (APWA)
- American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)
- American Society for Testing and Materials (ASTM)
- American Welding Society (AWS)
- American Water Works Association (AWWA)
- State of California, Department of Transportation (CalTrans)
- State of California, Division of Occupational Safety and Health (CAL OSHA)
Construction Safety Orders

- Federal Environmental Protection Agency (EPA)
- Federal Specifications (Fed. Spec.)
- National Electrical Manufacturers' Association (NEMA)
- National Lumber Manufacturers' Association (NLMA)
- Uniform Building Code (UBC)

C1.03 EXISTING UTILITIES

The Contractor shall maintain all water or sewer lines, lighting, power or telephone conduits, structures, house connection lines, datacom, gas, and other surface or subsurface of any nature that may be affected by the work. Should it be necessary in the performance of the work to disconnect or reroute any underground utility, or should any such utility be damaged during construction, all expenses of whatever nature arising from such disconnection, rerouting, damage or replacement shall be borne by the Contractor.

The District reserves the right, if requested by the utility owner, to permit him to move or maintain any such conflicting utility at the Contractor's expense.

The right is reserved by the State, the County, the City or the District, and by owners of public utilities, to enter upon any street or road right-of-way, or easement for the purpose of maintaining their property and for making necessary repairs or changes caused by the work.

C1.04 DUST CONTROL

Reasonable means shall be provided to prevent a nuisance occurring due to dust from areas under construction. Such means shall include watering and sweeping, and in cases of extreme nuisance, light oiling of the affected surface.

C1.05 ENCROACHMENT PERMITS

Before any construction commences, the Contractor shall obtain any Encroachment Permit from the jurisdiction in which the work is located. All work done in City, Town, and County streets shall be subject to the requirements of the City, Town and/or County as included in the Encroachment Permit. Other jurisdictional agencies requiring encroachment permits are Caltrans and San Francisco Water. The Contractor shall provide a copy of any encroachment permit upon request by the District.

C1.06 WORK WITHIN RAILROAD AND HIGHWAY RIGHT-OF-WAYS

Construction within the Railroad and State Highway right-of-ways shall be subject to utility Encroachment Permits provided by the Railroad Company, Joint Powers,

or CalTrans.

C1.07 WORK IN EASEMENTS

Before construction commences on an easement, the District must have in its possession a signed copy of the Deed of Easement. Should an area greater than that included in the easement be required for construction purposes, the Contractor shall negotiate for use of the additional area from the property owners. Fences, structures, and landscaping, which are removed and damaged by the Contractor, shall be restored as nearly as possible to their original condition at the Contractor's expenses. Any damage caused by the Contractor's operations shall be the Contractor's responsibility.

The Contractor shall obtain a signed release from the affected property owner(s) after the work is completed.

C1.08 OPERATION OF EXISTING FACILITIES

Existing sewerage facilities shall be maintained in service at all times. The Contractor shall devise acceptable methods for maintaining continuity of service equal to that which existed prior to construction. If bypassing is required, the Contractor shall demonstrate bypassing operations to the District for approval prior to start of excavation.

Existing sewer manholes to be abandoned shall be broken up at the bottom and filled with structural backfill, the top three feet shall be removed, cone section crushed, and their frames and covers shall be salvaged by the Contractor. These District owned frames and covers shall be delivered by the Contractor to a location within the District designated by the District Manager.

The Contractor shall notify the District in writing at least seven days in advance before a new sewer line is to be connected to an existing sewer.

To prevent dirt, rocks, and other debris from entering the sewerage system, the Contractor shall install and maintain an acceptable grit interceptor in a manhole designated by the District Manager.

C1.09 SAFETY AND HEALTH PROVISIONS

The Contractor shall conform to all applicable occupational safety and health standards, rules, regulations and orders established by Federal and State Agencies.

All working areas utilized by the Contractor to perform work during the hours of

darkness, shall be lighted to conform to the minimum illumination intensities established by California Division of Occupational Safety and Health Construction Safety Orders (CAL OSHA).

All lighting fixtures shall be mounted and directed in a manner precluding glare to approaching traffic.

Specific attention is directed also to OSHA safety rules, regulations and precautions to be taken by the Contractor before entering sanitary sewer manholes, and other sanitation structures with respect to physical and chemical hazards which may be present.

C1.10 HAZARDOUS MATERIALS

If the Contractor encounters material on the site, which it reasonably believes may contain asbestos, Polychlorinated Biphenyl (PCB) or other suspected hazardous materials, the Contractor shall stop work in the affected area and notify the District Manager. The Contractor shall proceed with analysis, removal, and disposal of the material according to applicable federal and state guidelines.

C1.11 CONTRACTOR'S SUBMITTAL

Shop drawings or information regarding materials and equipment shall be submitted in five copies. The District, after taking appropriate action, will return two marked copies to the Contractor.

C1.12 TRAFFIC CONTROL

The Contractor shall furnish Traffic Control Plans for all phases of work for the project site, as required by the governing jurisdiction of the right of way in which to work is planned, in conformance with Caltrans Standards. **No construction site work shall commence prior to the jurisdictional agencies' approval of the Traffic Control Plans and installation of required signs.**

SECTION C2 - EARTHWORK

C2.01 SCOPE

Earthwork includes all plant, labor, equipment, appliances, and materials as required or necessary to excavate, trench, fill, backfill, and grade for the construction of structures, sewers, and graded areas.

C2.02 GENERAL REQUIREMENTS

1. Control of Water

The Contractor shall furnish, install, and operate all necessary machinery, appliances, and equipment to keep excavations reasonably free from water during construction and he shall dispose of the water so as not to cause injury to public or private property, or to cause a nuisance or a menace to the public. He shall at all times have on hand sufficient pumping equipment and machinery in good working condition for all ordinary emergencies and shall have available at all times competent mechanics for the operation of all pumping equipment.

The control of ground water shall be such that softening of the bottom of the excavation, or the formation of "quick" conditions or "boils" shall be prevented. Dewatering systems shall be designed to operate so as to prevent the removal of the natural soils.

During excavation, installation of sewers, placing of trench backfill, and the placing and setting of concrete, the excavation shall be kept reasonably free of water. When specified, the static water level shall be drawn down below the bottom of the excavation so as to maintain the undisturbed state of the natural soil and to allow the placement of backfill to the required density. The dewatering system shall be installed and operated so that the ground water level outside the excavation is not reduced to the extent that would damage or endanger adjacent structures or property.

The release of ground water to its static level shall be performed in such a manner as to maintain the undisturbed state of the natural foundation soil, prevent disturbances of compacted backfill, and prevent floatation or movement of structures and sewers.

If area is potentially contaminated or known to be contaminated, the Contractor shall notify the Regional Water Quality Control Board (RWQCB) prior to discharge of groundwater. Contractor shall adhere to the requirements of the RWQCB.

2. Excavated Material

Arrangements for proper disposing of excess excavated material unsuitable for backfill shall be made by the Contractor at his own expense. Excavated material suitable for backfill shall be stored temporarily in such a manner as will facilitate work under the contract.

Except as indicated elsewhere in these specifications, excess materials from trench and structure excavation shall become the property of the Contractor and shall be disposed of offsite. The Contractor is responsible for obtaining all necessary easements, rights, and permits pertaining to such proper disposal. The Contractor shall furnish a copy of all such easements, rights, and permits to the District prior to disposal of excavated materials. All expenses involved with offsite disposal shall be borne by the Contractor

3. Shoring, Sheeting and Bracing

Where sheet piling, shoring, sheeting, bracing, or other supports are necessary, they shall be furnished, placed, maintained and removed by the Contractor. At all times the rules of the California Department of Industrial Relations, Division of Industrial Accidents sec 6705, with respect to excavation and construction shall be strictly observed. Sheet piling and other supports shall be withdrawn in such a manner as to prevent subsequent settlement of the pipe, or additional backfill on sewer lines which might cause overloading.

Pursuant to State law, all open excavations greater than five feet shall be constructed with bracing, shoring, or other equipment method designed for the protection of life and limb. The contractor must at all times comply with the requirements of the construction safety orders of the Division of Industrial Safety.

The minimum required protection will be that described in the Construction Safety Orders of the Division of Industrial Safety. It shall be the contractor's responsibility to provide the additional strength required to support the sides of the excavation against loads that may exceed those employed to derive the criteria set forth in the Industrial Safety Orders. The contractor shall be solely responsible for any and all liabilities which may arise from his failure to provide adequate shoring, bracing or sheeting as necessary to support the excavation under any and all of the conditions of loading which may exist or which may arise during construction.

In addition, the Contractor shall obtain, pay for, and comply with all provisions of the permit required by Section 6500 of the California Occupational Safety and Health Act.

The design, planning, installation, and removal of all shoring, sheeting, and bracing shall be by a registered engineer and accomplished in such a manner as to maintain the undisturbed state of the soil adjacent to the trench and below the excavation bottom.

4. Removal of Obstructions

The Contractor shall remove, or cause to be removed, all trees, including stumps, fences, and all structures where the proper construction and completion of the work require their removal. The Contractor shall also remove all rock, stones, debris, and obstructions or whatsoever kind or character, whether natural or artificial, encountered in the construction of the work.

Material that is removed as hereinabove specified, and is not to be incorporated in the improvement being constructed, shall be disposed of according to applicable laws by the Contractor at his expense.

C2.03 CLEARING AND GRUBBING

1. Clearing shall consist of the satisfactory removal and disposal of vegetation designated for removal, including brush and rubbish occurring within the area to be cleared. Grubbing shall consist of the removal and disposal of matted roots from the designated clearing and grubbing areas. Clearing shall be limited to only the construction area and in no case shall it extend onto adjacent private property.
2. Unless otherwise shown or required, existing trees shall be preserved and protected. Limbs on trees which are to remain shall be trimmed by the Contractor in a professional manner if they interfere with construction to the satisfaction of the District and City or Town.
3. Roots, brush, grass and other vegetation in areas to be cleared shall be removed completely and disposed of by the Contractor.
4. The materials, together with organic items, masonry, concrete or metallic debris in the clearing and grubbing areas shall be excavated and removed to a depth of not less than 12 inches below the original surface level of the ground.

5. Depressions made by grubbing shall be filled with approved material and compacted in accordance with Section C2.04.3 to make the surface conform with the original adjacent surface of the ground, or with the rough finish surface as shown on the drawings.
6. Brush, rotten wood, and other refuse from the clearing and grubbing operations shall be completely removed and disposed of by the Contractor unless the property owner requests in writing that the material to remain.
7. Permission to dispose of cleared and grubbed material on the property of others shall be in writing, and a copy of this permission shall be filed with the District Manager.
8. Damages caused by the execution of this work shall be paid for by the Contractor.

C2.04 SITE GRADING

1. General Excavation
 - a. General excavation shall be performed in the areas shown on the Drawings to bring surface levels to the elevations indicated. Excavation shall include the removal of earth, loose rock, boulders, and other items or materials encountered in the work.
 - b. Common excavation shall include silt, clay, sand, gravel, topsoil, hard and compact materials such as hardpan, cemented gravel, shale, soft or disintegrated rock and boulders or detached pieces of solid rock or masonry less than 1/2 cubic yard in volume that can be removed by hand, power shovels, draglines and other excavating equipment and without continuous and systematic blasting or without the use of pneumatic tools for successful removal.
 - c. Excavated material suitable for fill or backfill shall be stockpiled as needed on the site in an area designated by the District Manager. Stockpiles shall be graded to shed water. Excess excavation not required shall be removed from the site and properly disposed of by the Contractor.
 - d. Material found unsuitable for use as fill or backfill shall be removed from the site and properly disposed of by the Contractor.

2. Filling

- a. Fill required to bring low areas to grade shall be clean, non-expansive, selected material with a plasticity index (PI) less than 10 and maximum dimension of 6 inches. Fill shall be obtained from excavations on site, or from off-site borrow sources if the amount of suitable material from on-site excavation is insufficient. No rocks larger than 4 inches in maximum dimension shall be placed in the upper two feet of fill.
- b. Subgrades on which fill material is to be placed shall be scarified to a depth of not less than 4 inches by plowing or discing. A layer of suitable fill material, approximately 3 inches in depth, shall be spread over the scarified surface and compacted as specified herein.
- c. Dumping, spreading and compacting of fill material shall be carried out in sequence as closely as possible. Unless otherwise specified, fill material shall be spread and compacted in uniform layers not exceeding 8 inches in depth (loose measure) until the total thickness of fill, as shown on the Drawings, is completed.
- d. When the quantity of material required for filling is not available within the limits of the job site, the Contractor shall provide sufficient material to construct the fills to the lines, elevations and cross-sections as shown on the Drawings from offsite borrow areas. If required, borrow areas shall be provided by the Contractor and at his expense. Borrow material shall meet the requirements and conditions of the fill in which it is to be deposited. Borrow areas selected by the Contractor and the materials contained there shall be approved by the District Manager prior to the placing of any such materials excavated from the borrow pit in fill or backfill.
- e. Procedures and requirements specified here for other excavation are also applicable to excavation from borrow areas.
- f. The Contractor shall notify the District Manager at least 10 days in advance of the opening of any borrow pit to permit any necessary elevations or measurements to be taken or any desired material tests to be made.
- g. Aggregate Base where indicated on the Drawings shall conform to section 26, Aggregate Bases, of the State Standard Specifications for Class 2 Aggregate Base as to materials and workmanship.

3. Compaction

- a. Compaction of each fill layer shall be performed with equipment and methods approved by the District Manager. Equipment shall be operated in one direction along the full length of each layer until the area has been thoroughly and uniformly compacted to the specified density. Fill areas shall be crowned and sloped to drainage ditches as shown on the Drawings, or as required to prevent ponding of surface water.
- b. In places inaccessible to rolling equipment, the required compaction may be obtained with mechanical tamps, single-shoe vibrators, or other approved equipment.
- c. Fills failing to meet the requirements for density, shall be further processed by mixing, rolling or other approved methods.
- d. Fill shall be compacted to 90 percent relative density per ASTM D 1557 test method.

4. Soil Testing

- a. A soil testing laboratory will be employed by the Contractor at his expense to determine sieve analysis and Proctor curves necessary to make field density tests for all work pertaining to the general construction.
- b. Compaction density will be based on the percent of standard Proctor ASTM D1557 for each of the materials and for the particular application as specified above.
- c. Method of determining the density in place of compacted soil will be in accordance with ASTM D2167.
- d. Density test will be run for each 1 foot of compacted fill unless otherwise required by the District Manager and/or the jurisdictional agency..
- e. It will be the Contractor's responsibility to keep the fill material near the optimum moisture content so as to obtain proper compaction and to notify the Engineer in sufficient time to observe the necessary field density tests. It will be the responsibility of the District Manager to determine the number and location of these tests.

- f. Proctor tests will be obtained at each new source of backfill material or when the characteristics of the material change sufficiently, in the opinion of the District Manager, to require further tests.
- g. A copy of all test results shall be provided to the District upon the completion of the tests.

C2.05 EXCAVATION BACKFILL AND COMPACTION FOR STRUCTURES

1. Excavation

The site shall be cleared of all natural obstructions, pavement, utilities, and other items which will interfere with construction. Unless otherwise specified, any method of excavation may be employed which, in the opinion of the Contractor, is considered best.

Ground shall not be dug by machinery nearer than 3 inches from any finished subgrade without the express approval of the District Manager. The last 3 inches shall be removed without disturbing the subgrade. Should the excavation be carried below the required lines and grades because of the Contractor's operations, the Contractor at his own expense shall refill such excavated space to the proper elevation in accordance with the procedure specified for backfill, or if under footings, the space shall be filled with concrete as directed by the District Manager.

Bearing surfaces under footings and foundations shall be level, except as otherwise shown on the Drawings. Interfering boulders in bearing surfaces shall be removed and replaced with concrete, at least equal in strength to the soil bearing value of the surrounding or overlying soil, or interfering portions jack hammered out, as directed by the District Manager.

Should bearing surfaces under footings, foundations or slabs appear inadequate at the design elevations for the loads indicated on the Drawings. The Contractor shall immediately notify the District Manager. The Contractor shall then proceed in accordance with the District Manager's direction.

Materials unsuitable for structure foundations encountered at the established elevation of the bottom of footings or the bottoms of floors of structures shall be removed to the depth required by the District Manager. The volume resulting from the removal of such unsuitable materials shall be backfilled with material approved by the District Manager and compacted to 95 percent of maximum density, as determined by ASTM D1557. Method

of determining the density in-place of compacted soil shall be in accordance with ASTM D2167.

Where, in the opinion of the District Manager, the undisturbed condition of the natural soil is not adequate to support the structure, the District Manager shall direct the Contractor to over excavate to adequate supporting soil and refill the over excavated space as directed by the District Manager. The quantity and placement of such material shall be as ordered by the District Manager.

Excavation shall extend a sufficient distance from walls and footings to allow for placing and removal of forms, installation of services, and for inspection, except where concrete is authorized to be deposited directly against excavated surfaces or against existing concrete surfaces.

2. Backfill and Compaction

After completion of foundation footings and walls, and of other construction below the elevation of the final grade, all forms shall be removed and the excavation shall be cleaned of all debris. Substructure surfaces shall be waterproofed if required and as specified. Sheet piling shall not be removed until backfilling operations are completed.

The Contractor shall keep all excavations free of water at his own expense. Contractor shall provide all dams, flumes, channels, sumps, or other works necessary to keep the excavation entirely clear of water, and shall provide and operate pumps and other suitable equipment of adequate capacity for dewatering the excavations. Contractor shall avoid producing mud in the excavated bottom by his operations, and, if necessary or so ordered, shall place crushed rock at his own expense to maintain a firm dry excavated bottom and base.

Backfill shall be composed of clean natural material or imported material acceptable to the District Manager. Backfill shall be placed in layers not exceeding 8 inches in loose depth and compacted by tamping or rolling. Jetting is not permitted.

The finished subgrade shall be brought to the elevations indicated on the Drawings and sloped to drain water away from the structure walls. Backfill shall be brought up to required elevations for any areas where settlement occurs. Density tests will be run for each 6 inches of compacted fill.

Backfill shall be placed against foundations and concrete walls only after approval of the District Manager has been obtained. Backfill shall be placed

and compacted so as to minimize settlement and avoid any damage to concrete walls, to waterproofing, and other work in place.

No backfill shall be placed against structure walls until test specimens indicate that the concrete has developed the required compressive strength.

Backfill material shall be placed in such a manner that unbalanced loading will be prevented except in the case of retaining walls.

During backfilling, the Contractor shall take adequate precautions to prevent damage to or misalignment of work already in place, as a result of his methods of work, or the operation of his equipment, and shall pay the cost of rectifying any damage or misalignment thus caused.

Compacted backfill shall not be placed when, in the judgement of the District Manager, the weather or the condition of the fill preclude obtaining the degree of compaction specified.

Regardless of the method of compaction, the final density shall be as shown in the District's Standard Detail No. 8 with a maximum density at optimum moisture as determined by AASHTO T180 or by California Test 216.

C2.06 EXCAVATION AND BACKFILL FOR SEWER LINES

1. Trench Excavation

Unless otherwise indicated on the plans or in the special conditions, excavation for sewer lines shall be by open cut. Trenching machines may be used except where their use will result in damage to existing facilities. For sewers to be constructed in filled areas, the entire area fill shall be placed and compacted to at least five feet above the proposed sewer invert before the sewer trench is excavated.

Trenches shall be excavated at least 4 inches below the barrel of the pipe and the bottom refilled with select, virgin, imported material of the type specified under Article C2.06 2a - Bedding Material or as shown in the District's Standard Detail No. 8.

The maximum allowable width of trench measured at the top of the pipe shall be the outside diameter of the pipe, exclusive of bells and collar, plus 24 inches, and such maximum width shall be inclusive of all trench timbers. A minimum of 6 inches shall be maintained between pipe and trench wall. Whenever the maximum allowable trench width is exceeded for any reason, the Contractor shall embed or cradle the pipe in a manner satisfactory to

the District Manager.

Excavations shall be supported as set forth in the rules, orders and regulations of the California Department of Industrial Relations, Division of Industrial Accidents. Sheet piling and other timbers shall be withdrawn so as to prevent subsequent settlement of the pipe, or additional backfill that might overload the pipe. No sheeting will be withdrawn from below the top of the pipe after completion of backfill to that level.

Where water is encountered in pipe trenches, the Contractor shall furnish, install and operate such pumps or other devices that may be necessary for removing the water during the construction of the pipelines. Trenches shall be kept free from water while the pipe or other structures are installed, while concrete is setting and until backfill has progressed to a sufficient height to anchor the work against possible flotation or leakage. Water shall be disposed of in such a manner as not to cause injury to public or private property, or be a menace to the public health.

Whenever the bottom of the trench is rocky, soft, yielding, or in the opinion of the District Manager otherwise unsuitable as a foundation for pipe, the unsuitable material shall be removed to a depth such that when replaced with crushed rock it will provide a stable and satisfactory foundation. Special compaction of the imported material may be required.

Trenching adjacent to, or near, structures shall be made using construction methods that will not result in damage to the structure. Excess excavated material not required for backfilling shall be properly disposed of by the Contractor.

2. Trench Backfill

- a. Bedding Material. After the pipe has been properly laid and inspected, select, virgin, backfill material shall be placed under and around the pipe to a depth of 12 inches above the top of the pipe and shall be thoroughly consolidated to a final density of at least 90 percent of maximum density as determined by AASHTO T180 or by California Test 216. Consolidation shall be obtained by mechanical means. The select material shall be free from organic matter, and of such size and gradation that the desired compaction can be readily attained. The size of gradation shall fall within the following limits.

Bedding Material: Granular Bedding Requirements (ASTM D448 Size #67 and California Test 202).

<u>SIEVE SIZE</u>	<u>PERCENTAGE PASSING SIEVE</u>
1 inch	100
3/4"	90-100
3/8"	20-55
No. 4	0-10
No. 8	0-5

- b. Subsequent Backfill. Above the level of bedding material, the trench shall be filled with structural backfill as designated by Standard Detail No. 8. Backfill shall be placed in layers not exceeding 8 inches in loose depth and compacted by mechanical means to a density of not less than 95 percent maximum density at optimum moisture as determined by California Test 216 or 231 (Nuclear Gauge). In trenches where the structural backfill is deeper than 3.0 feet, the upper 3.0 feet of the structural backfill should be compacted to 95% relative compaction. Lower portions of the backfill material shall be compacted to a minimum of 90% relative compaction.

The size of gradation shall fall within the following limits:

Structural Backfill: Structural backfill requirements (CalTrans California Test 202) Minimum Sand Equivalent 20:

<u>SIEVE SIZE</u>	<u>PERCENTAGE PASSING SIEVE</u>
1-1/2"	100
3/4"	80-100
#4	30-60
#30	5-35
#200	0-12

The finishing of the roadway (aggregate base and asphalt concrete) shall match the existing finishing and be constructed to the requirements of San Mateo County, Caltrans, the Town or the City, whichever requirements apply.

Contractor shall provide a gradation analysis from the source or from a soil engineering firm to ascertain that the material used for bedding or structural backfill is in compliance with the District's Specifications.

C2.07 SITE DRAINAGE

The Contractor shall control the grading in the vicinity of any structure or trench

such that the surface of the ground will be properly sloped to prevent water from running into the excavated areas. Excavation shall be formed in such a manner that the area of the site and the area immediately surrounding the site for a distance of 25 feet, including slopes and ditches, will continually and effectively drain away from the excavated areas.

Pumps and discharge lines of sufficient capacity to prevent the accumulation of groundwater and rain water in the excavation shall be at the site and in proper operating condition at all times.

Except as authorized by the District Manager in writing, the excavation shall be continuously maintained dry until the progress of construction of the structure to be built in the excavation is above grade and the backfill is complete.

The Contractor's method for removal of water from foundation excavations shall be subject to the approval of the District Manager.

Water discharged from the excavation shall be disposed of in a manner to protect the work and adjacent property from damage. Except when authorized by the District Manager, no water shall be drained into work already built or under construction.

The Contractor shall be responsible for and shall repair at his expense any damage to the foundations, structures, or any other part of the work caused by floods, water, or failure of any part of the diversion or protective work.

C2.08 CLEAN UP

The Contractor shall not allow the site of the work to become littered with trash and waste material but shall maintain the site in its normal neat and orderly condition throughout the construction period. On or before the completion of the work, the Contractor shall carefully clean out all pits, drain lines and drains, chambers or conduits and shall tear down and remove all temporary structures built by him and shall remove rubbish of all kinds from any of the grounds which he has occupied and leave them in first-class condition.

After completing all work, the Contractor shall leave the site in a neat and clean condition, doing such grading as is required to restore the site to its original shape and configuration. Any existing features, improvements, structures, and other facilities damaged or affected by the work shall be replaced, repaired, or restored to their original condition or better.

C2.09 ARCHAEOLOGICAL MATERIALS

If archaeological materials are uncovered during earthwork or trenching, stop work within 100 feet of archaeological materials until a professional archaeologist certified by the Society of California Archaeology or the Society of Professional Archaeology has evaluated the significance of the find. Depending on significance of find, archaeologist may suggest mitigation measures.

In the event that archaeological remains are uncovered by work of this project and examination of remains delays Work, Contractor shall be entitled to an extension of contract duration equal to the number of days Contractor is delayed. No compensation or additional time will be allowed for delays caused by examination of archaeological remains.

C2.10 DISCOVERY OF PROTECTED ANIMAL AND PLANT LIFE

If protected animal or plant life is discovered during earthwork or trenching, work shall be stopped within 100 feet of the protected animal or plant life. The District will notify the effective agency and evaluate the significance of the find. Depending on significance of find, the District may suggest mitigation measures.

In the event that a discovery is uncovered by work of this project and examination of the discovery delays Work, Contractor shall be entitled to an extension of contract duration equal to the number of days Contractor is delayed. No compensation or additional time will be allowed for delays caused by examination of discovery of protected animal or plant life.

C2.11 STORM WATER POLLUTION PREVENTION PROGRAM

The City of Menlo Park adopted an ordinance to control the discharge of pollutants into storm sewers for protecting the water quality pursuant to the Clean Water Act. In order to implement the Federal Regulatory requirements, the Contractor and his subcontractors shall undertake all practicable measures specified herein to reduce pollutants.

The following are recommended construction materials handling and disposal practices for construction sites and a list of recyclers and disposal services to guide contractors/subcontractors in safe and non-polluting methods of disposal. The City of Menlo Park will enforce any of the provisions of this Section. The violation of any provisions of this Section or failure to comply with any of the mandatory requirements of this Section shall constitute a misdemeanor to be charged and prosecuted as provided by City code.

A. ROADWORK AND PAVING: Road construction often involves extensive earth work and grading, which loosens soils and creates opportunities for

erosion and deposition of sediments in storm drains and creeks. Road paving, surfacing and pavement removal happen right in the street where there are numerous opportunities for storm drain pollution by asphalt sawcut slurry or excavated material. Efforts should be made to store and dispose of materials properly and to guard against pollution of storm drains and creeks.

1. Check all equipment for leaks and repair leaking equipment promptly.
 2. Perform major maintenance, repairs and washing of equipment away from storm drains and creeks.
 3. When refueling or vehicle/equipment maintenance must be done on site, designate a completely contained area away from storm drains and creeks.
 4. Recycle used oil to lubricate (clean equipment and/or parts).
 5. Cover and seal catch basins and manholes when applying seal coats, slurry seal, and fog seal.
 6. Never wash excess material from exposed aggregate concrete or similar treatments into a street or storm drain. Collect, recycle or dispose to dirt area.
 7. Cover stockpiles and other construction materials with plastic tarps. Protect from rainfall to prevent run-off with temporary roofs or plastic sheets and berms.
 8. Catch drips from paver with drip pans or absorbent material. Place under machine when not in use.
 9. Clean all Spills and leaks using "dry methods" and dig up and remove contaminated soil.
 10. Avoid creating excess dust when breaking asphalt or concrete. After breaking up of pavement, be sure to remove all chunks and pieces from the site.
 11. Protect nearby storm drain inlets during sawcutting. Shovel or vacuum sawcut slurry deposits and remove from the site. Never hose down streets to cleanup tracked dirt. Use dry sweep methods.
- B. **HEAVY EQUIPMENT OPERATION:** Poorly maintained vehicles and heavy equipment leaking fuel, oil, anti-freeze or other fluids on the construction site are common sources of storm drain pollution. Prevent spills and leaks by isolating equipment from run-off channels and by watching for leaks and other maintenance problems. Remove such equipment from the site as soon as possible.
1. Maintain all vehicles and heavy equipment. Inspect frequently for and repair leaks.
 2. Perform major maintenance, repair jobs and vehicle equipment washing off site.
 3. If you must drain and replace motor oil, radiator coolant or other fluids on site, use drip pans or drop cloths to catch drips and spills. Collect all

fluids, store in separate containers and recycle whenever possible or dispose of fluids as hazardous waste.

4. Recycle used vehicle batteries.
5. Never hose down “dirty” pavement or impermeable surfaces where fluids have spilled. Use dry clean-up methods whenever possible.
6. Sweep up spilled dry materials immediately. Never attempt to wash them away with water or bury them.
7. Report significant spills to the appropriate spill response agencies immediately.

SECTION C3 - CONCRETE WORK

C3.01 SCOPE

Concrete work includes the construction of all manholes, footings, slabs, walls, supports, and other concrete items, complete with steel reinforcement. Concrete work shall include all material, labor, and other items necessary to construct concrete structures and appurtenances, specified and/or required to make the work complete and operable.

C3.02 MATERIALS

1. Cement

Portland cement concrete shall be Class 1 conforming to State Standard Specifications section 90, Portland Cement Concrete. Cement shall conform to Caltrans Standard Specification Section 90-1.01. Only one brand of cement shall be used for exposed architectural concrete throughout one structure or composite element. Insofar as possible, all cement used in the work shall be taken from stock bins at the place of manufacture.

Cement brought to the site of the work shall at all times be suitably stored and protected from exposure to the atmosphere. In the event the cement shows signs of deterioration, it shall be removed from the work unless additional tests show that it conforms to the requirements stated above.

2. Aggregate

Fine and coarse aggregate for concrete shall conform to ASTM C33 or to CalTrans Standard Specifications Section 90-2.02 "Aggregates" with the appropriate Test Methods designated therein. In reinforced concrete maximum size of aggregate shall be 1-1/2 inches except in slabs and walls 8 inches or less where 3/4 inch maximum aggregate shall be used.

3. Water

Water shall be any potable water, clean and free from injurious amounts of oil, acid, alkali, and organic materials.

4. Reinforcing Steel

Reinforcing steel shall consist of deformed bars and wire reinforcement. Steel shall conform to ASTM A615 Grade 60 and State Standard

Specification Section 52, Reinforcement. Deformation shall conform to ASTM A615. Wire reinforcement shall conform to ASTM A185, with mesh and wire sizes as specified.

5. Waterstops

Waterstops embedded in the concrete shall be 6 inch polyvinyl chloride. A sample shall be submitted to the District Manager for review. Waterstops shall be installed in as long lengths as possible. Joining splices and corners shall be heat fused in accordance with manufacturer's recommendations.

6. Joint Filler

Preformed joint fillers shall conform to ASTM D1751.

7. Joint Sealant

a. General. For below ground installation or in areas not subject to architectural consideration, joint sealers shall be of the mastic type. For above ground installations or where architectural appearance is important joint sealers shall be of the rubber sealant type.

b. Underground Sealant. For sealing non-moving underground joints, construction joints and grooves in slabs, the sealant shall be "Permapol RC-550 Sealant" as manufactured by Products Research and Chemical Corporation, Gloucester City, New Jersey, and distributed by Sherwin Williams Company, Emeryville, California, or equal. The product is a two-component, nonsag, elastomeric epoxy sealant. Color shall be black. Application shall be as recommended by the manufacturer.

c. Aboveground Sealant. For sealing exterior joints subject to structural movement, and for weathertight joints between various materials the sealant shall be "PRC Rubber Caulk 7000 Sealant" as manufactured by Products Research and Chemical Corporation, Gloucester City, New Jersey and distributed by Sherwin Williams Company, Emeryville, California, or equal. The product is a one-part low-modulus, polysulfide elastomer. Color shall match material being applied to. Application shall be as recommended by the manufacturer.

8. Forms

Form materials shall conform to State Standard Specification Section

C3.03 CONCRETE

1. Quality

Concrete shall be composed of cement, natural or crushed aggregate, and water proportioned and mixed as hereinafter specified. Pozzolan and water reducing air entraining agent shall be used when specified by the District Manager. All work shall be accomplished in compliance with A.C.I. Standards. The exact proportions of cement and aggregate shall be such as to produce a workable, strong, dense, impermeable concrete having approximate consistency and strength:

- a. Consistency. The quantity of water required for the proper consistency of the concrete shall be determined by the slump test, in accordance with ASTM C143. Slump allowances shall be as follows:

Vertical wall sections, columns: maximum slump, 4 inches plus or minus 1 inch tolerance.

Floor slabs, beams, and footings: maximum slump, 3 inches plus or minus 1/2 inch tolerance.

- b. Strength. Compressive strength shall be determined at the end of 28 days on standard 6 X 12 inch test cylinders in accordance with ASTM C39. The minimum compressive strength shall be 4,000 pounds per square inch.
- c. Tests. Test will be required by the District of the materials and of the resulting concrete at such intervals as deemed necessary by the District. Concrete testing shall be done at the Contractor's expense in the case where the work is being constructed by a property owner for the District. The slump tests and 3 day, 7 day, and 28 day test results shall be given to the District to ensure compliance to the Specifications. The concrete mix shall be changed whenever, in the opinion of the District such change is necessary or desirable to secure the required workability, density, impermeability, and strength.

2. Batching

Concrete batching equipment shall be provided to determine and to control

accurately the relative amounts of cement, water, sand, and each individual size of coarse aggregate entering into the concrete. Sand, cement, and coarse aggregate shall be measured by direct weighing.

Water shall be determined by direct weighing or by volumetric measurement. Equipment and its operation shall be subject at all times to the approval of the District.

3. Mixing

When authorized by the District, concrete may be mixed in a batch mixer of approved type which will insure a uniform distribution of the materials throughout the mass, so that the mixture is uniform in color and homogeneous. The mixer shall be equipped with a suitable charging hopper, a water storage and water measuring device controlled from a case which can be kept locked and so constructed that the water can be discharged only while the mixer is being charged. The entire contents of the mixing drum shall be discharged before recharging. The mixer shall be cleaned at frequent intervals while in use. The volume of mixed material per batch shall not exceed the rated capacity of the mixer.

4. Transit Mixed Concrete

Transit mixed concrete shall be used, provided that all of the above requirements as to batching, mixing, and placing are complied with, and provided further that the concrete shall be placed within 2 hours after water is first added to the batch. Transit mixed concrete shall comply with all provisions of ASTM C94.

5. Construction

Reinforcement: Reinforcing shall be placed in accordance with State Standard Specification Section 55.

Concrete: Concrete shall be constructed in accordance with the applicable portions of the following State Standard Specification Sections:

Placing:	51-1.09, 51-1.11,	Placing Concrete Construction Methods
Joints:	51-1.12, 51-1.13,	Expansion and Fixed Joints and Bearings Bonding

Finishing:	51-1.18A,	Ordinary Surface Finish
Curing:	90-7.03,	Curing Structures (method subject to approval by Engineer)

A minimum 24-hour cure period is required for manhole foundations/bases prior to installation of barrel and cone sections.

6. Sampling and Testing

- a. Sampling and testing of concrete materials shall be in accordance with ASTM Designations. Test samples shall be supplied by the Contractor at his expense. Tests will be made by an independent testing laboratory at the District's expense. The source from which concrete aggregates are to be obtained shall be selected by the Contractor well in advance of the time when they will be required in the work, and suitable samples, as they are to be used in the concrete, shall be furnished in advance of the time when the placing of the concrete is expected to begin.
- b. The Contractor shall provide a slump cone and perform slump tests in accordance with ASTM C143, "Test for slump of Portland Cement Concrete." A slump test shall be performed before the placement of each of the first two truck loads of ready-mix concrete at the beginning of a continuous pour. The slump test shall be conducted in the presence of the District. If the slump is greater than 4 inches, the concrete will be rejected. After the consistency of the mix is approved, additional slump testing will be necessary only when required by the District.
- c. If an entrainment is used, the Contractor shall provide an acceptable method for testing it. The Contractor may use any method approved by ASTM. The recommended methods are the pressure method ASTM C231 and the Chace air meter method. The method used by the Contractor shall be approved by the District prior to any concrete placement. The concrete shall be tested for air content before the placement of each of the first two truck loads of ready-mix concrete at the beginning of a continuous pour and at the time when strength test cylinders are prepared.
- d. For compressive strength test purposes, the Contractor shall provide one set of three cylinders taken from each day's pour or more frequently as required by the District. Test samples shall be supplied by the Contractor at his expense and tests will be made by an

independent testing laboratory at the District's expense. Test specimens shall be molded, laboratory-cured, and tested in accordance with State Standard Specification Section 90-9, Compressive Strength. Concrete represented by test specimens will be accepted or rejected as specified therein.

C3.04 MORTAR AND NON-SHRINK GROUT

Mortar and non-shrink grout shall be mixed in a suitable mixer in a watertight mixing box. The material must be thoroughly mixed dry until the mass assumes a uniform color and then sufficient water added to bring the mixture to a workable consistency. No mortar or grout which has begun to set shall be used, and no retempering thereof will be permitted.

- (a) Mortar shall have an ultimate strength at least equal to that required for Type A-I Mortar, ASTM C 270. Mortar shall be freshly prepared and uniformly mixed in a ratio by volume as follows:

1 Part Portland Cement, 1/4 Part Hydrated Lime or Lime Putty, 2-3/4 to 3-3/4 Parts Mortar Sand, Sufficient water for a workable mix. Portland Cement shall be added and such water shall not contain an amount of impurities that will cause a change in the setting time of Portland Cement of more than 25 percent nor a reduction in the compressive strength of mortar at 14 days of more than 5 percent when compared to the results obtained with distilled water nor cause discoloration of the concrete or produce etching of the surface.

Sand shall be clean, well graded, and free from loam, vegetative matter, or deleterious matter of any kind and shall comply with the requirements of ASTM C 144, except not less than 3% shall pass a 100 sieve.

Hydrated Lime for Masonry Purposes shall meet the requirements of ASTM Designation C 207, Type S and shall not contain air-entrapment additives.

Mortar materials shall be stored off the ground, under cover in a dry place.

- (b) Grout shall be as specified in ASTM C1107 with 28 day compressive strength of 3,000 PSI, and the proportions per cubic yard shall be as follows:

Portland Cement	7 Sacs
Aggregate	50% Sand
	50% Pea Gravel
Mixing Water	6" Slump Maximum

Pea-gravel shall be uniformly graded with not more than 5% passing a No. 8 sieve and all passing 3/8" sieve.

C3.05 PRECAST CONCRETE MANHOLES

Manholes shall be of precast concrete and shall conform to the details shown on District Standard Drawing Nos. 3 and 4. Materials shall conform to ASTM C478, and CalTrans Standard Specifications Section 90-2 "Materials".

Precast concrete base shall not be allowed unless approved by the District Manager in writing.

Pipe stubs for lateral sewers shall be built into the structures as required; the outer ends shall be sealed securely by a cap or stopper of the same material as the branch. In laying pipe up to the structures, the pipe shall not project beyond the inside of the wall of the structure and in no case shall the socket of a vitrified clay pipe be built into the wall of a structure.

Joints for precast manhole pipe sections shall be sealed by using "Ram-Nek" and Rub-r-Nek, preformed materials manufactured by K.T. Snyder Co., Houston, Texas, following the company's recommendations and Federal Specification SS-S-00210 (GSA-FSS).

Where the vertical distance from the pipe invert to finished grade is less than 3 feet, the manhole shall be constructed from reinforced concrete in a manner acceptable to the District Manager.

C3.06 SPECIAL CONCRETE STRUCTURES

1. Forms

Forms for concrete construction shall be of wood or steel. For surfaces not exposed to view, such as backfilled walls, the forms may be metal or smooth boards free from large or loose knots. For other surfaces, the forms shall be waterproof plywood, tongue and groove sheeting, or metal. All forms shall be true, rigid, tight, thoroughly braced, and sufficiently strong to carry all loads.

Bolts, rods, or single wires shall preferably be used for internal ties and if used shall be so arranged that when the forms are removed no metal shall be within 1 inch of any surface. Twisted wire ties will not be permitted in the forms for any wall later to be subject to water pressure. The Contractor

shall take due precautions to prevent future leakage or seepage along ties in all walls which will be subject to water pressure. Ties used in all such walls shall be cut back into the face of the wall at least 1 inch and the resulting holes pointed up with 1:1-½ mortar, cement to sand by volume. Forms shall comply with all provisions of the State Standard Specifications Section 51-1.05.

2. Placing Reinforcing Steel

Reinforcing steel, before being positioned, shall be cleaned thoroughly of mill and rust scale or other coatings that will destroy or reduce the bond. Reinforcement appreciably reduced in section shall be rejected. Where there is delay in depositing concrete, reinforcement shall be inspected and, when necessary, cleaned. All bars shall be bent cold, shall be positioned accurately, and secured against displacement by using annealed iron wire or suitable clips.

3. Inserts

Where pipes, castings, or conduits are to pass through concrete walls, the Contractor shall place such pipes or castings in the forms being poured in the concrete, or in special cases, with the express consent and approval of the District Manager, shall build approved boxes in the forms to make cored openings for subsequent insertion of such pipes, castings, or conduits. To withstand water pressures and to insure watertightness around openings so formed, the boxes or cores shall be provided with continuous keyways with waterstops all around, and they shall have a slight flare to facilitate grouting and the escape of entrained air during grouting.

Additional reinforcement shall be provided around such openings, if large, to meet the approval of the District Manager. The pipes, castings, or conduits, as specified shall be grouted in place by pouring in non-shrink grout under a head of at least 4 inches. The non-shrink grout shall be poured and rammed or joggled into place to completely fill the space between the pipes, castings, or conduits, and the sides of the openings, so as to obtain the same watertightness as the wall itself. The grouting materials so placed shall be surfaced when the forms are removed to give a uniform appearance to the wall if such wall will be exposed to view.

The Contractor shall accurately set and hold in exact position the forms until the concrete is poured, and set all thimbles, special castings, or other metal parts that are to be embedded in the concrete. He shall furnish and accurately set all inserts and anchors or other bolts necessary for the attaching of piping, valves and equipment.

4. Depositing Concrete

Concrete shall not be placed until the forms and reinforcements have been approved by the District Manager.

5. Curing

Unformed concrete surfaces shall be covered with wet burlap mats as soon as the concrete has set sufficiently and shall thereafter be kept wet under burlap until backfilled or for 14 days after the concrete is placed. Formed surfaces, both interior and exterior, shall be similarly water-cured under burlap mats or by water sprays beginning as soon as the forms are stripped. At the option of the Contractor, concrete surfaces may be cured by the curing-compound method as defined below. Where wooden forms are used they shall be wetted immediately after concreting and shall be kept moist until removed, or may be treated with an approved form sealer before pouring.

Concrete curing compounds, if their use is permitted by the District Manager, shall be of a nature and composition not deleterious to concrete, and thinned to a working consistency, either with a volatile solvent or by emulsification with water. The curing compound shall be of a standard and uniform quality ready for use as shipped by the manufacturer. At the time of use, the curing compound shall be in a thoroughly stirred condition. Curing compound shall not be diluted by the addition of solvent or thinners or be altered in any manner without the specific approval of and in a manner prescribed by the manufacturer.

The curing compound shall, when tested in accordance with ASTM C156, be effective in limiting the water loss in the concrete test specimens to 3-½ percent when applied at the coverage rate recommended by the manufacturer. Any compound proposed by the Contractor shall be tested by a recognized testing laboratory at the Contractor's expense, and 3 certified copies of the test report shall be furnished to the District Manager.

Curing compound shall form a continuous, unbroken membrane which will adhere to moist concrete and which will not peel from the surface or show signs of such deterioration within 30 days after application under actual weather and working conditions.

The compound shall be sufficiently transparent and free from color so that there will be no permanent change in the color of the concrete. The compound shall contain however, a temporary hue of sufficient color to

make the membrane clearly visible for a period of at least 4 hours after application.

6. Protection and Repair of Concrete Construction

All surfaces shall be protected against injury. During the first 72 hours after placing the concrete, wheeling, working, or walking on the concrete shall not be permitted. All slabs subject to wear shall be covered with a layer of sand or other suitable material as soon as the concrete has set. "Sisalcraft" paper or other similar tough waterproof paper may also be used, provided all joints between adjacent strips of paper are carefully sealed. This does not alter the requirements for proper curing as specified in Article C3.06.5, above.

No concrete shall be placed during rain period. All concrete placed within the preceding 12 hours of a rainstorm shall be protected with waterproof canvas or other suitable coverings.

All concrete construction shall be protected from excessive loadings. Installation of mechanical and electrical equipment shall be accomplished by employing shores, bearing places, frames, cranes, and temporary beams.

Immediately after the removal of forms all concrete shall be inspected, and all poor joints, rough sections, or rock pockets containing loose materials shall be repaired by cutting back to solid concrete and making an opening of such size and shape as will form a 1 inch key for cement mortar fill. All form tie holes and small imperfections shall be kept wet for 2 hours and then coated with neat cement paste. The fill for small imperfections and form ties shall consist of cement mortar composed of 1 part cement well mixed with 1 1/2 parts of fine aggregate by volume and just enough water so that the mortar will stick together on being molded into a ball by slight pressure of the hands. This mortar shall be thoroughly compacted into place. Where the area and volume of defective concrete is large, it shall be repaired by reforming the surface and filling the opening with concrete. For such major repairs, the filling shall be reinforced and doweled securely to old concrete and shall be neatly finished to match the surface, color, and texture of the adjacent concrete. All patches shall be kept damp for 7 days.

Where the work requires concrete of existing structures to be removed, the existing concrete and steel shall be cut accurately to the lines required under the supervision of the District Manager. The cutting shall be accomplished in a manner that preserves, free from cracks or other injuries, those parts of the existing structure that are to remain. Where the cut

surface is to be left exposed, it shall be cleaned, sprayed with water, faced with 1:1-½ mortar, and finished to match adjacent surfaces.

7. Finish or Formed Surfaces

All finished or formed surfaces shall conform accurately to the shape, alignment, grades, and sections required. The finished surface shall be free from fins, bulges, ridges, offsets, honeycombing, or roughness of any kind, and shall present a finished, smooth continuous hard surface. All sharp angles shall be rounded or beveled, where required. Any formed surface to be painted shall be free of any material that will be detrimental to the paint.

SECTION C4 - METALWORK

C4.01 SCOPE

Metalwork includes the providing of pipe handrails, stair treads, grating, plating, seat angles, stop gates, manhole frames and covers, anchor bolts and all other structural steel, miscellaneous metalwork, and castings.

C4.02 STRUCTURAL STEEL

1. Material

Structural steel shall conform to ASTM A36, Structural Grade unless otherwise designated and approved by the District.

2. Fabrication

Fabrication and workmanship shall be done in accordance with AISC "Specifications for Fabrication and Erection". Welding shall be done by welders who have been qualified by tests as prescribed by the American Welding Society in "Standard Qualification Procedure" to perform the type of work required. The quality of welding shall conform to "Code for Arc Welding in Building Construction", Section 4, Workmanship. Reinforcing rods to be welded shall be preheated to minimum of 212° F at a distance of 3 inches each side of the weld and then welded using a low hydrogen type welding rod.

3. Galvanizing

Fabricated steel items such as brackets, hangers, seating angles, door protectors, housings, and similar small items shall be galvanized after fabrication. Large structural steel items such as roof trusses shall be galvanized only if specifically required. Steel work to be of the following standard specifications as applicable: ASTM A123, A384, A385 and A386.

4. Bolted Connections

All bolted connections shall be AISC Standard "B" Series.

C4.03 PIPE HANDRAIL

Pipe handrail shall be standard 1 1/4 inch black steel pipe made up by welding. Railing shall be shop fabricated into easily handled units and galvanized after fabrication. Field joints shall be welded and ground smooth to match adjacent pipe

and shall be coated with molten Galvo-Weld or equal.

C4.04 PIPE COLUMNS

Steel for pipe columns shall conform to ASTM A53, Grade B.

C4.05 FLOOR GRATES, PLATES, AND SUPPORTS

Gratings and floor plates shall be galvanized steel or aluminum designed for the live load required. The minimum design live load shall be 100 pounds per square foot with a deflection of 1/8-inch or less. Floor plates and grates shall be adequately stiffened or shall be of sufficient thickness so that the maximum deflection at the design load does not exceed 1/240 of the span. Gratings shall be completely banded, and both gratings and plating shall be field measured for proper cutouts and size. No single pieces of grating or floor plate shall weigh more than 80 pounds. Gratings and platings shall be supported on steel seats and shall be set flush with the floor. Gratings, plating, and seat angles shall be galvanized after fabrication in accordance with ASTM A386.

Grating seat angles shall have suitable concrete anchors welded to back at a maximum of 3 feet centers and a minimum of 2 anchors per side. Surfaces in contact with concrete shall receive coat of zinc chromate primer prior to installation. Where changes in channel direction, openings for gates, ends of grating runs, etc., prohibit adequate support for grating, additional cross angles shall be furnished to provide a seating surface for the grating on all four sides.

All grating shall be fastened to supports by suitable removable fasteners. All fastener clips, bolts, nuts and washers shall be galvanized steel.

Gratings and floor plates shall be installed flush with the surrounding surface. Where floor plates are used as covers for access hatches, the plates shall be installed so as to facilitate drainage away from the hatch, to provide a close fit, and to eliminate ponding over the floor plate.

C4.06 SAFETY STAIR TREADS

All concrete steps shall have safety treads 4 inches wide and extending to 3 inches from each side of the step. Safety treads shall be American Abrasive metals Company, Feralum Style A, or equal. Safety treads shall meet all applicable requirements of state and federal safety regulations.

C4.07 ANCHOR BOLTS

Anchor bolts shall be fabricated as specified by the equipment manufacturer.

Anchor and assembly bolts shall be of ample size and strength for the purpose intended and stainless steel bolts shall be used in moist, damp or corrosive locations and wherever they are embedded in concrete. All bolts shall be standard machine bolts, with cold pressed hexagon nuts. Anchor bolts shall be secured in place with the forms before pouring concrete.

C4.08 IRON CASTINGS

All castings for manhole and covers shall be tough gray iron, free from cracks, blow holes, swells, and cold sheets, and be of workmanlike finish. The cast iron shall meet the requirements of ASTM A48, Class 25. Manhole covers shall be turned in a lathe and the outer 1½ inches dressed down to assure a tight fit and to prevent rocking. The seat for the manhole cover shall also be turned in a lathe to provide a true and smooth surface.

All manhole covers which do not fit neatly and bear firmly in the ring will be rejected. Manhole frames and covers shall be Phoenix P1090 with a Type C cover or equal. There shall be no pick hole or through holes in covers, but there shall be a blind pick hole approximately 5½ inches from the edge.

C4.09 ALUMINUM SLIDE GATES

Aluminum for slide gates shall conform with American Society of Civil Engineers Specifications for Structures of Aluminum, Alloy 6061-T6. Gate guides shall be fabricated from 316 stainless steel shapes.

SECTION C5 - PIPELINES AND SEWERS

C5.01 SCOPE

Pipelines and Sewers include the furnishing, installing, and testing of pipe, pipe supports, anchors, thrust blocks, fittings, valves, specials, and all necessary appurtenances to make the work complete and operable.

The Contractor's attention is directed to Article C 1.09 Safety and Health Provisions, of these Specifications with respect to CAL OSHA rules and regulations to follow before entering manholes.

C5.02 MATERIALS

1. Scope

All pipe materials that may be used are covered under this section. The inclusion of all acceptable material does not infer that any of the materials listed below may be used on any project for any set of conditions. Refer to Article B2.02 of these District Standard Specifications for limitations on the use of various types of pipe materials. Whenever possible, lateral sewers shall be of the same material as the main sewer to which they are connected. The following limitations are offered as guidelines to the Contractor for gravity sewer lines.

- (a) Unless otherwise indicated, extra strength vitrified clay or PVC C900 DR 25 may be used for main lines.
- (b) Where plans designate a specific type of pipe, no other type may be used.
- (c) At other locations, any acceptable pipe material may be used, in accordance with the indicated strength, bedding, and trench width requirements and subject to the specifications in this division, the standard details and general regulations.
- (d) No change in pipe materials may be made between manholes or on service laterals and service extensions, except between classes of the same pipe.

2. Vitrified Clay Pipe and Fittings

Vitrified clay pipe and fittings shall be extra strength, unglazed, conforming to ASTM C700, and shall be furnished with bell and spigot ends or plain ends.

Pipe joints shall be of a mechanical flexible compression type. Joints for bell and spigot pipe shall be made of plasticized polyvinyl chloride compound, bonded to the pipe, molded and cured to uniform harness so as to form a tight coupling when assembled. Joints for bell and spigot pipe shall be Wedge Lock and Speed Seal Mainline conforming to all provisions of current revision of ASTM C425. Joints for plain end pipe shall be rubber couplings secured with stainless steel bands. Joints for plain end pipe shall be Band Seal as manufactured by Mission Clay, Caulder Couplings Products Company or equal.

The connection of gravity sewer laterals to the public sewer shall be by means of a tee or a wye branch fitting. Connection to existing gravity mains may be permitted by means of a Taptite connection or equal. No breaking or rough cutting of the pipe shall be permitted when making service connections.

3. Plastic Pipe

Plastic pipe, fittings and joint materials for gravity sewer mains herein consist of Poly-Vinyl Chloride, hereinafter referred to as PVC only. Polyethylene pipe, hereinafter referred to PE, is not a standard District approved material for gravity sewer mains. PE shall only be used for small diameter STEP and Grinder Pump force mains. All materials incidental to plastic pipe installations such as gaskets, joint lubricants, cement, etc., shall be supplied by the pipe manufacturer. All plastic pipe required in odd lengths shall be cut using a proper cutting tool and guide that insures true line cut on planes perpendicular to the pipe axis. No bevel cuts for pipeline alignments will be permitted.

All bedding material around plastic pipe shall be placed in two stages as follows; first, from the bedding material foundation to the top of pipe, second, from the top of pipe to a point at least twelve (12) inches over the top of the pipe. Each stage shall be compacted by hand or mechanical tamping to a minimum of ninety (90) percent. No jetting of bedding materials will be permitted.

The inside diameter of an installed section of plastic pipe shall not be allowed to deflect more than five (5%) percent. The pipe deflection shall be checked by means of the deflection gauge in the presence of the District Manager after the placement of all trench backfills, aggregate subbase (if specified) but prior to installation of aggregate base and/or asphalt concrete.

The pipe deflection gauge shall be fabricated to permit passage through

installed sections of pipelines within the specified tolerances for plastic pipe applicable and the maximum deflection set forth herein. Any section or sections of plastic pipe that does not permit deflection gauge passage will not be accepted and said section or sections shall be repaired or replaced and rechecked as directed by the District Manager.

PVC Pipe

All PVC pipe and fittings shall, at a minimum, conform to the requirements of ASTM Designation D 1784, cell class 12454-B as they apply to material compound. The pipe and fittings shall meet AWWA C900 for pipe size 12 inches and smaller, and AWWA C905 for pipes larger than 12 inches. Unless otherwise indicated or required, the pipe shall DR 25. Sewer Pipe using an Elastomeric Gasket Joint in a bell and spigot assembly system shall meet the requirements of ASTM Designation F477. No solvent cement joints will be permitted.

All PVC pipe entering or leaving a concrete structure shall have a rubber sealing gasket, as supplied by the pipe manufacturer, firmly seated perpendicular to the pipe axis, around the pipe exterior and cast into the structure base or near the structure wall center as a water stop. Said water stop may also consist of a manhole coupling with rubber sealing rings cast into structure base.

PVC pipe joining may occur at any convenient distance beyond and/or between structures.

PVC pipes shall be white in color.. Metallic marking tape labeled "sanitary sewer" shall be placed 12" above the top of pipe for open trench or connected directly to the pipe for trenchless construction.

Polyethylene Pipe

Polyethylene pipe is not a standard District approved material for gravity sewer mains. Polyethylene pipe will only be considered for gravity sewer mains in special conditions where no other pipe materials can be installed. This condition shall be presented to the District and use of material can only be approved by the District Manager.

STEP and grinder pump system forcemains shall be SDR 11 high density polyethylene pipe with polyethylene fittings. The pipe material shall comply with all requirements for Type III, Class C. Category 5, Grade P 34 according to ASTM D1248, and have a PPI recommended designation of PE 3408.

Polyethylene pipe shall have a green stripe, or no stripe. Metallic marking tape labeled "sanitary sewer" shall be placed 12" above the top of pipe or connected directly to the pipe for trenchless construction.

4. Cast Iron and Ductile Iron Pipe

Grey cast iron pipe shall be Class 150 centrifugally cast, cement lined, and shall comply with ANSI A 21.6 (AWWA C106) for pipe cast in metal molds or ANSI A21.8 (AWWA C108) for pipe cast in sand-lined molds.

Ductile iron pipe shall comply with ANSI A21.51 (AWWA C151).

Cast and ductile iron pipe joints shall comply with the following requirements for the types specified:

<u>Type of Joint</u>	<u>Specifications</u>
Rubber Gasket Push-on Joint	ANSI A21.11 (AWWA C111)
Mechanical Joint	ANSI A21.11 (AWWA C111)
Flanged Joint	ANSI B16.1, B16.2, and A21.10 (AWWA C110)

Flanged Joint (Threaded Flanges) ANSI B1.1

Flange gaskets shall be 1/16 inch for pipe 10 inches and less and 1/8 inch for larger pipe. Flange assembly bolts shall be standard square headed machine bolts with heavy, hot pressed hexagon nuts. Threads shall conform to ANSI B1.1 coarse thread series, Class 2 fit. Bolt length shall be such that after joints are made up, the bolts shall protrude through the nut, but no more than 1/2 inch. Bolts and nuts for use in submerged services shall be of 316 stainless steel.

Flexible couplings shall be Smith-Blair flexible steel coupling series 411 or Dresser style 38 with the stop removed on middle ring. Exposed metal surfaces shall receive a protective coating as specified in Section C6 - Painting.

All rubber gasket, push-on, mechanical and flanged joint fittings for cast iron or ductile iron pipe shall be manufactured in accordance with ANSI A21.10 (AWWA C110).

Unless otherwise specified, the internal surfaces of cast iron and ductile iron pipe and fittings shall be lined with a uniform thickness of cement mortar then sealed with a bituminous coating in accordance with ANSI A21.4 (AWWA C104). The outside surfaces of cast iron and ductile iron pipe and fittings for general use shall be coated with a bituminous coating 1 mil (0.025mm) thick in accordance with ANSI A21.6 or ANSI A21.51.

The manufacturer shall furnish a certified statement that the pipe has been manufactured and tested in accordance with these specifications.

Loose polyethylene encasement for the protection of cast iron and ductile iron pipe shall be furnished and installed in accordance with the requirements of ANSI A21.5 (AWWA C105).

5. Conductor Pipe

Pipe used as a conductor under a highway, railroad, or other location, shall be welded steel pipe. Welded steel pipe shall be manufactured of a steel meeting ASTM A245, commercial grade. All joints shall be butt welded. Welded steel conductor pipe shall have a minimum wall thickness of 1/4 inch for sizes up to and including 26-inch in diameter, and 5/16-inch for sized 27-inch to 36-inch in diameter.

6. Manholes

Manholes shall be constructed of precast reinforced concrete pipe sections as specified in Article C3.05 of these specifications.

7. Backwater Check Valves

The contractor shall provide information about the type of backwater check valve and shutoff system intended for use. Detail drawings should conform to the most recent edition of the Uniform Plumbing Code.

C5.03 INSTALLATION

1. Pipe Laying

Pipe laying shall include the installation and jointing of the pipe. Pipe shall be laid with uniform bearing under the full length of the pipe. In general, pipe laying shall proceed upgrade with the spigot ends of the bell and spigot pipe pointing in the direction of flow. Each piece shall be laid true to line and grade and in such manner as to form a close concentric joint with the adjoining pipe and to prevent sudden offsets in the flow line. As the work

progresses, the interior of the sewer shall be cleared of all dirt and debris. Where cleaning after laying is difficult because of small pipe size, a suitable swab or squeegee shall be kept in the pipe and pulled forward past each joint immediately after jointing has been completed. Pipe shall not be laid when the condition of the trench or the weather is unsuitable. At times when work is not in progress, open ends of pipe and fittings shall be closed.

2. Pipe Jointing

- (1) For rubber gasket joints, the gasket and bell shall be thoroughly cleaned before inserting the gasket into the bell. After the gasket is positioned, a thin film of approved lubricant shall be applied to the exposed surface of the rubber gasket. After wiping the spigot clean, it shall be shoved home into the bell. If pipe is field cut, the spigot end shall be tapered with a file to about 1/8-inch back at an angle of 30 degrees with the centerline of the pipe.
- (2) Flexible Couplings shall be Smith-Blair Type 411, 431, 433, or equal. Buried couplings shall be extra heavy, with 316 stainless steel bolts and nuts, and shall be painted with two coats of bitumastic paint after installation.
- (3) Screwed Joint Material shall be best quality red lead for steel pipe or litharge and glycerin for stainless steel and chlorine piping.
- (4) Flanges, Gaskets, and Bolts - Flanges shall conform to dimensions and drilling of ASA B16.1, Class 125. Flange gaskets shall be ring type, Johns-Manville Style 60S or Cranite. Thickness shall be 1/16-inch for pipe 18-inches and smaller, and 1/8-inch for larger pipe. Flange assembly bolts shall be standard hexagon head machine bolts with heavy hot pressed, hexagon nuts, conforming to ASTM A387 Grade B. Bolt length shall be such that after the joints are made up, the bolts shall protrude through the nut, but not more than 1/2-inch.
- (5) Transition joints between different pipe materials shall be "Ceramicweld", "Calder", "Band-Seal", or other equal flexible coupling.

3. Construction

Pipe shall be inspected for cracked, broken, or defective pieces before laying. Pipe shall be carefully lowered into the trench to prevent damage. All dirt or other foreign matter shall be removed from inside pipe before

lowering into the trench. The Contractor will be required to replace all damaged pipe.

All pipe shall be carefully placed and supported at the proper lines and grades and, where possible, shall be sloped to permit complete drainage. Piping runs shown on the Drawings shall be followed as closely as possible, except for minor adjustments to avoid architectural and structural features. If minor relocations are required, they shall be approved by the Engineer.

Pipe, fittings and appurtenances shall be installed in accordance with the manufacturer's written instructions and in accordance with AWWA C-600. The allowable angle of deflection at any joint shall not exceed the amount recommended by the pipe manufacturer for the particular pipe size used. The pipe shall be protected to prevent entrance of foreign material during laying operations. When laying is not in progress, open pipe ends shall be protected with a watertight plug or other approved means to exclude water or foreign material.

Excavation, bedding, and backfilling shall conform to these specifications.

C5.04 CONNECTIONS TO EXISTING MANHOLES

Pipe connections to existing manholes shall be made in such a manner that the finished work shall conform as nearly as practicable to the applicable requirements specified for new manholes, including all necessary concrete work, cutting, and shaping.

Where holes are to be broken in existing manhole barrels, the work shall be carefully done. After insertion the annular space shall be tightly packed with a "dry" cement mortar. Surfaces to be in contact with the mortar shall be thoroughly moistened and then scrubbed with Portland cement paste. The inside of the manhole barrel shall be neatly finished. The manhole bottom shall be rechannelized as necessary to provide smooth transitions with good hydraulic properties.

Any line to be connected to an existing manhole shall, unless otherwise shown, be installed by forming a new channel with the top invert of the new installed pipe to the same elevation as the top invert of the existing main sewer.

C5.05 CONNECTIONS TO EXISTING PIPES

The approximate locations of existing sewers are shown at the points where the new sewers are to be connected. It is the responsibility of the Contractor to determine the exact location and depth of existing sewers prior to the laying of any

sewer pipe. Prior to construction of any portion of a side sewer, the Contractor shall also determine the elevation of the plumbing outlet of the structure to be connected and to confirm that the required grade can be maintained between the outlet and the main sewer.

Fittings or adapters required to connect new pipe to existing pipe shall be provided by the Contractor. Detail drawings of such fittings or adapters and the method of connection shall be submitted to the District Manager for approval.

C5.06 REPAIR OF PIPELINES

Repair of breaks in pipe lines shall be made by making clean cuts on either side of the breaks, inserting new straight sections of pipe with plain ends in line, and connecting the ends with flexible couplings similar and equal to the couplings manufactured by Calder. Clamp screws shall be retightened after a lapse of at least five minutes. Maximum trench width limitations at top of pipe must be observed during repairs as well as original construction.

C5.07 GRAVITY SEWER LATERAL CONNECTIONS TO MAIN SEWERS

1. Concurrent Construction

Where gravity sewer laterals are constructed concurrently with main sewers, connections shall be made with regularly manufactured wye or tee branches. The ends of the side sewer shall be securely stopped with plugs or caps which can easily be removed without damage to the pipe end. The ends of the side sewers shall be marked with a 2 x 4 redwood stake extending from the sewer invert to finished grade. In the case of new subdivision work, curbs shall be imprinted with an "s" directly over the sewer laterals.

2. Gravity Sewer Lateral Connection to Existing Main Sewer

Lateral connections to existing main sewers shall be made at wye or tee branches. No breaking or rough cutting of the pipe shall be permitted when making service connections. Where, in the opinion of the District Manager it is impractical to connect to an existing wye or tee branch, the connection shall be made by the use of special fittings as described below.

- i. Cut out a section of the main sewer and install a plain-end wye branch using banded rubber seal sleeves with stainless steel bands. This method shall be used whenever the side sewer is the same size as the main sewer.

- ii. Core a neat trim opening in the upper portion of the main sewer and install a special drilled fitting (i.e., tap-tight) to complete the side sewer connection.

C5.08 BORING AND JACKING

1. General

The work contemplated under this heading consists of installing sewer pipe, in a conductor pipe, under a paved roadway, street or railroad to a true line and grade, by means of jacking operations. The equipment and method of operation shall be approved by the District Manager before proceeding with the work. Approval of the proposed method by the District Manager will not relieve the Contractor of the responsibility for making a satisfactory installation meeting the criteria set forth herein. Only workmen experienced in the jacking of conductor pipes shall be used in performing the work. Sewer pipe shall be installed in the conductor pipe in the manner shown on the plans.

The Contractor shall obtain all encroachment permits or other types of permits required by the Owner or authority having jurisdiction over the proposed work area.

2. Bores

Where a conductor or sewer pipe is installed in a bored hole, the hole shall be bored by use of a machine which will cut a true circular bore to the required line and grade. Bored tunnels shall be no more than one inch larger than the outside limits of the conductor pipe to be placed therein. If so required bracing and shoring shall be provided to adequately protect the workmen and the roadway or railroad. The conductor pipe shall be placed closely behind and in conjunction with the boring operation.

3. Placing Sewer Pipe in Conductor

Sewer pipe shall be strapped to two nylon skids with steel straps. The nylon skids shall be near the center of each pipe section and shall be large enough to prevent any part of the joint from bearing on the conductor. Skids may have to be adjusted in height to hold the pipe on correct line and grade. In lieu of nylon skids, Contractor may use conductor pipe spacers as herein specified.

After installation of the sewer pipe, clean, dry sand shall then be blown into

the conductor pipe on both sides to the full depth of the conductor pipe. Casing seals, shall be provided at each end of conductor pipe to contain the sand. Casing seals shall be Plico Type 660 or P.S.I. Model W, or equal.

4. Jacking Heads

Whenever the nature of the soil indicates, in the opinion of the Engineer, the likelihood of ground loss during the driving of the conduit, the use of a steel jacking head will be required. The jacking head shall be fitted to the leading section of the conduit in such a manner that it extends around the outer surface of the upper two-thirds of the circumference of the conduit and projects at least 18 inches beyond the driving end at the top of the conduit, but does not protrude over 1/2 inch outside of the outer conduit surface. This head shall be securely anchored to prevent any wobble or alignment variation during the jacking operation. Excavation shall be carried out entirely within the jacking head and no excavation in advance thereof will be permitted. Every effort shall be made to avoid any loss of ground outside the perimeter of the jacking head.

5. Backpacking Voids

In general, excavated material shall be removed from the conduit as jacking progresses and no accumulation of excavated material within the conduit will be permitted. Should appreciable loss of ground occur, the voids shall be backpacked promptly to the extent practicable with soil cement consisting of a slightly moistened mixture of one part cement to five parts of granular material. When material selected from the spoil is not suitable for this purpose, the Contractor shall import suitable material at his sole expense. The soil cement shall be thoroughly mixed and rammed into place as soon after the loss of ground as possible.

After jacking is completed, the Contractor shall drill holes in the conduit at the locations of ground loss and elsewhere where voids behind the conduit are suspected. If such holes disclose void spaces existing, the Contractor shall force grout into such voids to refusal at pressure as directed by the District Manager, but not to exceed 50 pounds per square inch. He shall then repair the drilled holes, including any plastic lining. Grout shall be a lean mixture of sand and cement. Backpacking of the one inch annular space in the case of bores will not be required, unless specifically called for on the plans.

6. Tolerances

Extreme care shall be exercised by the Contractor to maintain line and grade during jacking operations, and the Contractor may be required to modify the manner in which he is conducting his jacking operation to correct any deviation which deemed necessary by the District Manager.

Maximum deviation from stated line and grade of conductor pipe shall be such that line and grade of the sanitary sewer pipe can be adjusted a sufficient amount within the conductor pipe to achieve the line and grade shown on the plans to within 0.25 feet per 100 feet, unless otherwise directed by the District Manager.

7. Conductor Pipe Spacers

Insulating casing spacers, where used, will be installed at not over 10 foot spacing, prior to inserting pipe in the casing. Spacers will be similar and equal to "Plico" Type 512M or P.S.I. Model A12 with insulating skid, 12" bolted spacer with 6 skids. Segment with 4 skids will be placed on the bottom, with skids sized to give equal bearing pressure on the casing without deformation of the pipe.

C5.09 CONCRETE THRUST BLOCKS

Concrete thrust blocks shall be provided on all force main bends having a deflection angle of 11 degrees or more. Thrust blocks shall have a sufficient bearing area to withstand the maximum force to be exerted.

The use of other means of anchoring piping against thrust may be permitted; however, the proposed method shall be submitted to the District for approval. Calculations and drawings on the approved anchoring method shall be submitted to the District.

C5.10 ACCEPTANCE TESTS

All gravity sewers shall be tested for both obstructions and leakage; all gravity sewer laterals shall be tested for leakage; all force mains shall be tested for leakage. The District Manager reserves the right to require additional testing, if deemed necessary. The Contractor shall provide all labor, tools, equipment, and utilities necessary to make the tests, to perform any work incidental thereto, and to dispose of all waste.

1. Obstructions

After backfilling and compacting, but before paving, all main sewers shall be

tested for obstructions either by rodding or by the sewer ball method. Means shall be provided for intercepting all grit, rocks, and other flushed debris to keep debris from entering the existing sewerage system.

2. Leakage

The program of testing shall fit the conditions as mutually determined by the District Manager and the Contractor. The Contractor shall, at his own expense, correct any excess leakage resulting from or caused by this test. Where the actual leakage exceeds the allowable, the Contractor shall determine the cause and remedy it before the test is accepted. If the leakage is less than the allowable and leaks are observed, such leaks shall be repaired at the District Manager's direction.

- a. Gravity Main Sewers. After main sewers have been inspected and cleared of obstructions and following backfill, but prior to repaving, they shall be tested for leakage. Each section of sewer shall be tested between successive manholes by closing the lower end of the sewer to be tested and the inlet sewer of the upper manhole with stoppers. At the Contractor's option either the hydrostatic or air test may be used.

Hydrostatic Test for Gravity Sewer Main- Fill the pipe and manhole with water to a point four feet below the ground surface of the upper manhole, but in no case less than four feet above the pipe invert. If ground water is present, the water surface in the upper manhole shall be at least four feet above the level of the ground water. The line shall be filled at least one hour prior to testing and shall be tested at least 2 hours by maintaining the head specified above with measured additions of water. The sum of these additions of water in the two-hour period shall be the leakage amount for the test period.

The maximum allowable head of water above any portion of sewer being tested shall be 15 feet. Where the difference in elevation between successive manholes exceeds 15 feet a test tee shall be installed between manholes, and testing shall be carried on between the tee and the manhole.

The allowable leakage shall not exceed 0.1 gallons per minute per inch diameter, per 1000 feet of main line sewer being tested.

Air Test for Gravity Sewer Main - Air test shall be applied to each length between adjacent manholes, and the procedure shall be as follows:

Pressurize the test section to 3.5 p.s.i. and hold above 3.0 p.s.i. for not less than 5 minutes. Add air if necessary to keep the pressure above 3.0 p.s.i. At the end of this 5 minute saturation period, note the pressure (must be 3.0 p.s.i. min.) and begin the timed period. If the pressure drops 0.5 p.s.i. in less than the time given in the following table the section of pipe has not passed the test.

<u>SIZE</u>	<u>MINIMUM TIME IN SECONDS</u>
4"	125
6"	185
8"	245
10"	310
12"	370
15"	460
18"	555

<u>SIZE</u>	<u>TIME IN MINUTES</u>
21"	10
24"	12
27"	14
30"	16
36"	18
42"	20
48"	23
54"	26

If the time for the pressure to drop 0.5 p.s.i. is 125% or less of the time indicated, the line shall immediately be repressurized to 3.0 p.s.i.g. and the test repeated. If, during the 5 minute saturation period, the pressure drops less than 0.5 p.s.i. after the initial pressurization and air is not added, the section undergoing the test shall have passed.

If the test did not pass, the leak shall be found and repaired to the satisfaction of the District Manager, and the section shall be retested.

When the prevailing ground water is above the line being tested, air pressure shall be increased 0.43 p.s.i. for each foot the water table is above the invert of the line.

The pressure gauge used shall be supplied by the contractor, shall

have minimum divisions of 0.10 p.s.i., and shall have an accuracy of 0.04 p.s.i. Accuracy and calibration of the gauge shall be certified by a reliable testing firm at six (6) month intervals or when requested by the District Manager.

- b. Manhole Testing - After completion of manhole construction, all manholes shall be tested for leakage. The Contractor shall furnish all labor, tools, and equipment necessary to make the tests and to perform any work incidental thereto. He shall, at his own expense, correct any excess leakage and repair any damage to the pipe and its appurtenances or to any structures resulting from or caused by these tests. Each manhole shall be tested by Vacuum Test or by Hydrostatic Test.

Vacuum Test - Testing shall be performed in accordance with ASTM C1244-93, "Standard Test Method for Concrete Sewer Manholes by Negative Air Pressure (Vacuum) Test."

The vacuum test shall be performed prior to backfilling around the manhole.

Preparation of the manhole prior to testing shall include plugging all lift holes and temporarily plugging all pipes entering and existing the manhole, taking care to securely brace the pipes and plugs to prevent them from being drawn into the manhole.

The test head shall be placed at the inside top of the cone section and the seal inflated in accordance with the manufacturer's recommendation.

A vacuum of 10 inches of mercury shall be drawn and the vacuum pump shut off. With the valve closed, the time shall be measured for the vacuum to drop to 9 inches. The manhole shall pass if the time is greater than 60 seconds for a 48" diameter manhole, 75 seconds for 60" diameter, and 90 seconds for 72" diameter.

If the manhole fails the initial test, necessary repairs shall be made with a non-shrink grout while the vacuum is still being drawn. Retesting shall proceed until a satisfactory test is obtained.

Hydrostatic Test - Each manhole shall be tested by inserting inflatable plugs in all sewer inlets and outlets of the manhole, and filling the manholes with water to a point six inches below the base of the manhole frame.

The manhole shall be filled at least one hour in advance of the official test period to allow time for absorption. The loss of water may be determined by measuring additions of water required to maintain the specified water level, but the level shall not be allowed to fall more than 25% of the manhole depth.

The allowable leakage shall be determined by the following formula:

$$Em = .0002 \times L \times \text{square root } H$$

where Em =amount of allowable leakage in gallons per minute.

L =depth of manhole from top to bottom. (feet)

H =head of water in feet, as measured from the sewer line invert or from prevailing ground water against outside of manhole barrel. The lesser height governs.

Where the actual leakage in a manhole exceeds the allowable, the Contractor shall discover the cause, remedy it, and retest the manhole before the manhole is accepted. If the leakage is less than allowable and leaks are observed, such leaks shall be repaired.

As an alternative to the above procedure, the Contractor may fill the manhole with water prior to backfill and repair all visible leaks provided there is no ground water above base. Any visible leaks into or out of a manhole shall be repaired. Alternative methods of manhole testing will be considered by the District Manager.

Where media other than water is used for testing, the allowable leakage shall be as mutually agreed to by the District Manager and Contractor.

- c. Gravity Sewer Laterals. Gravity sewer laterals shall be tested before backfilling. The side sewer shall be plugged at its ends and filled with water through the cleanouts. The water level in the cleanouts shall be maintained throughout the test period as high as possible. One hour after filling the pipe with water, the entire line shall be visually examined for leakage. All leaks shall be repaired in an acceptable manner. The trench shall not be backfilled until the

complete inspection has been made. Following approval by the District Manager, the plugs shall be removed, the water disposed of, and the connection at the main sewer completed.

- d. Force Mains. Force mains shall be tested for leakage in conformance with applicable portions of Section 13, American Water Works Association C600, for test pressure of 150 percent of the specified working pressure for the pipe.

The test shall last at least one hour at the required pressure measured at the test pump. The allowable leakage shall be computed by the following formula:

$$L = \frac{ND(P)^{1/2}}{1850}$$

where

- L = allowable leakage, gallons per hour
- N = number of joints in test section
- D = nominal pipe diameter, inches
- P = average test pressure, pounds per square inch.

C5.11 Inspections

- (1) General Requirements: All materials, equipment, installation, and workmanship, if so required by the District, shall be tested and inspected to prove compliance with the contract requirements. For the purpose of this requirement "equipment" shall mean any mechanical, electrical, or instrumentation devices and other items with one or more moving parts.

No tests specified herein shall be applied until the item to be tested has been inspected and approval given for the application of such test.

Tests and inspections shall include:

- a. The delivery acceptance test and inspections.
- b. The installed tests and inspections of items.

Tests and inspections, unless otherwise specified or accepted, shall be in accordance with the recognized standards of the industry.

The form of evidence of satisfactory fulfillment of delivery acceptance test and of installed test and inspection requirements shall be, at the discretion

of the District, either by tests and inspections carried out in his presence or by certificates or reports of tests and inspections carried out by approved persons or organizations. The Contractor shall provide and use forms which include all test information and are acceptable in content to the District.

- (2) Delivery Inspection: The delivery inspection shall be at the Contractor's expense for any materials or equipment specified herein and shall include the following:
 - a. Inspections of items during the process of manufacture and/or on completion of manufacture, comprising material tests, hydraulic pressure tests, electric tests, performance and operating tests and inspections in accordance with the relevant standards of the industry and more particularly as detailed in individual clauses of these Specifications to satisfy the District that the items tested and inspected comply with the requirements of this contract.
 - b. Inspection of all items delivered at the site in order that the District may be satisfied that such items are of the specified quality and workmanship and are in good order and condition at the time of delivery.
- (3) Television Inspections: The District may require the use of television inspection to inspect laterals and main sewers for review and before acceptance. Copies of the tapes of such television inspection shall be submitted to the District. The District will not deem a project complete until the line is deemed acceptable by visual observation.

SECTION C6 - PAINTING

C6.01 SCOPE

Painting shall include the furnishing of all plant labor, equipment, appliances and material, and the performing of all operation in connection with the preparation of surfaces, application of all paint or other materials, and the manufacture of paints, paint materials, and miscellaneous materials incidental thereto. Surface to be painted shall receive the treatment and the number of coats prescribed in the Painting Schedule.

C6.02 STANDARD PRODUCTS

All materials, supplies, and articles furnished shall, whenever practicable, be the standard product of a recognized, reputable manufacturer. The standard products of manufacturers other than those specified will be acceptable when it is proved to the satisfaction of the District that all paint materials comply fully with the specification.

Precautions concerning the handling and the application of paint shall be shown on the label of paint and solvent containers in accordance with the Construction Safety Orders and General Industry Safety Orders of the State of California.

C6.03 CLEANING AND PREPARATION OF SURFACES

Surfaces to be painted shall be clean before applying paint or surface treatments. Oil, grease, dirt, rust, loose millscale, old weathered paint, and other foreign substances shall be removed. The removal of oil and grease shall, in general, be accomplished by blast cleaning. Minor amounts of grease and oil contaminants will be tolerated on the surface prior to blast cleaning, provided that abrasive is not reclaimed and reused.

Clean cloths and clean fluids shall be used in solvent cleaning to avoid leaving a thin film of greasy residue. Cleaning and painting shall be so programmed that dust or spray from the cleaning process will not fall on wet, newly painted surfaces. Hardware and similar accessories shall be removed or suitably masked during preparation and painting operations, or shall otherwise be satisfactorily protected.

In all cases, the recommendations of the paint manufacturer shall be rigidly followed.

C6.04 PAINT APPLICATION

1. Workmanship

In general all painting shall be done as specified herein and as set forth in CalTrans Standard Specifications Section 59 "Painting" applicable provisions.

All work shall be done in a workmanlike manner so that the finished surfaces will be free from runs, drops, ridges, waves, laps, and unnecessary brush marks. All coats shall be applied in such manner as to produce an even film of uniform thickness completely coating all corners and crevices. All painting shall be done by thoroughly experienced workman. Care shall be exercised during spraying to hold the nozzle sufficiently close to the surface being painted to avoid excessive evaporation of the volatile constituents and loss of materials into the air, or the bridging over of crevices and corners.

Spray equipment shall be equipped with mechanical agitators, pressure gauges, and pressure regulators. Nozzles shall be of proper size. Floors, roofs, and other adjacent areas and installations shall be satisfactorily protected by drop cloths or other precautionary measures. All overspray shall be removed by approved method or the affected surface repainted.

2. Atmospheric Conditions

Except as specified or required for certain water-thinned paints, paints shall be applied only to surfaces that are thoroughly dry and only under such combination of humidity and temperature of the atmosphere and surfaces to be painted as will cause evaporation rather than condensation. In no case shall any paint be applied during rainy, misty weather, or to surfaces upon which there is frost or moisture condensation without suitable protection. Where painting is permitted during damp weather, or when the temperature is at or below 50 degrees Fahrenheit, the surface shall be heated to prevent moisture condensation thereon. Bare metal surfaces, except those that may be warped by heat, may be dehydrated by flame-heating devices, immediately prior to paint application. While any painting is being done, the temperature of the surfaces to be painted and of atmosphere in contact therewith, shall be maintained at or above 50 degrees Fahrenheit, except where paints are being used which dry solely by evaporation, in which case temperature of the air and surface may be 35 degrees Fahrenheit. All paint when applied shall be approximately the same temperature as that of the surface on which it is applied.

3. Protection of Painted Surfaces

Where protection is provided for paint surfaces, such protection shall be

preserved in place until the paint film has properly dried, and the removal of the protection is approved. Items, which have been painted, shall not be handled, worked on, or otherwise disturbed until the paint coat is completely dry and hard. After delivery at the site, all shop-coated metalwork shall be repainted or retouched from time to time with specified paint whenever, in the opinion of the District Manager, it becomes necessary to maintain the integrity of the film.

4. Method of Paint Application

The specified primer or first coat of paint shall be applied by brush to ferrous surfaces which have not been blast cleaned, except as hereinafter specified. All subsequent coats for all ferrous surfaces may be brushed or sprayed. All coats for miscellaneous ferrous metal surfaces may be either brush or spray applied.

5. Coverage and Film Thickness

The actual surface area covered per gallon of paint for metal surfaces shall not exceed those listed in the following table. The first coat on metal surfaces refers to the first full paint coat and not to conditioning or other pretreatment applications. Bituminous type coating shall be applied to the thickness and in accordance with instructions contained herein. Specified coverage rates do not include spraying and other losses of material resulting from the conditions under which coating is applied.

On atmosphere exposed steel and other metal surfaces:

1st coat	500 sq ft/gal
2nd coat	500 sq ft/gal
3rd coat	550 sq ft/gal
4th coat (where required)	550 sq ft/gal

In no case shall the average total thickness (dry) of the completed protective coating system on exposed metal surfaces be less than 1.25 mils per coat as determined by G. E. film thickness gauge. The minimum thickness at any point shall not deviate more than 25 per cent from the required average.

6. Continuity

In testing for continuity about welds, projections, such as bolts and nuts, and crevices, the District Manager shall determine the minimum conductivity for smooth areas of like coating where the dry mil thickness has

been found adequate. This conductivity shall then be taken as the minimum required for these rough, irregular areas. All pin holes and holidays shall be repainted to the required coat coverage. All ferrous metal surfaces shall meet minimum continuity requirements.

C6.05 PAINT MATERIALS

Specifications of primers, washcoats, and paints are as follows:

1. Paints for Metal

IDENTIFICATION NUMBER	PAINT SPECIFICATION
P1	CALTRANS STD. SPECS. SEC. 91-2.07; Pretreatment, Vinyl Wash Primer (State Specification 8010-31A-27) For application prior to painting clean aluminum, galvanized surfaces, or blast-cleaned steel.
P2	CALTRANS STD. SPECS. SEC. 91-2.10; Vinyl Primer, Red Iron Oxide Type (State Specification 8010-31A-23) For use on metal surfaces treated with Vinyl Wash Primer, P1, above.
P3	CALTRANS STD. SPECS. SEC. 91-2.22; White Tintable Vinyl Finish Coat (State Specification 3010-31A-35) For use on metal surfaces, treated with Vinyl Wash Primer, P1, above; primarily for spray application.
P4	CALTRANS STD. SPECS. SEC. 91-2.08; Aluminum Paint, Finish Coat (State Specification 8010-31A-45) For use as a finish coat on steel, above and below water.

2. Paints for Wood

P5	CALTRANS STD. SPECS. SEC. 91-3.01; Wood Primer, Latex-Base (Federal Specification TT-P-001984, Latest Revision) For use on unpainted wood.
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P6 CALTRANS STD. SPECS. SEC. 91-3.02; Paint, Latex-Base for Exterior Wood, White and Tints (Federal Specification TT-P-96D)

For wood subject to outside exposures, previously treated with wood primer, P5, above.

3. Miscellaneous Paints

P7 SHERWIN-WILLIAMS CO., CLEVELAND, OHIO; Coal Tar Epoxy C-200; or RUST-OLEUM CORP., VERNAN HILLS, ILLINOIS; Coating No. 9578 Coal Tar Epoxy; or equal.

Two-coat application on iron and steel exposed underground and/or to moisture or sewage.

P8 CALTRANS STD. SPECS. SEC. 91-4.05; Paint, Acrylic Emulsion Exterior White and Light and Medium Tints (Federal Specification TT-P-19)

For use on exterior masonry.

P9 CALTRANS STD. SPECS. SEC. 91-4.09; Enamel, Gloss, Industrial (Federal Specification TT-E-489, Class A, Air Drying)

For use where high gloss enamel is desired, for exterior and interior primed wood and metal surfaces.

All materials shall be specifically manufactured for use on projects of this type, and shall be used on surfaces intended by the manufacturer. All materials shall be delivered in original containers, with seals unbroken.

Colors for the various surfaces to be painted shall be as required by the District. Use of different colors for the various structures or for surfaces of a single structure may be directed by the District.

C6.06 PAINTING SCHEDULE

In general, the following items shall be painted: exposed iron and steel surfaces in underground pipelines; iron and steel surfaces in above ground pipelines; exterior woodwork; all visible surfaces of equipment, bolts, nuts, hangers, clamps and similar metal devices; and all galvanized surfaces, except gratings and floor plates.

Notes:

1. For exposed iron and steel surfaces in underground pipe installation prime coat may be brush applied in shop. Touch up prime coat as required in field. Prime shall be allowed at least 72 hours drying time in good weather before recoating. All coats may be brush or spray applied. Allow at least 2 days for drying between coats.
2. For iron and steel surfaces in above ground pipe installation the surface shall be blast cleaned. Apply paint with brush or spray. Mil thickness for first two coats, 1.2 mils per coat and 1.0 mil per coat for last two coats. Second and third coats to be tinted.
3. For exterior woodwork, apply paint with brush or spray.
4. For iron and steel exposed to moisture or sewage apply coal tar epoxy a minimum of two brush coats to give a minimum of 25 mils total film thickness. Brush each coat perpendicular to strokes of preceding coat. Drying time between coats shall be as recommended by the manufacturer.

C6.07 TESTING

Testing will be conducted in accordance with the latest test methods of American Society of Testing Materials and of the Federal Test Method Standard No. 141, as applicable.

SECTION C7 - RESURFACING

C7.01 SCOPE

Resurfacing includes the furnishing and installation of all materials, equipment, and labor necessary for the replacement and restoration of all streets, roads, highways, sidewalks, curbs, gutters, driveways, and similar surfaces.

C7.02 GENERAL

Any concrete or bituminous paved surface which is broken, removed, or damaged by the Contractor's operations shall be restored at least to the condition existing prior to beginning work. Notwithstanding the provisions of this section, all work will be subject to the requirements of the entity having jurisdiction over the affected area. The Contractor shall familiarize himself with the requirements of said entity and shall comply in all respects with these requirements. Wherever there is a conflict between the requirements of the entity having jurisdiction and the requirements of this Section, the more restrictive of the two shall be the requirement with which the Contractor shall comply.

All trenches shall be saw cut prior to excavation. All breaks shall be saw cut prior to patching.

C7.03 MATERIALS

1. Concrete

Concrete shall be as hereinbefore specified in Section C3.

2. Aggregate Base Course

Aggregate base course shall conform to the requirements of CalTrans Standard Specifications, Section 26 and shall be Class 2, 1-½ inch maximum size.

3. Prime Coat

Prime coat shall conform to the requirements of CalTrans Specifications, Section 39. Liquid asphalt grade for prime coat shall be Grade MC-70.

4. Asphalt Concrete Surfacing

Asphalt concrete surface shall conform to the requirements of CalTrans Specifications, Section 39, and shall be Type B, 1/2 inch maximum size.

Paving asphalt shall conform to the provisions in Section 92 and shall be of the penetration range specified the entity having jurisdiction. Viscosity grade shall be AR 4000.

C7.04 PREPARATION OF SUBGRADE

After backfill has been properly placed in the trench and other affected areas, in accordance with the provisions herein, the surface shall be rolled or tamped until the subbase is firm and unyielding. Mud or other soft or spongy material shall be removed and the space filled with gravel and rolled or tamped in layers not exceeding 4 inches in thickness. The edges of all existing surfaces shall be saw cut and square prior to placement of the base course and final surface.

C7.05 BASE COURSE

In the absence of any requirements to the contrary by an agency having jurisdiction over the pavement replacement, the base course shall consist of a lean concrete base. Lean concrete base shall conform to the provisions of Section 90 of CalTrans Standard Specifications except that the cement content shall be not less than 2 1/2 and not more than 3 1/2 sacks per cubic yard.

Concrete base shall be placed to a depth of 6 inches (minimum) and shall extend six inches (minimum) outside of the trench line.

Aggregate base may be used for a base course at the following locations:

1. When the trench is entirely within the shoulder, gutter, or sidewalk on a public street.
2. When the trench is located in a paved area which is not a public street. Aggregate base course shall be placed to a compacted thickness equal to that which existed prior to construction or to a minimum compacted depth of 6 inches. Spreading and compacting shall be in accordance with the applicable portions of CalTrans Standard Specification, Section 26.

C7.06 CONCRETE SURFACES

Reconstruction of concrete curbs, gutters, driveways, and sidewalks shall be of the same kind of material and in not less than the same dimensions as the overall work. In the case of concrete slabs, the minimum thickness shall be 4 inches. Repairs shall be made by removing and replacing the entire portions between joints or scores and not merely by refinishing the damaged part. All work shall match the appearance of the existing improvements as nearly as practicable.

C7.07 ASPHALTIC SURFACES

After the base course has been compacted, plant-mix surfacing shall be applied to a minimum depth of 2 inches, but in no case less than the thickness of the existing pavement. Before placing the plant-mix surfacing, a prime coat of asphaltic emulsion shall be applied over the area to be resurfaced. Proportioning, mixing, spreading, and compaction of asphalt concrete shall conform to applicable portions of CalTrans Standard Specification, Section 39, except that a self-propelled mechanical spreading and finishing machine need not be used. The finished work shall be to the satisfaction of the entity having jurisdiction.

The Contractor shall submit samples of the asphalt and the aggregate for use in the design of the mix. Thickness shall be as indicated, but in no case less than that removed.

The subgrade shall be smooth graded to an even elevation using finish elevations. Any soft or spongy material encountered shall be removed and replaced with approved gravel. The Contractor shall provide adequate drainage at all times to prevent water from standing on the subgrade.

The prime coat shall be applied only when the base course is dry or contains moisture not in excess of that which will permit uniform distribution and the desired penetration. It shall not be applied unless the air temperature is 60 degrees F and rising and shall be applied at the rate of 0.25 gallons per square yard.

No mixture shall be mixed or spread when the air temperature is at or below 50 degrees F, nor when the base or binder is wet, nor when other conditions are obviously unsuitable.

No vehicular traffic of any kind shall be permitted on the finished surface until the bituminous material has cured sufficiently not to be unduly distorted.

Any foreign material that may have accumulated on the surface shall be removed before the surfaces are rolled.

C7.08 SURFACE TREATMENTS

If special surface treatments such as seal coat, armor coats, or fog seal are required by the jurisdictional authority, they shall be done to the requirements of the authority.

C7.09 RESTORATION OF SURFACE MARKERS

Traffic markers or other surface markings painted on the roadway surface which

have been damaged or destroyed shall be replaced in strict accordance with the requirements of the jurisdictional authority.

C7.10 REPLACEMENT OF TRAFFIC LOOPS

Traffic Loops that are damaged by construction shall be replaced as possible upon damage. The Contractor shall notify the District, the Police Department, and the Fire Department after damage occurs. The Contractor shall replace the damaged loops in strict accordance with the requirements of jurisdictional authority.

SECTION C8 - SEWER LINE CLEANING

C8.01 SCOPE

The Contractor should understand the purpose and scope of any sewer line cleaning specified in relation to the degree of cleaning and inspection required. The Contractor's attention is directed to the Safety and Health Provisions with respect to CAL OSHA rules and regulations to follow before entering manholes.

Examples of cleaning purposes and associated cleaning requirements follow.

1. **Removal of Blockages:** This is usually emergency cleaning. The requirement is to remove or relieve a particular blockage and prevent sewage back-up, overflow, and property damage.
2. **Routine Maintenance:** This often involves moderate root removal or the removal of light to heavy debris preventing adequate flow. The intent is to prevent blockages and restore the sewer to near-full capacity and self-scouring velocity. Cleaning requirements are not usually stringent if the purpose appears to have been achieved.
3. **Cleaning Prior to TV Inspection:** Cleaning in preparation for TV inspection must be performed. Pipe walls must be clean enough for the camera to discern structural defects, misalignment and points of infiltration. Small amounts of debris left on the sewer invert, such as sand, stone or sewage solids, may not interfere with effective inspection.
4. **Cleaning in Preparation for Sewer Pipe Joint Sealing or Pipe Lining:** Cleaning must be much more thorough than for sewer maintenance. All sand, rocks, gravel, grease, mud, sludge and other debris must be removed from the sewer invert to permit operation of a sealing packer. Roots usually enter the top portion of the pipe and should be removed to the extent necessary to effectively seal the joints.

It is usually desirable to perform the cleaning immediately prior to joint sealing or pipe lining operations to preclude the buildup of materials from infiltration and inflow sources and the shoaling of wastewater debris.

C8.02 MATERIALS TO BE REMOVED

The bulk of sewer cleaning is involved with the removal of sludge, mud, sand, gravel, rocks, bricks, grease, and roots from pipes, manholes, and wet well. Other material may be found in combined sewers.

Removal of bricks, pieces of tile and clean sand or soil indicates structural

problems such as broken or collapsed pipe (see Cleaning Precautions, of these specifications)

C8.03 SEWER CLEANING PROCEDURES

Sewers are generally cleaned downstream starting at the upstream manhole section of the area to be cleaned. Selection of equipment and methods often depends on the conditions at the time the work commences. The equipment should be capable of removing dirt, grease, rocks, sand, and other materials and obstructions from the sewer lines and manholes. If cleaning of an entire section cannot be successfully performed from one manhole, the equipment may be set up on the other manhole and cleaning again attempted. If, again, successful cleaning cannot be performed or the equipment fails to traverse the entire manhole section, it may be assumed that a major blockage exists and the cleaning effort should be terminated. The Contractor should make note of the indicated location (footage) of the blockage in anticipation of excavation which may be required. The Contractor should make note of the sewage flow and determine if the blockage is causing a sewage back-up which requires near-term or emergency action by the District. The Contractor should immediately report the need for appropriate action to the District.

C8.04 PIPE DAMAGE PREVENTING CLEANING OPERATIONS

The Contractor should recognize that there are some conditions such as broken pipe and major blockages that prevent cleaning from being accomplished or where damage would result if cleaning were attempted or continued. Should such conditions be encountered, the Contractor should not be required to clean those specific manhole sections. The Contractor will be knowledgeable of and alert for any conditions which warrant termination of cleaning activities.

Example: The removal of large quantities of fresh soil with a jet cleaner may indicate broken or collapsed pipe.

Example: The removal of bricks from a brick sewer with a bucket machine may indicate more harm is being done than good.

C8.05 DEBRIS REMOVAL

Sludge, dirt, sand, rocks, grease, and other solid or semisolid material resulting from the cleaning operation shall be removed at the downstream manhole of the section being cleaned. Passing material from manhole section to manhole section, which could cause line stoppages, accumulations of sand in wet wells, or damage pumping equipment, shall not be done.

C8.06 CLEANING TASKS

The Primary tasks performed in sewer cleaning are:

1. Dislodge materials.
2. Transport materials to a point of access.
3. Remove materials from the sewer system.
4. Transport materials to a disposal site.

Most cleaning techniques require access for men and equipment at the downstream manhole where materials are to be removed. Some cleaning techniques require equipment access to both ends of a manhole section.

C8.07 CLEANING METHODS

The Contractor should be experienced with the methods and techniques generally used with each type of sewer cleaning equipment.

1. Rodding Machine

Rotating-rod sewer cleaning equipment is practical and useful for returning clogged sewers to service. The rods are generally 3/8- to 1/2-inch in diameter and may be sectional or continuous. Rods are made of high-strength, oil-tempered spring steel.

A sewer rodding machine can push the rod through a sewer for a distance as great as 800 feet. It can also be used in curved sections.

The rodding machine should be set up in close proximity to the downstream manhole and positioned so that the flexible rod guide (containing the rotating rod) makes a gentle curve from the machine to the entrance of the sewer pipe at the bottom of the manhole. The rod is usually pushed upstream so that the flow will help bring the debris back toward the machine.

The rod can be fitted with a variety of tools. To open a line that is completely plugged, the operator can place a small spear or a corkscrew device on the end of the rod. The rodding machine will push and rotate the rod into the blockage to make an opening large enough to permit wastewater to start flowing.

The operator can then replace the corkscrew with an auger. Augers are

spiral-shaped cutting devices with diameters smaller than that of the pipe to be cleaned. The rodding machine rotates the rod and the auger, forcing the auger upstream into the sewer to grab as much of the clogging material as it can, and then retrieves the rod, pulling the debris back downstream.

The operator should set the footage meter on the machine to zero before pushing the rod up the sewer. This zero setting indicates how far the cleaning tool is into the line.

The operator can move the rod forward without rotating it, but it should be rotated in larger pipes or if debris is encountered to prevent buckling the rod. If the line is fairly clean, the rotating rod can be moved quickly and easily. When cleaning becomes difficult, increasing hydraulic system pressure and the sound and speed of the machine alert the operator. Cleaning can continue if the hydraulic pressure is within limits, but the forward speed should be reduced and the rod rotation speed maintained. The machine must have a pressure (or mechanical) overload device to prevent the rod from being twisted off if the tools should stop rotating in the sewer.

If the rod and the cutter appear to be making no forward progress and high hydraulic system pressure is indicated, the cutter probably has encountered a heavy mass of roots or other obstruction. The operator should reverse the rotation, retrieve the rod and cutter, clean the cutter of entangling roots, and then run the rod and cutter back to again attack the obstruction.

The rod can be pulled back without rotating, but in general it should not be. Spring-blade cutters can be attached at the upstream manhole and pulled back with the cutter rotating at maximum speed.

Many cleaning tools can be used by rodding machines. Among them are:

- Root saws.
- Expandable cutters with two or three knife blades that can adjust to the diameter of the sewer being cleaned.
- Sand cups are rubber discs designed to permit passage of a portion of the wastewater flow through holes in the disc, thereby creating jets which flush the debris toward the downstream manhole.

2. Bucket Machine

Bucket machines are strong, powerful pieces of equipment. They can open heavily blocked sewers clogged with large masses of roots, sand, or clay.

When a crew completes its cleaning using this type of machine, the sewer should be in good flowing condition, unless it contains broken pipe.

The crew must first thread the cable through the length of sewer to be cleaned. One method is to float or flush a light rope through the pipe, assuming that the flow is sufficient and there are no blockages or root curtains. A more positive method is to pull the cable through using a rodding machine or jet cleaner.

A bucket machine setup consists of two powered winches, each equipped with sufficient steel cable to reach between two manholes, generally not over 750 feet. The cleaning crew will center the machines over the two manholes.

A specially designed bucket serves as the connecting link between the two cables permitting the machines to pull the bucket in either direction. The bucket is designed so that one end opens and closes. One of the machines pulls the bucket into the sewer with the bucket end open. When the bucket is full, the other machine pulls it back. When the bucket is pulled back, the "clam shell" end automatically closes.

Most models can draw the bucket completely out of the manhole and, by use of a swinging boom or chute, discharge the debris into a dump truck.

After the operators have removed the bulk of the debris from the sewer line, they can replace the bucket with a "porcupine". This is a cleaning tool with stiff wire cables protruding outward. By drawing it back and forth in the sewer, the operator can remove roots and grease deposits. For a final, wiped-clean finish, the operator can replace the porcupine with a rubber "squeegee"/"swab".

3. High-Velocity Jet Machine

High-velocity jet sewer cleaning using water pressure can produce excellent results. Under favorable conditions, jet cleaning has demonstrated the ability to clean a line faster and with greater efficiency than any of the other methods.

There are many advantages. Operation is at street level without requiring the crew to enter the manhole. Little time is required for setup. An operator can quickly and thoroughly clean a small-diameter sewer 500 feet long.

Although the method uses water at high pressure, tests have shown that the water jets do not harm pipe joints. A jet cleaner can clean curved lines

where buckets and rotary cutters would harm the pipe.

The nozzle provides the cleaning action. The nozzle has a backward spray that propels the hose up the sewer to be cleaned. When the operator retrieves the hose, the water jets scour the sewer and move the debris to the downstream manhole. Refer to Section C8.05 Debris Removal for additional requirements.

4. Hydraulically Propelled Equipment

(a) Cleaning Ball:

Over the years, the use of a rubberized ball to clean flowing sewers has proved its effectiveness. An experienced operator will hold back the ball to permit wastewater to pass around its lower perimeter, thus flushing the debris ahead to the downstream manhole.

To use sewer balls, a crew should be equipped with:

- At least 600 feet of 0.5-inch synthetic-fiber rope mounted on a winch. For balls over 15 inches in diameter, steel cable is preferred.
- A swivel and clevis that serves to attach the rope or cable to the ball.
- 400 feet of fire hose and a gate valve fitted with connections to attach to a hydrant.
- A downhole roller having a free-running wheel to be fitted into the upstream manhole for the rope or cable.
- Rubber buckets, appropriate shovels, boots, and safety harnesses for use when crew members enter the manhole.

The downhole roller is placed in the upstream manhole and set firmly in place. The wheel should be above and opposite the outgoing sewer opening which serves as the entry point for the ball. This wheel location permits the cleaning crew to insert the ball into the downstream pipe.

An elbow trap is placed in the outgoing pipe of the downstream manhole to confine debris flushed out by the ball and permit passage of wastewater downstream. The rope or cable is passed under the roller and secured to the ball. The ball is then inserted into the

outgoing pipe. Finally, hydrant water, via air gap, is introduced at an upstream manhole to raise the level in the upstream manhole to a depth of approximately 3 feet.

A few tugs on the rope, permitting some water to escape around the perimeter of the ball, will start the ball moving. Most of the water will escape around the lower surface of the ball since the ball's buoyancy will hold it against the top of the pipe. The static head will then force the ball to move downstream. The operator must keep the rope or cable tight to prevent it from overriding the ball if the ball is not inflated to a snug fit.

The ribbed ball flutters, rather than spins, in the pipe. It will develop about 6 inches of turbulent water on the downstream side, and this water will lift the debris and flush it toward the downstream manhole, where it can be shoveled out or removed by debris removal equipment. If the ball stops moving, it is pulled back, increasing the flow around the ball, which levels the debris and allows the ball to proceed.

In general, the ball is inflated with enough air to make it fit snugly in the pipe, although some conditions can require the ball to be underinflated. The operators must learn through experience how much inflation is required.

The cross-sectional area of a cleaning ball increases with the square of its diameter. Thus, a 30-inch ball has four times the area of a 15-inch ball. With the same head of water behind it, the 30-inch ball will have four times the propulsive force of a 15-inch ball and nine times the force of a 10-inch ball. Large cleaning balls are hard to control and difficult to handle and may require winch truck with cable.

(b) Hinged-Disc Cleaner (Scooter):

The hinged-disc cleaner operates in a manner similar to that of the ball. The device is inserted into the outgoing sewer line. Flow is reduced and the resulting head causes the machine to roll down the pipe until debris is encountered. The scooter will then stop, causing the water to rise upstream. A cable attached to the device is then pulled back, causing the upper half of the disc to rotate backward and release the accumulated head. The velocity of the released water is generally several times the normal velocity of the sewage and washes the debris downstream, where it is removed at the next manhole.

When heavy debris is encountered, the device is pulled back, causing the flushing action, and then released. This operation results in a completely clean pipe.

The hydraulic force available increases with the square of the pipe diameter, while the amount of debris increases in proportion to the diameter. As a consequence, the scooter's ability and efficiency increase in larger pipe, but a large amount of water is required.

C8.08 CLEANING EQUIPMENT

There are five types of cleaning equipment:

- a. Rodding machines
- b. Bucket machines
- c. High-velocity jet machines
- d. Hydraulically propelled equipment
- e. Debris removal equipment (including combination machines)

Cleaning equipment is available with characteristics ranging from light to heavy duty. Each type of equipment can utilize special attachments, tools, and methods to expand its capabilities. Cleaning equipment will be evaluated here with emphasis on its primary application.

The Contractor should be concerned with the type of equipment used most notably in areas where the Contractor's equipment is likely to cause pipe damaged, flooding of private property, etc. In hills, only the bucket machine can be used for sewer cleaning unless authorized by the District Manager.

The applications, advantages and limitations of each type of sewer cleaning equipment are summarized on the following pages.

1. Rodding Machines

Materials removed:

Most effective for dislodging roots and relieving blockages.

Applicable for dislodging and transporting sludge, mud, and grease using appropriate accessory tools and adequate flushing water.

Pipe size range:

Generally 6-inch to 18-inch pipes due to the limited pulling power and the tendency of the rod to bend in larger pipes.

Technique advantages:

Access to the downstream manhole only is required.

Can be used at the upstream manhole under surcharge conditions.

Threading the sewer line is not necessary; often used for threading sewer lines for other cleaning or inspection equipment.

Fast response to emergency stoppages.

Technique limitations:

Generally ineffective for cleaning heavy solids.

A large quantity of water is required for "brush and flush" cleaning.

Does not provide for removal of materials from the manhole.

Rod and/or tool can be broken off in the sewer line.
Operation is moderately hazardous.

2. Bucket Machines

Materials removed:

Most effective for dislodging, transporting and removing heavy solids such as gravel, rocks, bricks, and roots.

Applicable for dislodging and transporting mud, sand, and grease.

Pipe size range:

Generally 18-inch to 36-inch pipes make the best use of the available power although 8-inch to 15-inch pipes can be cleaned.

Technique advantages:

Provides the "iron and power" for removal of large amounts of heavy

solids and roots.

Effective in large-diameter pipe.

Various buckets, scrapers, brushes, and squeegees are available.

Can remove materials from the manhole.

Technique limitations:

Access to both manholes is required.

Threading the sewer line is necessary.

Time consumed is longer than for other methods for light cleaning.

Uses heavy tools and has the power to damage the pipe.

Curved pipe, structurally damaged pipe, off-set joints, and intruding service connections can preclude the use of bucket machine tools.

Bucket machines are hazardous to transport, set up and operate.

3. High Velocity Jet Machines (capabilities depend on size of machine)

Materials removed:

Most effective for cleaning pipes of light solids such as sludge, mud, sand, and gravel.

Applicable for dislodging and transporting rocks and grease.

Capable of cutting root growth by using special tools in pipes. Some larger tools are available.

Effective for cleaning manholes using a scouring gun.

Pipe size range:

Most effective in 6-inch to 24-inch pipes. The effectiveness in larger pipes is reduced, especially on grease.

Materials can be cleaned from the invert of larger pipes by using a weighted nozzle.

Technique advantages:

Access to the downstream manhole only is required.

Threading the sewer line is not necessary; often used for threading sewer lines for other cleaning or inspection equipment.

Setup is fast.

Fast method for light cleaning and removal of blockages.

Operation is comparatively easy.

Effective for final cleaning prior to rehabilitation work.

Low pipe damage potential except in badly deteriorated pipe.

Few operator safety hazards are involved.

Jet cleaning provides ventilation when the upstream manhole cover is removed.

Technique limitations:

Water must be available reasonably near the work site.

Least effective on large and heavy materials such as roots, rocks, bricks.

Can cause cavitation of backfill outside broken pipe.

4. Hydraulically Propelled Equipment (cleaning ball, hinged-disc cleaner)

Materials removed:

Most effective for cleaning pipes of light solids such as sludge, mud, and sand.

Fair applicability for dislodging and transporting gravel, rocks, and grease.

Pipe size range:

Generally 8-inch to 36-inch pipes.

Best in intermediate sizes, with extreme caution required in large pipes (see Cleaning Precautions, Section 8.09 of these Specifications).

Technique advantages:

Crew access only to upstream and downstream manholes.

Minimum equipment requirements.

Operation is easy.

Few safety hazards are involved, except manhole entry.

Technique limitations:

A large quantity of water is required at or upstream of the site.

Basement flooding is a real possibility; may be used only where head in sewer will not exceed basement drain elevations.

Not applicable for removal of blockages .. sewer must be flowing.

Does not provide for removal of materials from the manhole.

Caution is required when using hydraulically propelled devices in large pipes due to the large propulsive force and the possibility of getting the equipment stuck in the sewer line with dig-up becoming the only solution.

5. Debris Removal Equipment (including combination machines)

Vacuum machines are primarily used for removal of materials from manholes when other cleaning equipment is used to dislodge and transport the materials to the access point. Some vacuum machines can remove heavy materials such as bricks. Most machines can separate solid materials from cleaning water and transport the debris to a dump site.

Note: A vacuum machine in combination with a jet machine is called a "combination machine."

Trash pumps are frequently used to remove sludge, mud, sand, and gravel from manholes.

Trailers (sometimes containing pumps, tanks and settling baffles) are frequently used to separate solid materials from cleaning water and to transport the debris to a dump site.

C8.09 CLEANING PRECAUTIONS

The Contractor should be aware of several precautions to be taken during cleaning operations.

Eroded, corroded, or otherwise structurally deteriorated pipe may collapse during cleaning operations. Visible inspection must be used to ascertain the advisability of cleaning. Sometimes a television inspection must be made prior to cleaning in such situations.

Clean soil and pieces of broken tile observed in a manhole trough are strong indications of broken, crushed, or collapsed pipe in the upstream section. Exercise due caution.

Full gage cleaning tools are subject to getting "hung up" on off-set joints, intruding service connections, root masses, and other obstructions. A tag cable and winch should be used when practical to retrieve cleaning tools and devices.

Pipe damage is possible any time powerful cleaning equipment is used. Cleaning equipment and tools should be matched to both the job and pipe conditions to avoid pipe damage.

When bucket machines are used, downhole cable rollers should always be employed. Properly installed, the lower "V" of the roller should be just below the top of the sewer pipe so the cable does not rub or catch on the entrance to the pipe. The roller must be high enough to permit free passage of the bucket into and out of the sewer pipe.

When hydraulically propelled cleaning tools (which depend on water pressure to provide their cleaning force) or any equipment which retards the flow in the sewer is used, a real possibility of a sewage back-up resulting in flooding and property damage exists. When a hydraulically propelled cleaning tool stops moving downstream for any reason (e.g., stopped by a roller in a downstream manhole), a sewage back-up starts to take place, especially if water is being added from an upstream hydrant. The Contractor should be on the lookout for such a situation.

C8.10 DISPOSAL OF MATERIALS

Solids or semisolids resulting from the cleaning operations shall be removed from the site and disposed of at a site designated by the District. All materials shall be removed from the site at the end of each workday. The Contractor may be allowed to accumulate debris at the work site beyond the stated time in enclosed

containers and as approved by the District.

C8.11 ROOT REMOVAL

Roots shall be removed in the designated sections where root intrusion is a problem. Special attention shall be used during the cleaning operations to assure almost complete removal of roots from the joints prior to joint sealing. Roots which could prevent the seating of the packer or could prevent the proper application of chemical sealants must be removed. Procedures may include the use of mechanical equipment such as rodding machines, bucket machines and winches using root cutters, root saws, porcupines, and jet machines equipped with hydraulically driven cutters.

C8.12 CHEMICAL ROOT TREATMENT

To aid in the control of roots, manhole sections that have root intrusion may be treated with an Environmental Protection Agency (EPA) registered herbicide. The application of the herbicide to the roots shall be done in accordance with the manufacturer's recommendations and in such a manner to preclude damage to surrounding vegetation. Damaged vegetation shall be replaced by the Contractor at no additional cost to the District. Safety precautions as recommended by the manufacturer shall be adhered to concerning handling and application of the herbicide.

C8.13 CHEMICAL ROOT TREATMENT METHODS

With the following application methods, roots absorb the killing agent and inhibitor. Soil in the sewer joints absorbs the inhibitor allowing it to be effective for as much as three years in open joints.

The preferred method of treating roots with a foam fumigant is as follows: The foam generator is set up at the downstream manhole. The fumigant hose is pulled through the sewer to the upstream manhole. The foam generator is then started and run until foam shows at the upstream manhole. The hose is then retrieved at a rate given on a chart provided by the equipment supplier. Foaming is terminated when foam appears at the downstream manhole. No plugs need to be used as the sewage will flow under the foam and does not rapidly wash it away. The foam tends to cling to the upper portion of the sewer giving the roots time to absorb the fumigant.

C8.14 FINAL ACCEPTANCE

Acceptance criteria for sewer line cleaning shall be as specified in the contract. The District Manager shall be satisfied that the degree of cleaning is adequate for the purpose and intent of the contract. Acceptance of sewer cleaning shall be

made upon the successful completion of the television inspection if specified in the contract. If TV inspection shows the cleaning to be unsatisfactory, the Contractor shall reclean and reinspect the sewer line until the cleaning is shown to be satisfactory. If internal sealing is to follow the television inspection, particular attention should be given to the adequacy of the cleaning to insure that proper seating of the sealing packer can be achieved.

C8.15 VARIABLES WHICH AFFECT THE DIFFICULTY OF SEWER CLEANING

The Contractor should be familiar with the many variables which may have impact on his performance, production and cost on any particular sewer cleaning job. Some variables apply to each manhole section to be cleaned.

1. Locating, exposing, removing manhole covers.
2. Access to manholes, terrain, traffic control requirements.
3. Condition of the manholes -- steps, cleanliness, structure.
4. Depth of the sewer -- difficulty of entry and debris removal.
5. Size of the pipe.
6. Depth and velocity of sewage flow.
7. Structural integrity of the pipe.
8. Off-set joints, intruding service connections, curved pipe.
9. Availability of hydrant water at or upstream of the site.
10. Depth of deposition in the pipe.
11. Type of solid materials to be removed, arranged in order of increasing difficulty -- sludge, mud, sand, gravel, rocks, grease, bricks and roots. Roots are difficult to remove completely and may be a significant factor.
12. Degree of cleanliness required -- see Intent, Article C8.01 of these specifications.
13. Productivity differences in cleaning successive vs. random manhole sections.
14. Requirements for transportation and disposal of solid materials and distance to the disposal site.

SECTION C9 - SMOKE TESTING

C9.01 EQUIPMENT

The Contractor shall provide a portable blower designed and built specifically for the use of smoke testing. The blower shall be self-contained and powered by a minimum three (3) horsepower (HP) gasoline engine and be capable of producing a minimum of 1800 cubic feet of air per minute. In addition to the blower, the Contractor shall provide all other equipment and tools and incidentals required to perform smoke testing as required by these specifications.

Attention by the Contractor is directed to the Safety and Health Provisions with respect to CAL OSHA rules and regulations to follow before entering manholes.

C9.02 SMOKE PRODUCT

The smoke product shall produce a chemical reaction generating white to gray smoke, leaving no residue, and shall be non-toxic and non-explosive. Each product shall be capable of producing 100,000 cubic feet of smoke within five (5) minutes.

Manufacturer's literature on the smoke product to be used in this project shall be provided by the Contractor for review by the District Manager prior to commencement of any work.

C9.03 PERSONNEL

The Contractor's employees performing the smoke testing under the provisions of these specifications shall be properly trained in the use of the equipment and procedures. As a minimum, they shall have at least five (5) days of previous testing experience. The five (5) days of experience shall have been acquired within a maximum of six (6) months prior to the date of award of this contract, unless specifically waived by the District. A list of employees to be used shall be provided to the District upon request.

C9.04 PROCEDURE

Upon award of the Agreement by the District and PRIOR TO COMMENCING ANY WORK, the Contractor shall provide a complete WORK SCHEDULE to the District Manager for review and approval. The Work Schedule shall be typed and shall indicate the planned progress for the proposed work.

The Work Schedule shall indicate the following:

- a. Street Name (In easements - the names of the abutting streets).

- b. Street Limits (Cross streets or property addresses).
- c. Upstream and Downstream Manhole Numbers (from District Maps).
- d. Date of Testing.
- e. Starting Time.
- f. Ending Time.

The Contractor shall not commence testing before 8 a.m. and shall terminate testing no later than 4 p.m. each day. If the Contractor wishes to test before 8 a.m. in commercial areas of the District, such testing shall be shown on the submitted WORK SCHEDULE and is subject to the approval of the District Manager. Smoke testing shall not be performed on weekends or on holidays without the prior approval of the District Manager.

Once the WORK SCHEDULE is approved by the District Manager, the Contractor shall not make any revisions or modifications to it without the WRITTEN APPROVAL of the District Manager.

The Contractor shall not perform smoke testing on days that, in the opinion of the District Manager, will hinder the results of the test.

C9.05 NOTIFICATION AND PUBLIC INFORMATION

- 1. The Contractor shall notify all providers of emergency services by phone daily of the area to be tested the next day of work. Notification shall be 24 hours in advance of the testing.

Providers of emergency services shall include the police, fire and medevac agencies which serve the area being smoke tested.

It shall be the Contractor's responsibility to keep adequate records of all notifications to emergency services and to produce them upon request by the District. Failure to comply with this requirement may be cause for the District to suspend the Contractor's operations until compliance is achieved.

- 2. The Contractor shall notify, by hand delivery of a notification letter to each address, all RESIDENCES AND BUSINESSES in the area to be tested, 48 hours in advance of the testing.
- 3. The Contractor shall require all personnel to demonstrate good judgement in performing the testing. The Contractor shall take appropriate action to insure that his employees are polite to the public in all aspects of the work and that immediate assistance is provided to property owners if needed.

C9.06 RECORDS

1. The Contractor shall prepare a bound report of the smoke testing. The report shall contain a typed log that clearly identifies each sewer main tested. For each sewer main tested, the log shall identify each point of smoke exfiltration from:
 - a. Roof gutters
 - b. Sewer cleanouts
 - c. Leakage in house laterals
 - d. Patio or area drains
 - e. Storm drain cross connections
 - f. Any other source not stated above.
2. The points of exfiltration, as identified above, shall be referenced to permanent landmarks and/or house or lot numbers. A photograph of all leaks, using a digital camera or approved equal, shall be included in the bound report. All photographs shall be clearly cross referenced to the typed log indicating the location of the leak. The Contractor shall provide the District with the photos at the end of the project in jpeg format on disk or flash drive.

All smoke testing information shall be accurately and neatly recorded on field worksheets and on 200 scale maps (1 in. = 200 ft.) or other maps of suitable scale as provided by the District. The form of the field worksheet shall be approved by the District Manager prior to the commencement of work by the Contractor.

All items described above shall be placed in a bound report. Two (2) complete copies of the report shall be submitted to the District Manager for review. Upon receiving the District Manager's review comments, the Contractor shall edit or revise the report as necessary and resubmit two copies to the District Manager.

C9.07 SAFETY

The Contractor and his personnel shall be aware of and shall follow all Federal, State and Local safety laws and regulations. Specific attention is directed to Article C1.09 Safety and Health Provisions of these specifications.

Prior to placing any smoke product into a manhole, the Contractor shall first evacuate the system with a blower.

The area of work shall at all times be protected by means of an adequate number of cones, barricades, flags or whatever means is necessary to properly and safely

protect both vehicular and pedestrian traffic.

Any condition deemed to be an unsafe condition shall be immediately corrected by the Contractor. The failure of the District Manager or its representatives to bring a potentially dangerous situation to the Contractor's attention shall not relieve the Contractor from his responsibility for providing a safe work area.

SECTION C10 - SEWER FLOW CONTROL

C10.01 INTENT

Most cleaning, inspection, joint testing, joint sealing, sewer lining and excavation operations require minimal, or at least acceptable, depth of flow in order to be performed effectively. The Contractor should be aware that excessive depth of flow will inhibit and may even prevent some cleaning, inspection and rehabilitation procedures. The Contractor shall know the provisions, requirements, specifications and responsibilities for sewer flow control (if any) that are necessary. Attention by the Contractor is directed to the Safety and Health Provisions with respect to CAL OSHA rules and regulations to follow before entering manholes.

C10.02 DEPTH OF FLOW

For effective television inspection, joint testing and/or sealing operations, the depth of flow at the upstream manhole of the manhole section being worked shall be within the recommended limits given below:

Recommended Maximum Depth of Flow for Television Inspection:

6" - 10" Pipe	20% of pipe diameter
12" - 24" Pipe	25% of pipe diameter
27" & up Pipe	30% of pipe diameter

Recommended Maximum Depth of Flow for Joint Testing/Sealing:

6" - 12" Pipe	25% of pipe diameter
15" - 24" Pipe	30% of pipe diameter
7" & up Pipe	35% of pipe diameter

When depth of flow is greater than recommended for television inspection, joint testing and/or sealing, the flow may be reduced by operation of pump stations, plugging, or by pumping and bypassing of the flow.

C10.03 PLUGGING

A sewer line plug may be installed upstream of the section being worked. The plug should be designed to permit a portion of the sewage to be released. After the work has been completed, sewage flow shall be restored to normal.

Sewer plugs are always installed in the upstream (incoming) pipe of a manhole. It is desirable that the plug be equipped with an airhose to permit deflation from above ground. A strong rope or cable shall be attached to enable the plug to be quickly pulled out of the manhole. Care must be taken to prevent a plug from being pushed into the outgoing pipe when the backed-up sewage is released.

C10.04 PUMPING AND BYPASSING

When pumping and bypassing is required, pumps, conduits, and other equipment are needed to bypass the flow of sewage around the manhole section in which work is to be performed. The bypass system shall have sufficient capacity to handle the existing flow plus additional flow that may occur. Contractor shall demonstrate bypassing operations to the District prior to any excavation. Excavation cannot begin until bypassing operations have been approved by the District.

C10.05 FLOW CONTROL PRECAUTIONS

When the flow in a sewer line is reduced, plugged, or bypassed, precautions must be taken to insure that the operations do not cause overflows, flooding or damage to public or private property. The Contractor shall closely monitor sewer surcharging upstream of the manhole section being worked and be alert for situations such as residential overflows and flooding that would be likely to occur, particularly where there are steep sewers serving houses with basements having floor drains or toilet facilities.

SECTION C11 - TELEVISION INSPECTION

C11.01 GENERAL

1. Contractor shall provide the District's with copies of all CCTV operators' NASSCO certifications. All operators shall be certified.
2. The video recordings shall be in color electronic data format, and shall give clear video/pictures of conditions of pipelines requiring cleaning and any other structural problems. VHS recordings are not allowed.
3. All data and video recording will become the sole property of the District without restrictions of future use, duplication, modification, and dissemination. The Contractor shall have no vested rights to the completed work.
4. The project data furnished by the District to the Contractor for this work shall remain the property of the District and shall be returned on termination of the contract. The Contractor may not distribute, sell or otherwise use data without permission of the District.
5. The Contractor shall have the ability to communicate with its crew at all times (i.e. cellular phone, radio, etc.) to ensure that adequate communications exists between members of the crew.
6. If the Contractor encounters a condition where public safety is threatened (such as, but not limited to, a pipe hole, pipe collapse, stoppage, blockage and/or eminent sewer spill) the District's representative shall be notified immediately. Furthermore, the Contractor shall provide a visual record of the section of line containing the condition within 8 hours to District.
7. If the CCTV camera becomes lodged inside the sewer and cannot be retrieved, the Contractor shall inform the District immediately. It is the Contractor's responsibility to remove the camera and ensure that the sewer is not damaged and SSOs do not occur.

C11.02 EQUIPMENT AND TV PICTURE QUALITY

1. The Contractor's CCTV equipment shall include video cameras, a video monitor cable, power sources, and all other equipment necessary to perform the needed CCTV inspections.
2. The cameras shall meet Cal-OSHA requirements for operating in the sanitary sewer environment.
3. The cameras shall have Pan-and-Tilt capabilities, and shall have a minimum of 360 x 270 degree rotation and illumination sensitivity shall be three lux or less and provide a minimum of 460 lines of resolution. The focal distance shall be adjustable through a range from 25 mm (1 inch) to infinity.
4. The television shall be operative in 100 percent humidity conditions.
5. During CCTV inspection, lighting intensity shall be adjusted to minimize glare. The camera must have its own light source suitable to provide a clear, in-focus

- picture of the entire periphery of the pipeline for all conditions encountered.
6. All camera systems shall be able to navigate around minor objects, roots, and debris. The system used to move the camera through the pipe shall not obstruct the camera's view or interfere with proper documentation of the sewer conditions.
 7. Manual winches, power winches, TV cable powered rewind or other devices that do not obstruct the camera view or interfere with proper documentation of the sewer conditions shall be used to move the camera through the line.
 8. The camera cable shall be retracted to remove slack and to ensure an accurate footage reading.
 9. The distance shall be measured between the exit of the start manhole and the entrance of the finish manhole for a true measurement of the length of the pipe segment, as required by PACP. Distance shall be recorded in standard units and the video display readout shall display units to one-tenth of a foot.
 10. The cable footage-counter shall be accurate to plus or minus 2 feet per 1,000 feet. The Contractor shall calibrate their measuring device monthly with a known distance prior to starting the inspection and recording process.
 11. The camera lens shall be kept clear of condensation and debris during the CCTV inspection.
 12. A Nationally Recognized Testing Laboratory must approve all electrical equipment, including CCTV cameras, for use in a Hazardous location and wet environments. This equipment must be approved for use in Class I, Division I, Group 0 Hazardous Locations as defined by the National Fire Protection Association (NFPA) Code 820-1999.
 13. Contractor shall have replacement equipment available within twenty-four (24) hours in the event of equipment breakdown.
 14. To insure peak picture quality throughout all conditions encountered during the survey, a variable intensity control of the camera lights and remote control adjustments for focus shall be located at the monitoring station. Focal distance shall be adjustable. Continuously displayed on the monitors as part of the video presentation shall be the date of the survey, number designation of the manhole section being surveyed, and a continuous forward read-out of the camera distance from the manhole of reference.

C11.03 VIDEO LABELING REQUIREMENTS

- A. The naming of the video file shall be automatic, consisting of the "FROM MANHOLE" ID, "TO MANHOLE" ID, and the eight-digit inspection date, as shown in the following example, or as specified by the District:

B10106_B10105_20100721
(FromMH_ ToMH_ YYYYMMDD)

- B. Each pipe segment (manhole to manhole) shall be identified with an initial text screen and completed in accordance with PACP's CCTV inspection form header format, as follows:

<u>Line</u>	<u>Number & Description</u>
Line 1:	Surveyed By
Line 2:	Street
Line 3:	Location Code*
Line 4:	Weather*
Line 5:	Direction of Survey (upstream/downstream)
Line 6:	Use of sewer*
Line 7:	Pipe Material
Line 8:	Pipe Diameter/Height
Line 9:	Pipe Length (on plans)
Line 10:	Start Manhole Number
Line 11:	End Manhole Number
Line 12:	Pipe ID (PSR or MMS #)
Line 13:	Inspection Time/Date

Line items noted with an asterisk (*) are optional depending on the line capacity of the text overlay equipment.

- C. This data must completely match the data entered in the database header information.
- D. During the CCTV inspection, the video shall show the following text at all times:

<u>Line Number</u>	<u>Description</u>
Line 1:	District
Line 2:	Street/ Start Manhole No. / Direction of Inspection/ End Manhole No.
Line 3:	Pipe Material / Pipe Size
Line 4:	Inspection Time/Date/Running Total

C11.04 CONDUCTING THE VIDEO INSPECTION

1. Video inspection and reporting shall be submitted in a NASSCO-compatible format and transferrable to the District's current Asset Management Software.
2. The recorded files shall have a minimum resolution of 352 by 240 pixels and an interlaced frame rate of a minimum of 24 frames per second.
3. The initial text screen shall appear no more than 15 seconds at the beginning

- of the video footage, and shall appear before the 360 degree pan of the starting manhole.
4. The camera shall be moved through the line at a uniform rate stopping when necessary to ensure proper documentation of the sewer's condition but in no case shall the television camera be pulled at a speed greater than thirty feet per minute (30 fpm).
 5. The Contractor shall make a continuous color recording of each complete pipe inspection. The recording shall also be used as a permanent record of defects. Unless directed otherwise by the District, the recording shall be MPEG 4.
 6. Separate video and data files shall be created for each sewer line segment. In case of reverse setup, such inspection shall be stored in a separate video and data files.
 7. The video recording shall include on-screen observation text and narrative for every observation recorded, in addition to the general descriptive text above.
 8. If an undocumented manhole is discovered during the inspection, then a separate inspection shall be started for the additional pipe segment.
 9. The Contractor shall pause the digital recording at any time there is a delay in the inspection and restart the digital video recording in the same digital file. The pause shall in no way affect, freeze, or interrupt the reply of the video and shall not close the video file during the inspection.
 10. During the CCTV inspection, the camera shall stop at all lateral connections, defects, and significant observations to ensure a clear and focused view of the pipe condition and shall rotate the camera head at the defect to allow for adequate evaluation at a later time. The camera shall be panned to look up all laterals.
 11. All defects and significant observations shall include a text overlay and audio narrative of the recorded observation.
 12. If the television camera will not pass through the entire section, the Contractor shall re-set his equipment in a manner so that the inspection can be performed from the opposite maintenance hole. If the camera continues to fail to pass through the entire section, the Contractor shall notify the District as soon as practicable.
 13. A full 360-degree pan of all manholes starting from street level and proceeding to the bottom of manhole is required. This video footage shall occur at the beginning of each pipe segment survey inspection. In instances when the manhole is the terminating manhole, then the pan shall occur at the end of the pipe segment survey inspection.
 14. Video footage shall be taken centered on the pipe with the water level running horizontally. The camera shall run along the invert of the pipe and not at its side, unless it is passing a point obstacle. If extended driving on the side of the pipe is required, then either the pipe needs a more thorough cleaning or an observation should be noted from the PACP codes describing the

nature of the obstacle.

C11.05 PHOTO OBSERVATIONS

- A. Digital photographs in JPEG format shall be made of all recorded defect observations. These photographs will be computer generated with the use of the inspection reporting system software.
- B. All pictures shall be recorded as a JPEG image at a minimum resolution of 640 X 480 pixels.
- C. At a minimum, all photographs shall be named consisting of the following descriptions: "FROM MANHOLE STATION NUMBER", "TO MANHOLE STATION NUMBER", eight digit inspection date, and the defect 'station' location along the pipe. It is in the Contractor's discretion as to additional data information that may be needed in the naming of the files to make each file unique within the file naming constraints of their inspection software.

B10106_B1010_20100721_125_A.jpg
FromMHStation_ToMHStation_YYYYMMDD_Defect
Position_UniqueData)

- D. A minimum of TWO photographs of each defect shall be taken, one with a perspective view and one with a close-up view.
- E. ONE photograph is required for each lateral connection looking directly at the connection and each manhole observation from the bottom of the manhole looking up. At minimum, each lateral must be verified to be in service or not, and each "live" lateral must be identified with an address.

C11.06 SPECIAL CONDITIONS

- 1. Maximum depth of flow for CCTV inspections shall be 25 percent of the pipe diameter. If the depth of flow is greater, then flow control measures must be used as described in Section C10. At the contractor's option and approval from the District, the CCTV inspection may be performed during the low flow periods between the hours of 10:00 p.m. to 6:00 a.m. The Contractor shall pay special attention to all local jurisdiction rules and regulations, especially regarding activities during off-peak hours.
- 2. If the Contractor encounters a surcharging manhole (whereas the flow at the manhole is at least 50 percent of the sewer pipe diameter), then the Contractor shall immediately notify the District's representative.

C11.07 TYPES OF PIPE (Abbreviations)

Acrylonitrile-butadiene-styrene (ABS)
Asbestos-Cement (AC)
Brick Pipe (BP)
Cast Iron Pipe (CIP)
Concrete Pipe (CP)
Corrugated Metal Pipe (CMP)
Polyethylene (PE)
Polyvinyl Chloride (PVC)
Reinforced Concrete (RC)
Reinforced Plastic Mortar (RPM)
Steel Pipe (SP)
Vitrified Clay Pipe (VCP)

C11.08 TYPES OF SEWER PIPE JOINTS

Asphaltic/Bituminous
Cement Mortar
Compression Gasket (e.g. O-ring, molded elastomeric seal)
Solvent Weld (e.g. ABS & PVC pipe)
Thermal Weld (e.g. Polyethylene pipe)

C11.09 TYPES OF SERVICE CONNECTIONS

Intruding Service Connection--is a building sewer pipe inserted into the street sewer (often through a hole broken through the side of the street sewer) which intrudes into the sewer

Saddle Tap--is a device used for a cut-in connection.

Tee--manufactured pipe fitting, enters pipe at 90° angle.

Wye--manufactured pipe fitting, enters pipe at less than 90° angle.

C11.10 TYPE OF DEBRIS (in order of increasing difficulty of removal)

Sludge--organic materials
Silt--light soil
Mud--clay soil
Sand--sand, soil and grit
Gravel--smaller than 0.5 inch
Rocks--larger than 0.5 inch

Bricks
Grease
Roots
Root Curtains--growth fills most of area above water level
Root Blockages--growth fills the pipe and causes a stoppage

C11.11 VARIABLES WHICH AFFECT THE DIFFICULTY OF TV INSPECTION

The Contractor shall be familiar with the many variables that may have impact on his performance. Some variables applying to each manhole section to be inspected are as follows:

1. Locating, exposing, removing manhole covers.
2. Access to manholes, terrain, traffic control requirements.
3. Condition of the manholes, steps, cleanliness, structure
4. Depth of the sewer, difficulty and safety of entry.
5. Depth and velocity of sewage flow.
6. Availability of water for threading the sewer line.
7. Plugging requirements--ability to plug, necessity to bypass.
8. Presence of explosive gas or combustible liquid.
9. Off-set joints, intruding joint materials, intruding service connections, curved pipe, crushed pipe and other obstructions which could prevent the passage of the camera.
10. Cleanliness of the pipe and the presence of root curtains or grease, which could foul the camera lens.
11. Size of the pipe, 6 and 8-inch pipe is tight and may involve equipment clearance problems; 10 to 21-inch pipe is best for inspection; 24 to 36-inch pipe may require special illumination and skids.
12. Production is sensitive to the number of setups required; it is possible to televise 1000 feet in one direction from a single location when inspecting successive manhole sections. Random inspection

of single manhole sections is more time-consuming.

13. Requirements for documentation by means of monitor photographs and videotape recording.
14. Weather conditions--rain affects the production rate.

C11.12 SPECIAL CONDITIONS

- A. Maximum depth of flow for CCTV inspections shall be 25 percent of the pipe diameter. If the depth of flow is greater, then flow control measures must be used as described in Section C10. At the contractor's option and approval from the District, the CCTV inspection may be performed during the low flow periods between the hours of 10:00 p.m. to 6:00 a.m. The Contractor shall pay special attention to all local jurisdiction rules and regulations, especially regarding activities during off-peak hours.
- B. If the Contractor encounters a surcharging manhole (whereas the flow at the manhole is at least 50 percent of the sewer pipe diameter), then the Contractor shall immediately notify the District's representative.

SECTION C12 – PRESSURE SYSTEMS

C12.01 SCOPE

Pressure systems include all labor, equipment and materials as required or necessary to excavate, trench, install and backfill for the construction of tank, pumps, forcemains, laterals, valves, and electrical conduit, control panel, telemetry, wiring and all related work.

C12.02 GENERAL

- A. Septic Tank Effluent Pumping (STEP) system includes a septic tank and a pump tank fitted with manhole risers, covers, and poured in place concrete slabs as shown on the District Standard Details.
- B. Grinder Pump system includes a semi-positive displacement type grinder pump mounted in a self contained basin with covers and poured in place concrete anchors as shown on the District Standard Details.

C12.03 STEP SYSTEM (On-Site Wastewater Disposal Zone only)

A. SEPTIC TANK

- 1. Size and design of the tank shall be as specified in Section B2.04 and Section C12 herein of these standard specifications.
- 2. Material for Construction
 - a) Walls, bottom and top of reinforced-concrete tanks shall be designed across the shortest dimension using one-way slab analysis. Stresses in each face of monolithically-constructed tanks may be determined by analyzing the tank cross-section as a continuous fixed frame.
 - b) Subgrade shall be prepared per manufacturer recommendations.
 - c) Reinforcing steel shall be ASTM A-615 Grade 60, $f_y=60,000$ psi. Details and placement shall be in accordance with ACI 315 and ACI 318.
 - d) Concrete shall be ready mix with cement conforming to ASTM C150, Type II. There shall be a cement content of not less than six (6) sacks per cubic yard, with 3/4-inch maximum aggregate size, and concrete shall achieve a minimum compressive strength of 3,000

psi, in 28 days.

- e) Tank shall be protected by applying a waterproof coating, Thoroseal or equal, on both inside and outside surfaces, in compliance with Council of American Building Officials (CABO), report #NRB-168; 6181.
- f) Tank shall be manufactured and furnished with access openings of the size and configuration shown on the drawings. Access covers shall have watertight seals.
- g) Outlet Risers shall be 18-inches high, shall have a minimum nominal diameter of 26 inches, and shall be factory-equipped with the following:
 - i. One 1-inch or 1¼ inch diameter (IPS) neoprene grommet for the pump discharge installed no less than eight inches from the top of the risers.
 - ii. A PVC splice box, with threaded access cap, bonded to the riser.
 - iii. Four (4) UL listed electrical cord grips, installed in the riser to provide access to the splice box.
- h) A lid shall be furnished with each riser. It shall be latching and shall be constructed of fiberglass with an aggregate finish. Riser and lid shall be located below the manhole cover.

3. Construction

- a) Riser installation - Each riser shall be bonded to the top of the concrete tank with a two-part epoxy available from Orenco Systems, Inc. The epoxy shall be applied in accordance with the manufacturer's recommendations. A generous bead of epoxy shall be laid completely around the bottom of the riser prior to mounting the riser on the top of the tank. After the riser is in place, a generous fillet of sealant shall be run completely around the inside base. Four hours curing time shall be allowed the epoxy before backfill is placed over the tanks. Care shall be exercised during the curing period to avoid dislodging the riser or disrupting the watertight seal between the riser and tank.
- b) Before backfilling, all exterior concrete joints shall be coated with a

paste of powdered bentonite clay and water. To insure water tightness, backfill around the tank shall be granular bentonite clay backfill.

4. Testing

- a) In order to demonstrate watertightness, tanks shall be tested twice prior to acceptance. Each tank shall be tested at the factory, prior to shipping, by filling to the soffit and letting stand. After 24 hours, the tank shall be refilled to the soffit and the exfiltration rate shall be determined by measuring the water loss during the next two hours. The two hour loss shall not exceed six gallons. After installation is completed, each tank shall be filled with water to the top of the riser and retested in the manner previously described.

B. EFFLUENT PUMP FOR SINGLE-FAMILY DWELLINGS

1. Material

- a) Per West Bay Sanitary District Standard Detail 21.
- b) Spare pump shall be provided to the District prior to final approval.

2. Installation

- a) Pumping system shall be installed in accordance with the manufacturer's recommendations and the standard plans.

C12.04 GRINDER PUMP SYSTEM (Single Family, On-Site Wastewater Disposal Zone only)

A. BASIN TANK

1. Size and design of the tank shall be as specified in Section B2.04 and Section C12 herein of these standard specifications.
2. Material for Construction
 - a) The tank shall be molded of fiberglass reinforced polyester resin or high density polyethylene of a grade selected for environmental stress cracking resistance and shall be with one inlet grommet to accept a pipe.
 - b) Corrugated sections are to be made of a double wall construction

with the internal wall being generally smooth to promote scouring.

- c) Corrugations of outside wall are to be of a minimum amplitude of 1 ½ inches to provide necessary transverse stiffness.
- d) Any incidental sections of a single wall construction are to be a minimum .250 inch thick.
- e) All seams that created during tank construction are to be thermally welded and factory tested for leak tightness.
- f) Tank wall and bottom must withstand the pressure exerted by saturated soil loading at maximum burial depth. All components must function normally when exposed to maximum external soil and hydrostatic pressure.
- g) The accessway shall be an integral extension of the wet well assembly and include a lockable cover assembly providing low profile mounting and watertight capability. The accessway shall include a single NEMA 4X electrical quick disconnect for all power and control functions. The accessway shall include a vent to prevent sewage gases from accumulating in the tank.
- h) The tank and accessway shall have all necessary penetrations molded in and factory sealed. All penetrations shall be watertight. No field penetrations shall be acceptable.
- i) All discharge piping shall be constructed of 304 series stainless steel and terminate outside of the accessway bulkhead with a stainless steel, 1 ¼ inch female NPT fitting. The discharge piping shall include a stainless steel ball valve rated for 200 psi. A factory installed, gravity operated, flapper-type check valve shall be built into the stainless steel discharge piping.

3. Construction

- a) Tank Installation – Excavate to a depth that the removable cover extends above the finished grade line, the grade should slope away from the unit. The diameter of the excavation must be large enough to allow for a concrete anchor. The unit shall be placed on a 6 inch deep bed of clean rounded aggregate. The aggregate shall be no larger than ¾ inch in diameter and no less than 1/8 inch in diameter. The tank shall be filled with water to the bottom of the inlet while the concrete anchor is poured. No concrete shall be poured above the

inlet.

- b) The system shall be connected as per the manufacturers recommendations and the Districts Standard Detail.

4. Testing

- a) To demonstrate watertightness, tanks shall be tested twice prior to acceptance. Each tank shall be tested at the factory, prior to shipping. After 24 hours, the tank shall be refilled and the exfiltration rate shall be determined by measuring the water loss during the next two hours. The two-hour loss shall not exceed one gallon. After installation is completed, each tank shall be filled with water and retested in the manner previously described.

B. SEMI-POSITIVE DISPLACEMENT PUMP

1. Material

- a) Pumping system shall be capable of delivering 15 gallons per minute (gpm) against a rated total dynamic head (TDH) of 0 feet and 9 gpm against a rated TDH of 138-feet.
 - i. The pump shall be a designed, integral, vertical rotor, motor driven, solids handling pump of the progressive cavity type with mechanical seal. The rotor shall be hardened stainless steel. The material for the stator shall have physical properties that include high tear and abrasion resistance, grease resistance, water and detergent resistance, temperature stability, good aging properties, and outstanding wear resistance.
 - ii. The grinder shall be placed below the pumping elements and shall be direct driven by a single, one piece stainless steel motor shaft. The grinder will be the rotating type with stationary hardened chrome steel shedding ring in alignment with the driven impeller assembly. The driven impeller assembly shall carry two hardened type 400 series stainless steel cutter bars.
 - iii. The motor shall be a 1 HP, 1725 RPM, 240V 60 Hz, single phase, capacity start, ball bearing, squirrel cage induction type with a low starting current not to exceed 30 amperes and high starting torque of 8.4 foot pounds.

- iv. Spare pump shall be provided to the District prior to final approval.

2. Installation

- a) Pumping system shall be installed in accordance with the manufacturer's recommendations and the standard plans.

C12.05 PRESSURE SYSTEM FORCEMAIN

A. Materials

1. STEP and grinder pump system forcemains shall be SDR 11 high density polyethylene pipe with polyethylene fittings. The pipe material shall comply with all requirements for Type III, Class C. Category 5, Grade P 34 according to ASTM D1248, and have a PPI recommended designation of PE 3408.
2. Tracing wire shall be coated #8 solid copper wire.

B. Construction

1. Forcemain installation shall be performed in conformance with these Standard Specifications.

C. Testing

1. Forcemain shall be tested at operating pressure for one hour.

C12.06 VALVES

A. Materials

1. Ball valves shall be polyethylene ball valves rated for 150 psi.
2. Check valves shall be of stainless steel.
3. Valve box shall be Christy reinforced concrete utility boxes with Christy reinforced concrete lids, or equal.

B. Installation

All valves and valve boxes shall be installed in accordance with the manufacturer's recommendations and the plans. All concrete boxes in paved areas shall be traffic type.

C12.07 ELECTRICAL

A. Materials

Telemetry/Control and alarms shall be installed in accordance with the manufacturer's recommendations. All elements of the installation shall conform to applicable state and local codes and regulations.

Telemetry/Control panels shall have the following features:

1. Exposed metal parts shall be treated for corrosion resistance.
2. Automatic audio-alarm reset.
3. NEMA 4X-rated, fiberglass enclosure with hinged cover.
4. Alarm circuit shall be wired separately from the pump, so that if the internal overload switch is tripped, the alarm will still function.
5. Double insulated, motor rated, single or double pole, single throw isolation switch.
6. Current Limiting Circuit Breaker: 20 amps, OFF/ON switch, DIN rail mounting (Single Pole/115V - Double Pole/220 V) with thermal magnetic tripping characteristics.
7. Electrical bypass shall be provided within the control panel.
8. Dedicated telephone line for Telemetry, supplied by the property owner.

B. Installation

The pump control panel shall be mounted on a pressure treated post near the septic tank or grinder pump. A 24-hour emergency telephone number shall be posted in the same location.

C12.08 EXISTING FACILITIES TO BE ABANDONED

After all the new installations are completed, tested and functioning, the

existing septic tank, laterals and related items shall be emptied and filled with structural backfill material or native excavated material. Ends of all pipes shall be plugged with cement concrete. Abandonment of existing septic tank shall be in accordance with the Authority having jurisdiction.

SECTION C13 – GREASE INTERCEPTORS

C13.01 SCOPE

All food service establishments are required to install, operate, and maintain an approved type and adequately sized grease interceptor necessary to maintain compliance with the objectives of this Section. All grease interceptors must meet the requirements and sizing of the California Plumbing Code and the Uniform Plumbing Code, latest editions.

C13.02 GENERAL

Grease interceptors shall be fitted with manhole risers, piping and covers, as shown on the District Standard Details. Grease interceptors shall be permanently and legibly marked with the following:

1. Manufacturer's name, model number, and trademark.
2. UPC registration mark.
3. Any other marking required by law.
4. Sampling manholes or sampling boxes may be required by the District downstream of the interceptor, on a case by case basis.

C13.03 GREASE INTERCEPTORS

Grease Interceptor Requirements.

1. **New Food Service Establishments.** All new establishments are subject to grease interceptor requirements. All such facilities must obtain prior approval from the District for grease interceptor sizing prior to submitting plans for a permit.
2. **Existing Food Service Establishments.** All existing food service establishments determined by the District to have a potential to adversely impact the District's sewer collection system will be notified of their obligation to install a grease interceptor within a specified period set forth in the notification letter. These establishments must obtain approval from the District for grease interceptor sizing prior to submitting plans for a building permit.
3. **Shared Grease Interceptors.** One or more food service establishments may comply with the requirements of this Section by use of a shared

grease interceptor. Such shared interceptor may be located on an adjacent or adjoining parcel, provided, however, that the food service establishment seeking to establish compliance by means of this Section shall demonstrate to the satisfaction of the District that: (1) it has enforceable rights to utilize the shared interceptor pursuant to an easement; declaration; covenants, conditions, and restrictions; or similar instrument; and (2) the shared interceptor is sized as necessary to accommodate the discharges of all food service establishments enjoying rights to use such interceptor; and (3) there is a mechanism providing for continued maintenance of such shared interceptor.

4. Variance from Grease Interceptor Requirements. Grease interceptors required under this Section shall be installed unless the District determines that the installation of a grease interceptor would not be feasible and authorizes the installation of an indoor grease trap or other alternative pretreatment technology. Alternative pretreatment technology includes, but is not limited to, devices that are used to trap, separate and hold grease from wastewater and prevent it from being discharged into the sanitary sewer collection system. All alternative pretreatment technology must be appropriately sized and approved by the District.

The food service establishment bears the burden of demonstrating that the installation of a grease interceptor is not feasible. If a food service establishment believes the installation of a grease interceptor is infeasible, because of documented space constraints, the request for alternate pretreatment technology shall contain the following information:

- a. Location of sewer main and any easements in relation to available exterior space outside the building;
- b. Existing building and site plumbing line plan that uses common plumbing for all services at that site;
- c. Proposed drawings and plans for the alternative pretreatment technology.

5. Installation

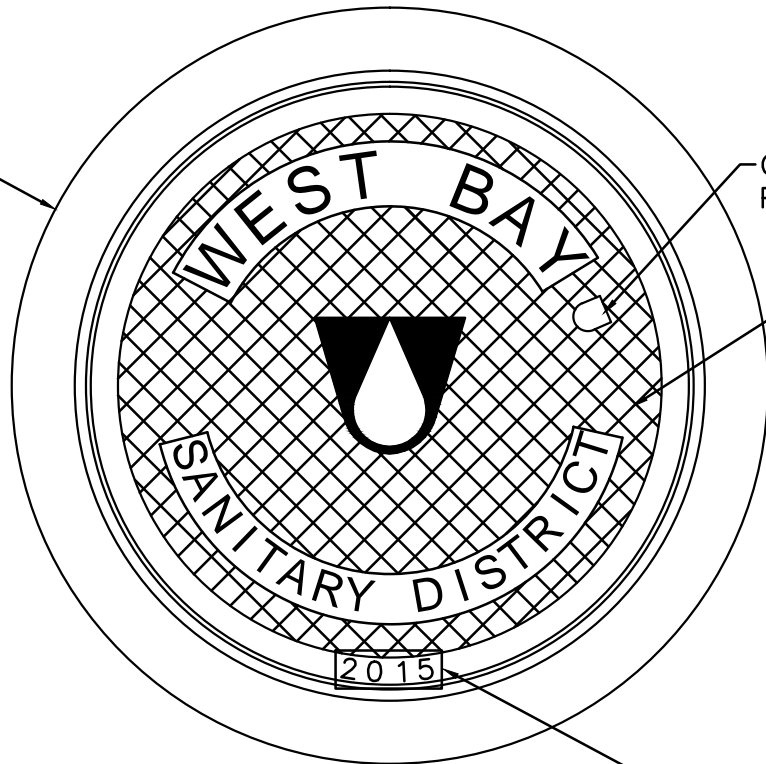
Grease interceptors shall be installed in accordance with the manufacturer's recommendations and the standard plans.

PART D

STANDARD DRAWINGS

Manhole Frame and Cover	1
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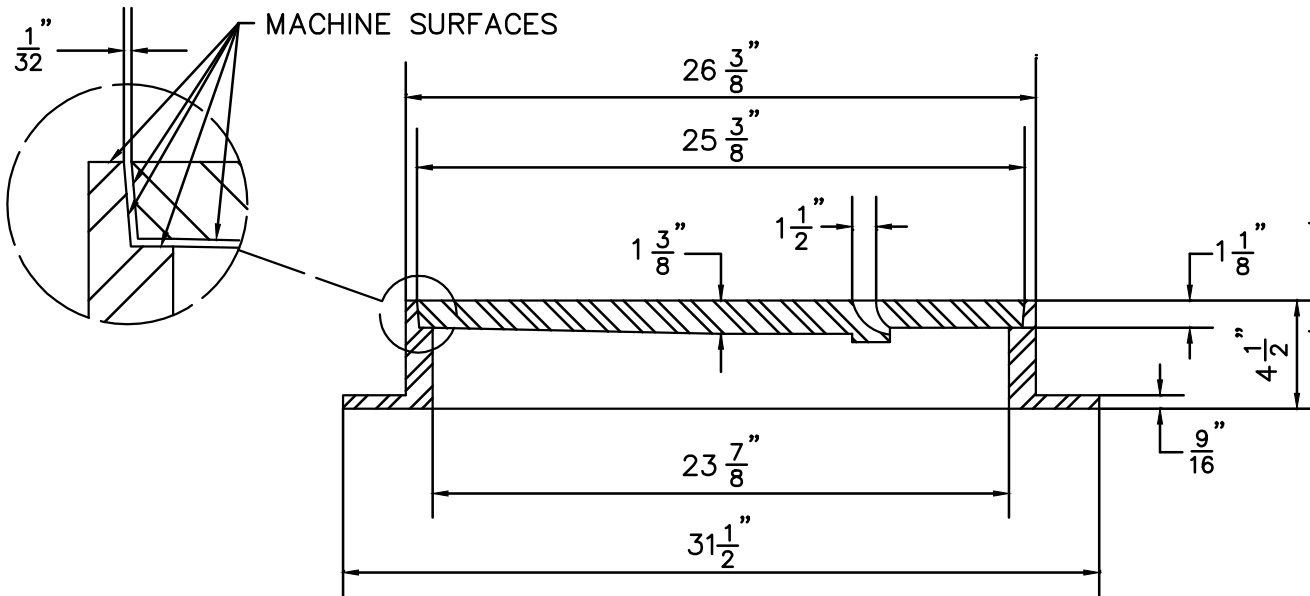
D&L FOUNDRY
STD. A-1024
MANHOLE RING
AND COVER OR
APPROVED EQUAL.



ONE MAN BLIND
PICK HOLE

SKID RESISTANT
DIAMOND TREAD
PATTERN

INSTALL CURRENT YEAR



SECTION

NOTES:

- 1) CAST IRON FOR FRAME AND COVER SHALL BE CLASS 30 MINIMUM PER ASTM A-48.
- 2) COVERS SHALL BE H-20, FULL VEHICULAR TRAFFIC LOADING, RATED AND SHALL NOT EXCEED 145 POUNDS IN WEIGHT.
- 3) THE FRAME AND COVER SHALL BE PAINTED OR DIPPED IN ASPHALT PRIOR TO LEAVING FOUNDRY.

WEST BAY
SANITARY DISTRICT

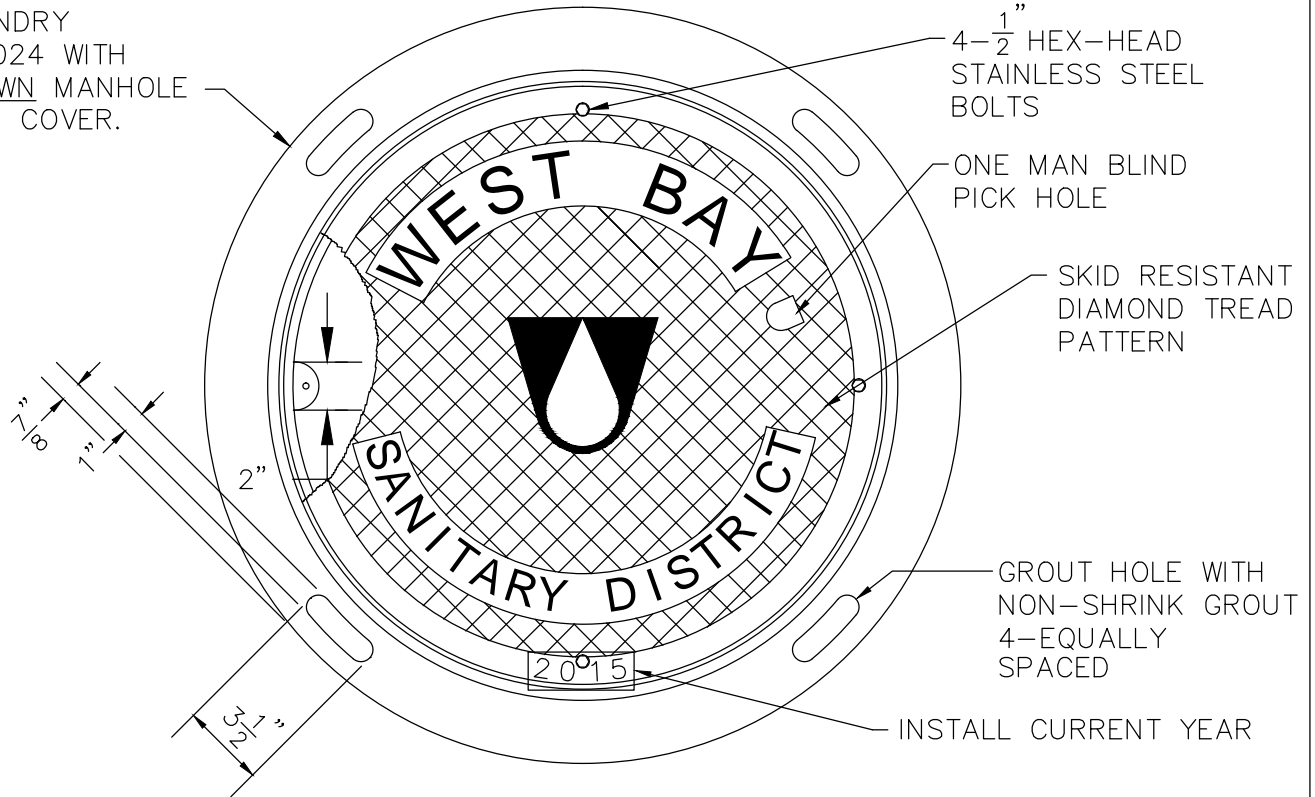
MANHOLE FRAME AND COVER

APPROVED BY:

/S/ - PHIL SCOTT
DISTRICT MANAGER

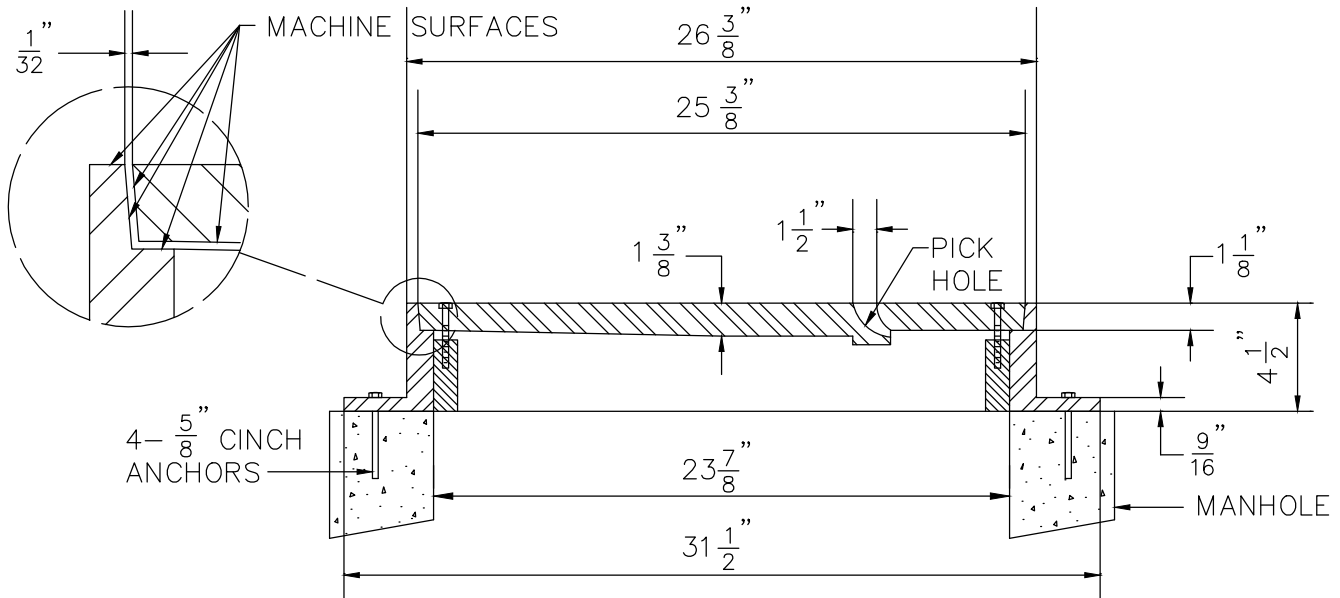
05-20-15
DATE:

D&L FOUNDRY
 STD A-1024 WITH
 BOLT-DOWN MANHOLE
 RING AND COVER.



PLAN

OPTION OF MANHOLE
 RIM WITH HINGE AND
 J-BOLT LOCK IN LIEU
 OF 4 BOLTS



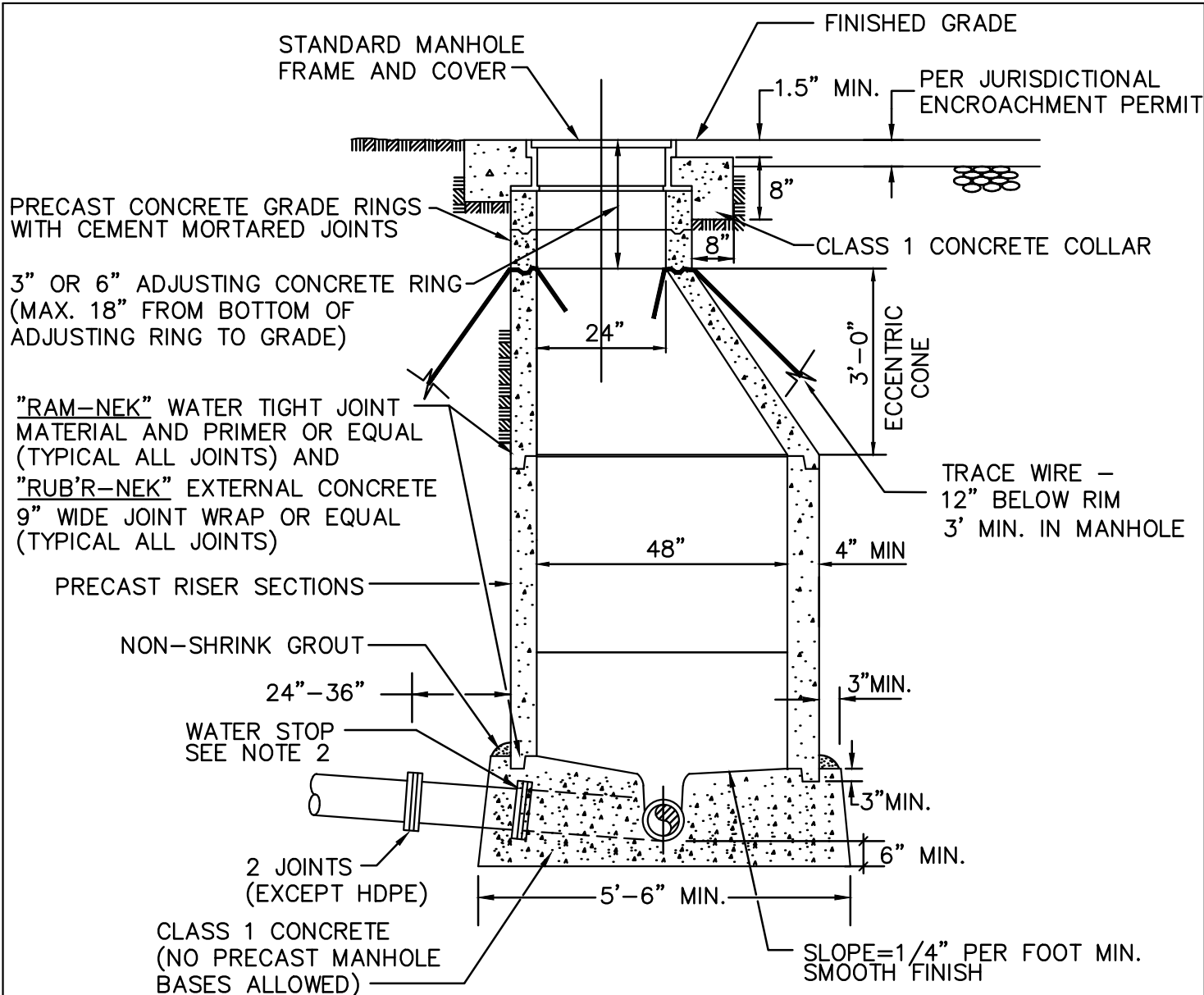
SECTION

NOTES:

1) ALL MATERIAL SHALL CONFORM TO ASTM SPECIFICATION A-159-70T-G3000.

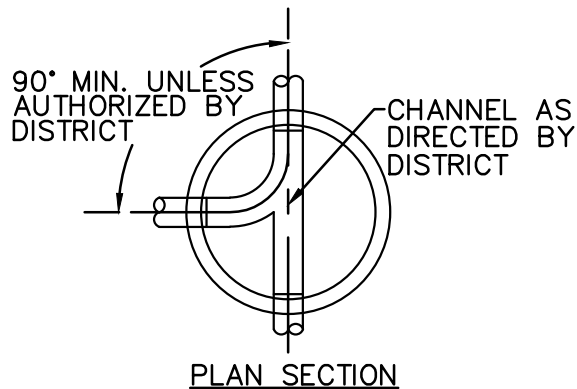
2) COVERS SHALL BE H-20, FULL VEHICULAR TRAFFIC LOADING, RATED AND SHALL NOT EXCEED 145 POUNDS IN WEIGHT.

WEST BAY		
SANITARY DISTRICT		
SCREW DOWN TYPE MANHOLE FRAME AND COVER		
APPROVED BY:		
/S/ - PHIL SCOTT		05-20-15
DISTRICT MANAGER		DATE:
		2



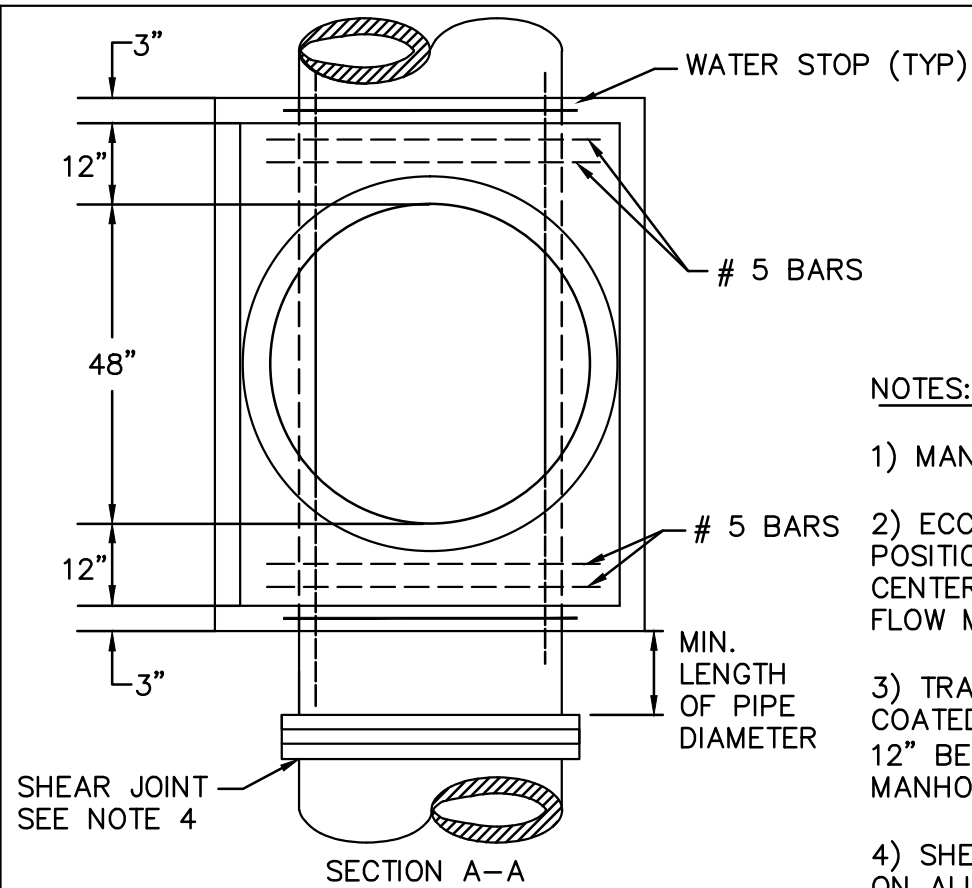
NOTES:

- 1) MANHOLE BASES SHALL BE PLACED ON IMPORTED BEDDING MATERIAL COMPACTED TO 95% RELATIVE COMPACTION.
- 2) AN APPROVED WATER STOP SHALL BE INSTALLED ON ALL FLEXIBLE PIPE ENTERING OR LEAVING A MANHOLE, AND CENTERED UNDER MANHOLE WALL.
- 3) INSTALL "RAM-NEK" WATER TIGHT JOINT MATERIAL OR EQUAL BETWEEN EACH JOINT OF CONE AND BARREL SECTIONS TO MAKE A FLEXIBLE WATERTIGHT JOINT. AFTER JOINT IS MADE, TRIM JOINT SMOOTH ON INSIDE OF MANHOLE.
- 4) STEPS IN MANHOLES ARE NOT ALLOWED.
- 5) TRACE WIRE SHALL BE SOLID AND COATED 8 GAUGE COPPER WIRE PLACED 12" BELOW RIM WITH 3' COILED UP IN MANHOLE.
- 6) MANHOLES SHALL BE VACUUM TESTED.
- 7) ECCENTRIC CONE SHALL BE POSITIONED IN SUCH A MANNER OVER CENTER OF PIPE FOR INSTALLATION OF FLOW METER SENSOR BRACKET.
- 8) CONCRETE PLATFORMS MAY BE REQUIRED ON A CASE BY CASE BASIS.



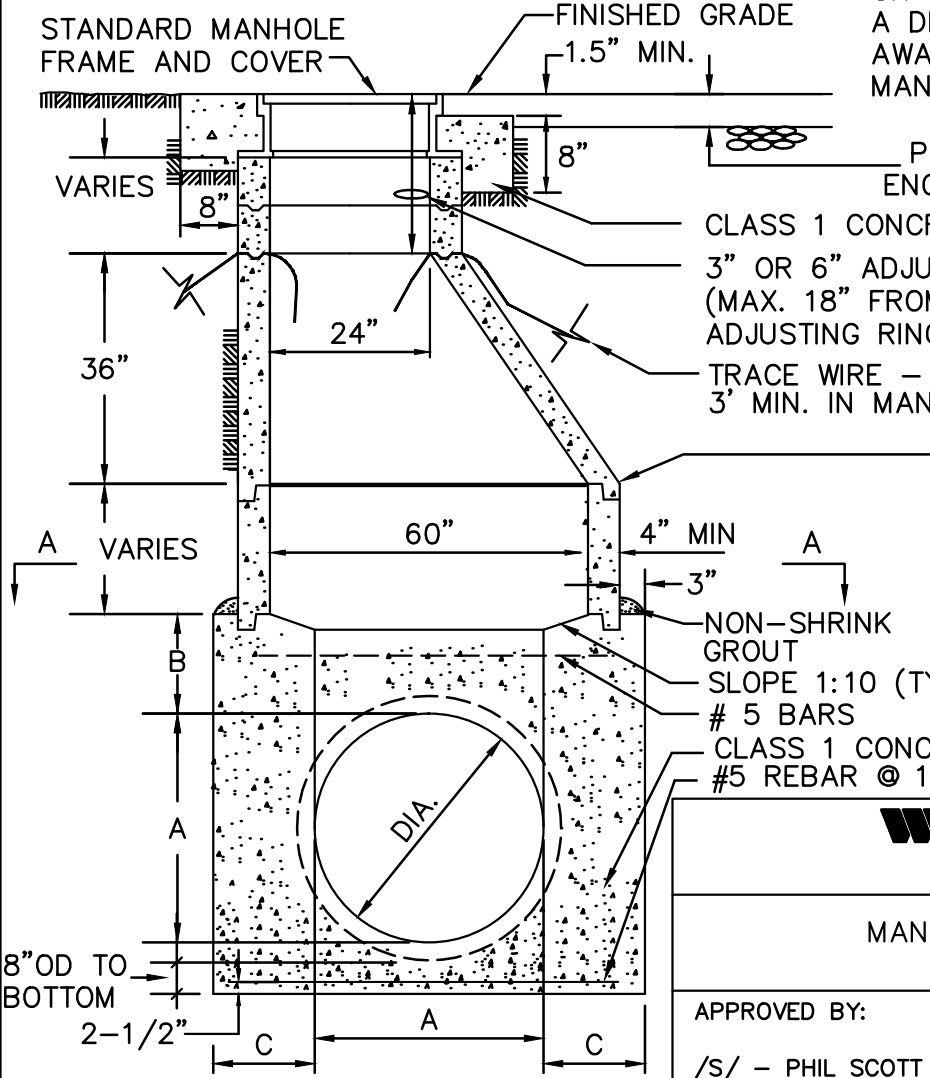
WEST BAY		
SANITARY DISTRICT		
MANHOLE FOR 21" DIAMETER AND SMALLER PIPE		
APPROVED BY:		
/S/ - PHIL SCOTT		05-20-15
DISTRICT MANAGER		DATE:
		3

DIA.	A	B	C MIN.
24"	24"	9"	19"
27"	27"	9"	17.5"
30"	30"	9"	16"
36"	36"	9.5"	13"



NOTES:

- 1) MANHOLE SHALL BE VACUUM TESTED.
- 2) ECCENTRIC CONE SHALL BE POSITIONED IN SUCH A MANNER OVER CENTER OF PIPE FOR INSTALLATION OF FLOW METER SENSOR BRACKET.
- 3) TRACE WIRE SHALL BE SOLID AND COATED 8 GAUGE COPPER WIRE PLACED 12" BELOW RIM WITH 3' COILED UP IN MANHOLE.
- 4) SHEAR JOINT SHALL BE INSTALLED ON ALL INCOMING AND OUTGOING PIPES A DISTANCE OF ONE PIPE DIAMETER AWAY FROM THE OUTSIDE OF THE MANHOLE.



- PER JURISDICTIONAL ENCROACHMENT PERMIT
- CLASS 1 CONCRETE COLLAR
- 3" OR 6" ADJUSTING CONCRETE RING (MAX. 18" FROM BOTTOM OF ADJUSTING RING TO GRADE)
- TRACE WIRE - 12" BELOW RIM 3' MIN. IN MANHOLE
- "RAM-NEK" WATER TIGHT JOINT MATERIAL AND PRIMER OR EQUAL (TYPICAL ALL JOINTS) AND
- "RUB'R-NEK" EXTERNAL CONCRETE 9" WIDE JOINT WRAP OR EQUAL (TYPICAL ALL JOINTS)
- NON-SHRINK GROUT
- SLOPE 1:10 (TYP.)
- # 5 BARS
- CLASS 1 CONCRETE
- #5 REBAR @ 12" O.C.E.W.

WEST BAY
SANITARY DISTRICT

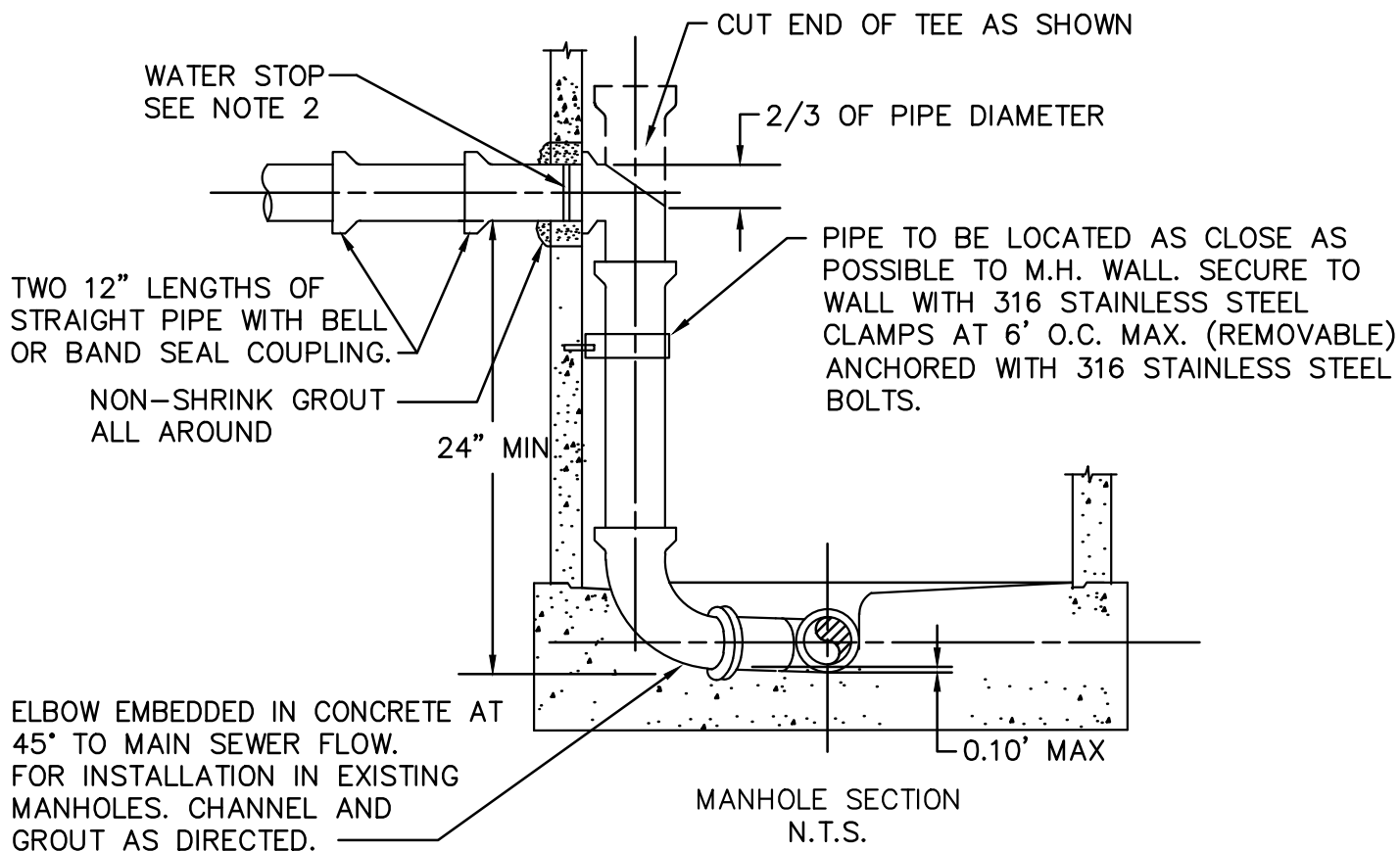
MANHOLE FOR 24" DIAMETER AND LARGER PIPE

APPROVED BY: _____ DATE: _____

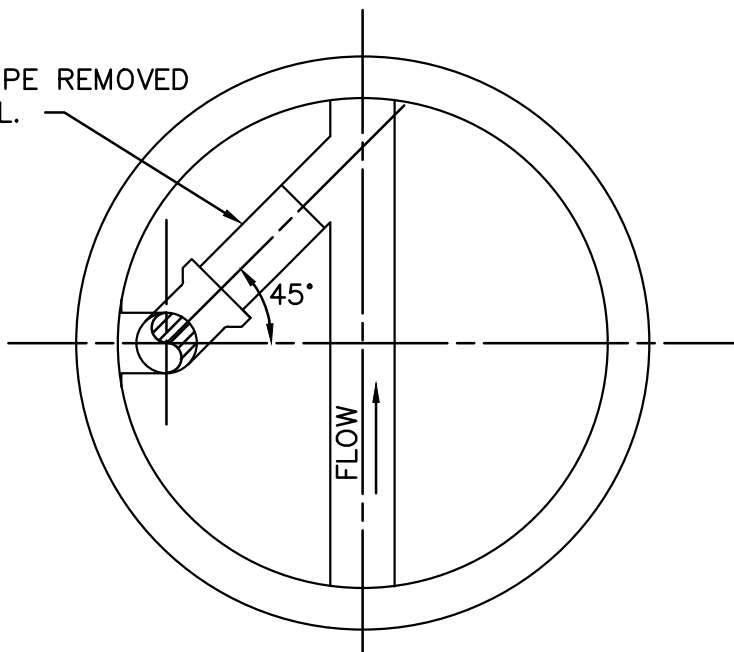
/S/ - PHIL SCOTT
DISTRICT MANAGER

05-20-15
DATE:

4



TOP 1/2 PIPE REMOVED
BEYOND ELL.



PLAN
N.T.S.

NOTE:

1. ALL INSIDE DROP PIPING TO BE SAME SIZE AND MATERIAL AS EXTERNAL PIPE, UNLESS APPROVED BY DISTRICT.
2. AN APPROVED WATER STOP SHALL BE INSTALLED ON ALL FLEXIBLE PIPE ENTERING OR EXITING MANHOLE.
3. SEE DETAIL 3 AND 4 FOR MANHOLE DETAIL.

WEST BAY
SANITARY DISTRICT

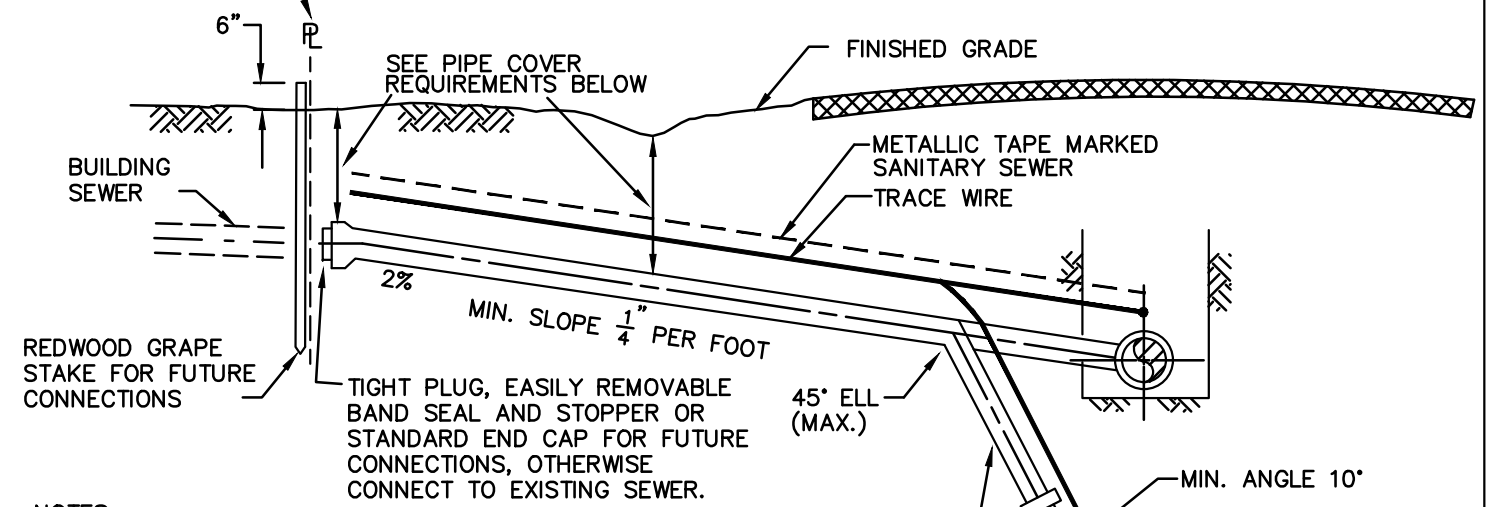
STANDARD INSIDE DROP MANHOLES
(4", 6" AND 8" DIAMETER PIPES ONLY)

APPROVED BY:

/S/ - PHIL SCOTT
DISTRICT MANAGER

05-20-15
DATE:

INSTALL WYE C/O AT OR WITHIN FIVE FEET OF PROPERTY LINE



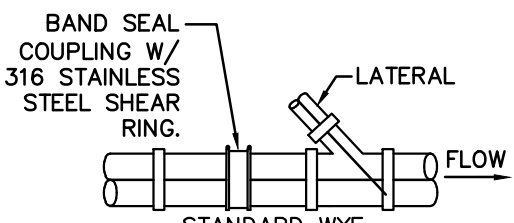
NOTES:

1. FOR SEWER DEPTHS FROM MINIMUM COVER TO 5 FEET, USE STANDARD WYE CONNECTION. FOR DEPTHS BELOW 5 FEET, USE STANDARD TEE CONNECTION WITH SLOPING RISER AS SHOWN. TAP-TITE CONNECTIONS MAY BE USED WHERE APPLICABLE.
2. WHEN SEWER IS AT MINIMUM DEPTH, HOLD SERVICE LINE TO MINIMUM SLOPE AND LESSEN COVER AT PROPERTY LINE, OTHERWISE 3 FEET OF COVER TO OFFICIAL GRADE IS REQUIRED AT PROPERTY LINE.
3. THE LOCATION OF ALL SEWER LATERALS SHALL BE MARKED WITH A LETTER "S" ON TOP OF CURB OR BACK OF WALK.
4. ALL SERVICE TEES OR WYES SHALL BE MANUFACTURER'S STANDARD FITTINGS. CONNECTION CLOSURE SHALL BE BY STANDARD BAND SEAL COUPLINGS WITH 316 STAINLESS STEEL SHEAR RING ON SERVICE ADDITIONS. NO PIPE BREAKING AND CONCRETE PATCHING WILL BE PERMITTED, ONLY NEATLY SNAPPED OR SAWCUT LENGTHS WILL BE ALLOWED.
5. 8 GAUGE COPPER WIRE OR COATED COPPER WIRE FOR TRACING PURPOSES SHALL BE PLACED ON ALL NEW LATERALS AND REPLACEMENT LATERALS WHEN EXCAVATION IS FROM MAIN LINE TO THE PROPERTY LINE CLEANOUT. WIRE TO BE BROUGHT TO RISER WITH TWO FEET COILED INSIDE BOX.
6. TAP-TITE AND TEE CONNECTIONS ARE NOT ALLOWED IN TERMINATING SEWER MAINS (MOST UPSTREAM LINE).
7. CONTRACTOR SHALL PLACE ROOT CONTROL FABRIC OVER ALL JOINTS AS SHOWN ON WEST BAY SANITARY DISTRICT DETAIL NO. 13.
8. CONTRACTOR SHALL INSTALL BEDDING AND BACKFILL MATERIAL AS SHOWN ON WEST BAY SANITARY DISTRICT DETAIL NO. 8.
9. PIPE MATERIAL FOR LATERALS SHALL BE DIP CLASS 50 OR 51, OR PVC C900 DR18.

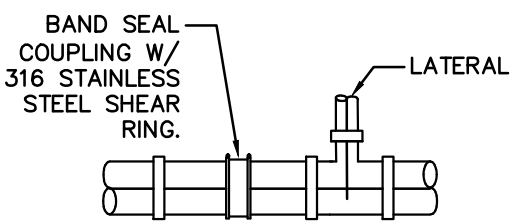
RISER TO REST AGAINST UNDISTURBED SOIL. WHERE TRENCH IS TOO WIDE, PVC C-900 DR 18 PIPE SHALL BE USED AND SHALL BE INSTALLED VERTICALLY IN CONCRETE CRADLE.

POUR CONCRETE SUPPORT 1'-0" WIDE

DEEP SEWER - GREATER THAN 10'

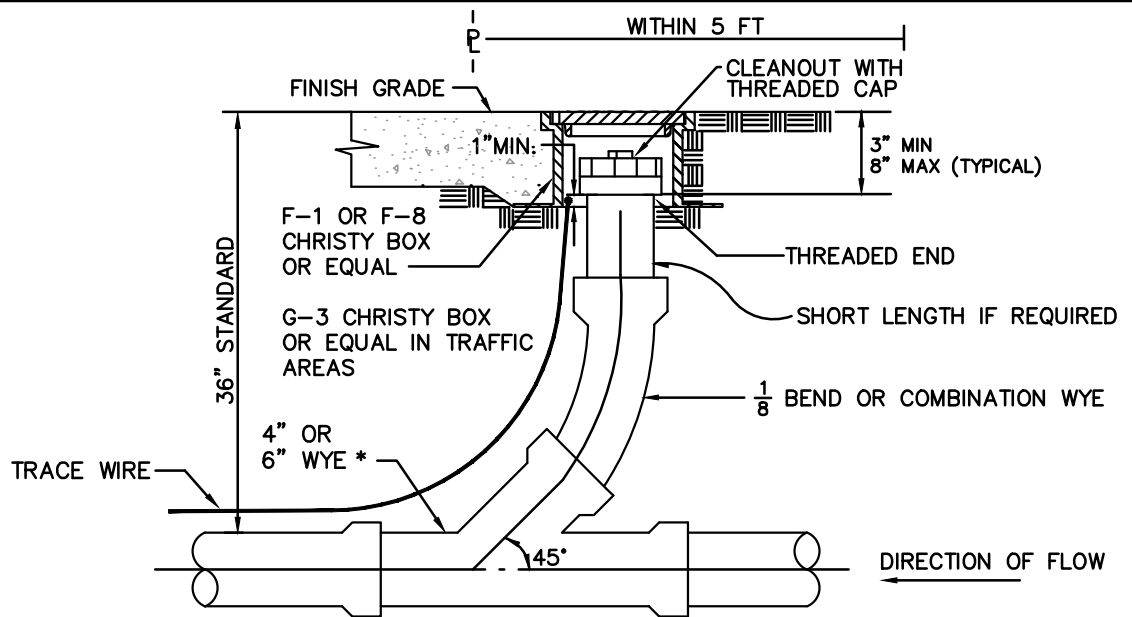


SEE NOTES 1 AND 4



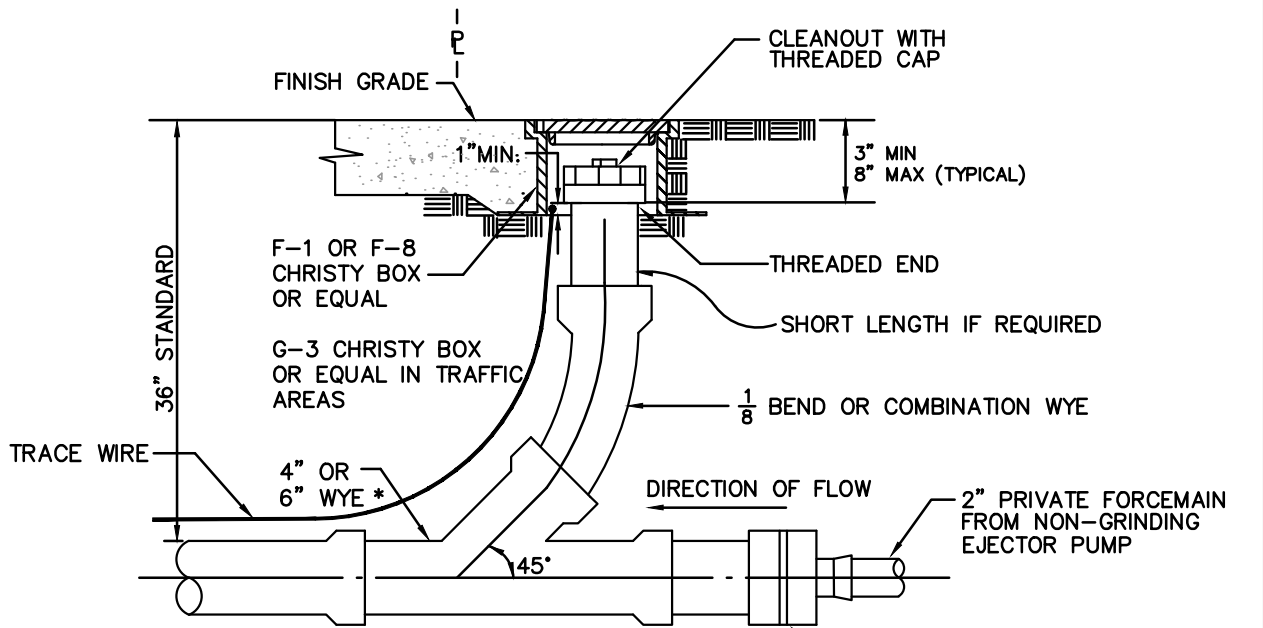
SEE NOTES 1 AND 4

WEST BAY	
SANITARY DISTRICT	
SANITARY SEWER LATERAL CONNECTIONS	
APPROVED BY:	
/s/ - PHIL SCOTT	05-20-15
DISTRICT MANAGER	DATE:



NOTE: SEWER PIPE JOINTS SHALL BE "BELL AND SPIGOT" JOINTS

VERTICAL RISER/GRAVITY SEWER



NOTE: SEWER PIPE JOINTS SHALL BE "BELL AND SPIGOT" JOINTS

VERTICAL RISER/PRIVATE FORCEMAIN TO GRAVITY SEWER

NOTES:

- 1) THE CLEAN OUT ASSEMBLY SHALL BE THE SAME SIZE AS THE LATERAL SEWER IT SERVICES.
- 2) COVERS SHALL BE C.I. FOR STREETS, ALLEYS OR DRIVES, OTHERWISE FIBRELYTE OR CONCRETE FOR NON-TRAFFIC USE.
- 3) #8 GAUGE SOLID AND COATED COPPER WIRE FOR TRACING PURPOSES SHALL BE PLACED ON ALL NEW LATERALS AND REPLACEMENT LATERALS WHEN EXCAVATION IS FROM MAIN LINE TO THE PROPERTY LINE CLEANOUT. WIRE TO BE BROUGHT TO RISER WITH TWO FEET COILED INSIDE BOX.
- 4) ALL CLEAN OUT BOX LIDS SHALL BE MARKED WITH A LETTER "S" OR THE WORD "SEWER".
- 5) WYE SHALL BE INSTALLED AT OR WITHIN 5 FEET OF PROPERTY LINE.

6) CONTRACTOR SHALL PLACE ROOT CONTROL FABRIC OVER ALL JOINTS AS SHOWN ON WEST BAY SANITARY DISTRICT DETAIL NO. 13.

7) CONTRACTOR SHALL INSTALL BEDDING AND BACKFILL MATERIAL AS SHOWN ON WEST BAY SANITARY DISTRICT DETAIL NO. 8.

WEST BAY

SANITARY DISTRICT

SERVICE LATERAL CLEANOUT

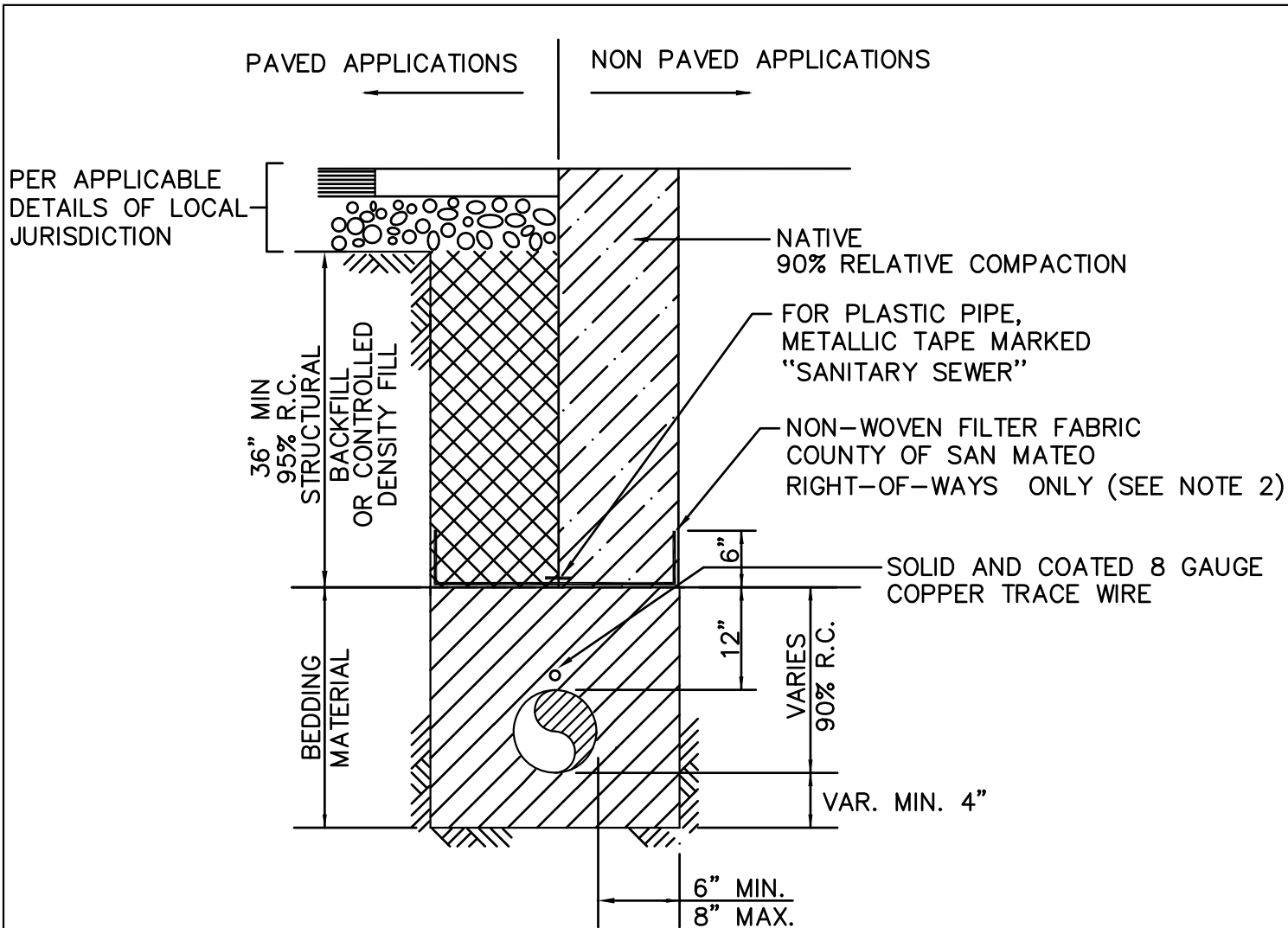
APPROVED BY:

/S/ - PHIL SCOTT

DISTRICT MANAGER

05-20-15

DATE:



TYPICAL TRENCH SECTION

BEDDING MATERIAL

ANGULAR BEDDING MATERIAL REQUIREMENTS
PERCENT PASSING (CRUSHED DRAIN ROCK)

SIEVE SIZES	PERCENTAGE PASSING
1"	100
3/4"	90-100
3/8"	20-55
#4	0-10
#8	0-5

STRUCTURAL BACKFILL

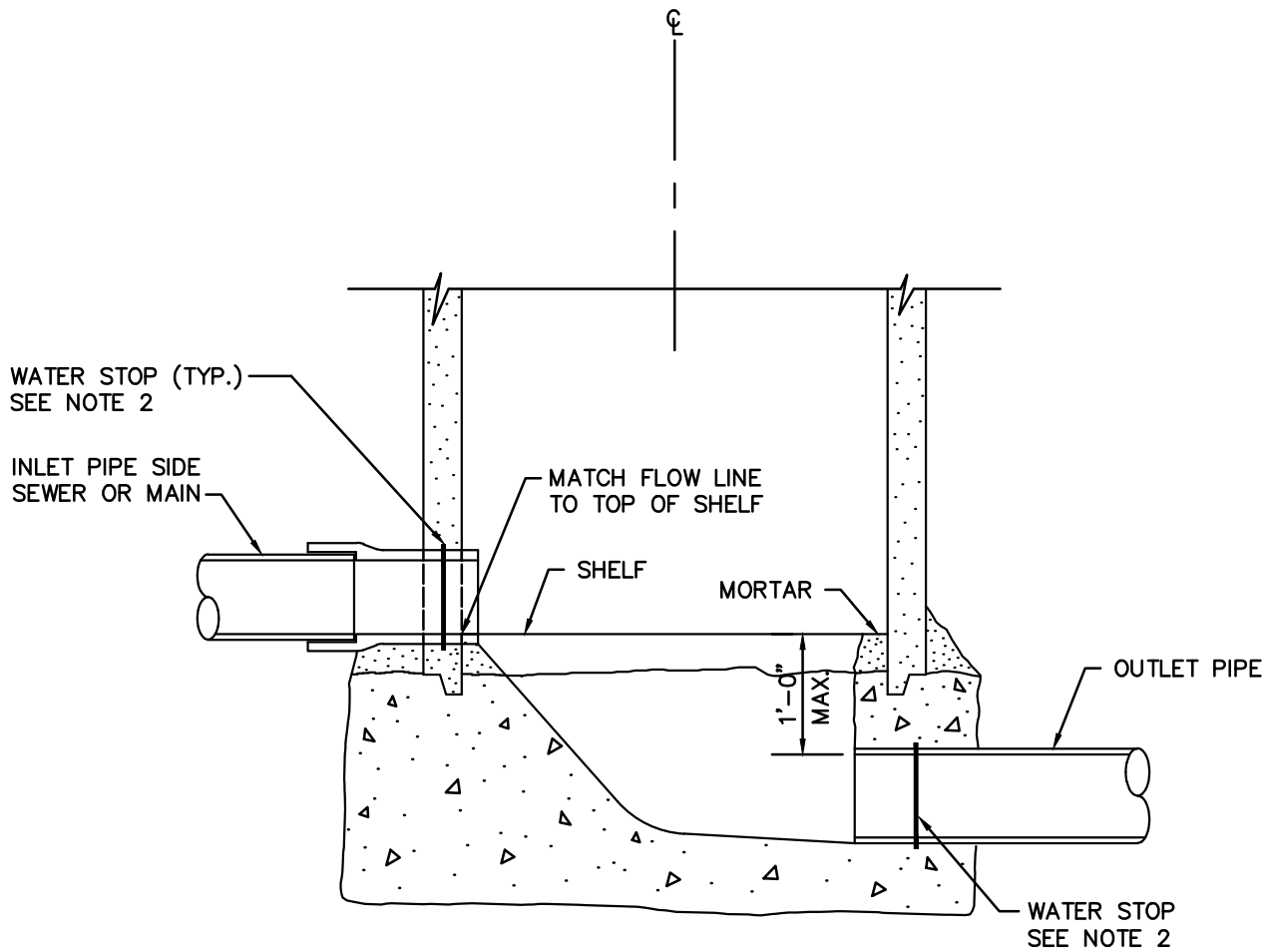
STRUCTURAL BACKFILL REQUIREMENTS
PERCENT PASSING

SIEVE SIZES	PERCENTAGE PASSING
1-1/2"	100
3/4"	80-100
#4	30-60
#30	5-35
#200	0-12

NOTES:

- 1) STRUCTURE BACKFILL AND BEDDING SHALL ALL BE VIRGIN MATERIALS.
- 2) IN COUNTY OF SAN MATEO RIGHT-OF-WAYS ONLY, NON-WOVEN FILTER FABRIC SHALL BE PLACED AS SHOWN PRIOR TO BACKFILLING ABOVE PIPE ZONE. FILTER FABRIC SHALL BE LAPPED 6" LONGITUDINALLY.

WEST BAY	
SANITARY DISTRICT	
EXCAVATION, BACKFILL AND SURFACE RESTORATION	
APPROVED BY:	
/S/ - SERGIO RAMIREZ	08-04-20
DISTRICT MANAGER	DATE:
	8



ELEVATION

NOTES:

- 1) SEE STANDARD MANHOLE DETAIL FOR MANHOLE CONSTRUCTION AND DIMENSIONS.
- 2) AN APPROVED WATER STOP SHALL BE INSTALLED ON ALL FLEXIBLE PIPE ENTERING OR EXITING MANHOLE.

WEST BAY
SANITARY DISTRICT

DROP MANHOLE DETAIL FOR CONNECTION
OF EXISTING SEWER TO NEW MANHOLE

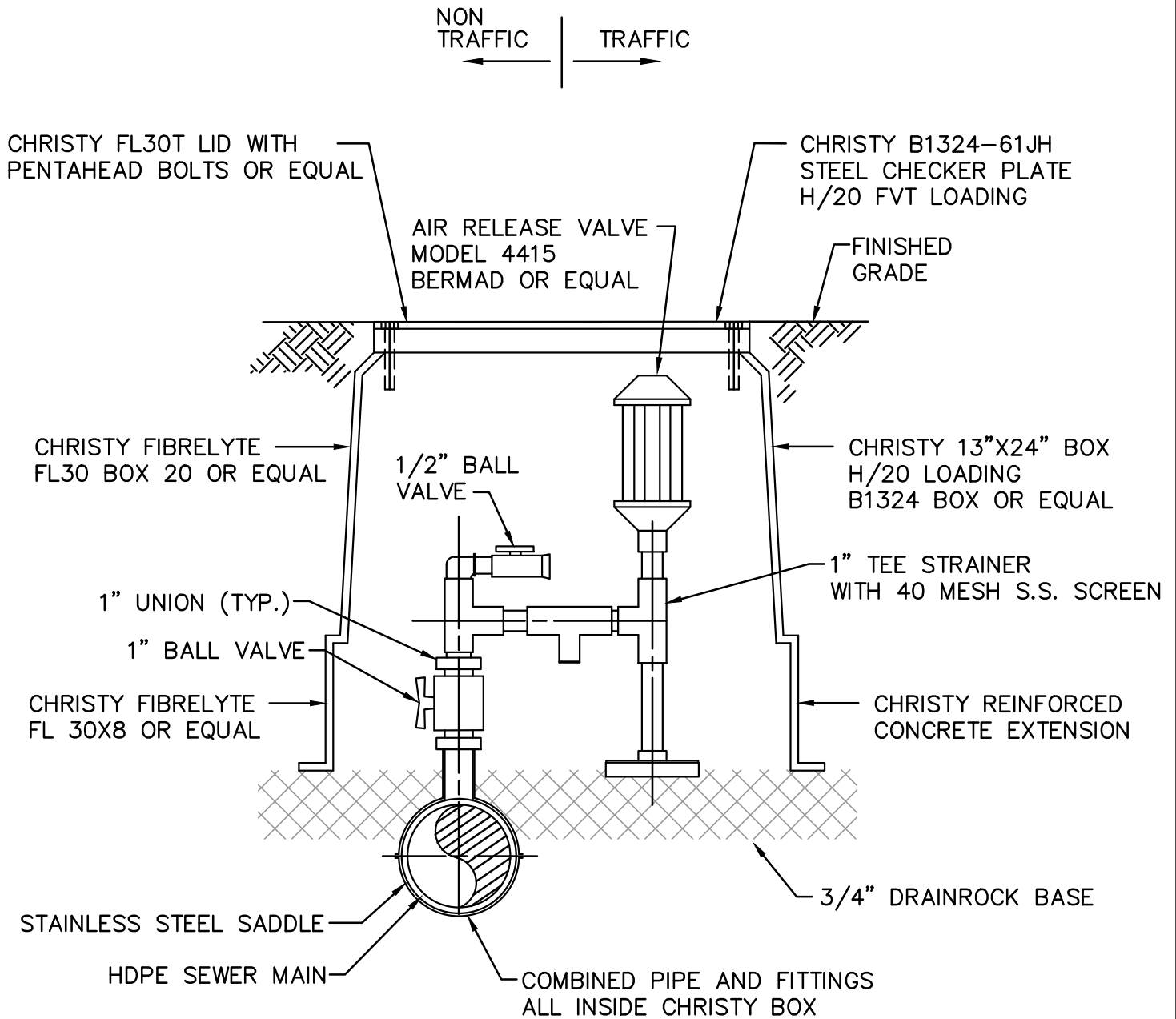
APPROVED BY:

/S/ - PHIL SCOTT

DISTRICT MANAGER

05-20-15

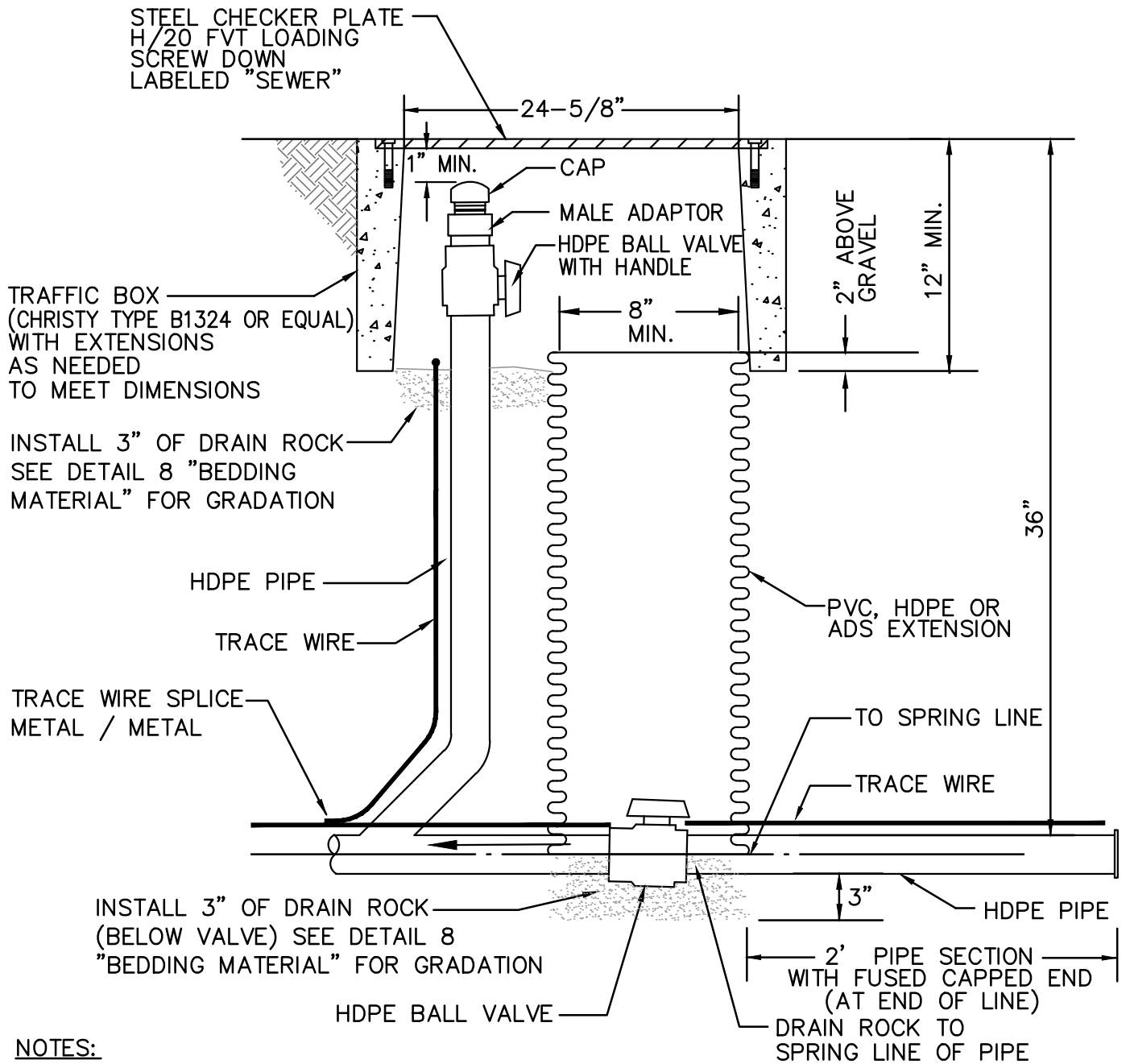
DATE:



NOTE:

- 1) AIR RELEASE ASSEMBLY PIPE AND FITTINGS TO BE PVC.
- 2) THE CONTRACTOR MUST OBTAIN A CLASS 3 PERMIT FROM THE DISTRICT PRIOR TO INSTALLATION.

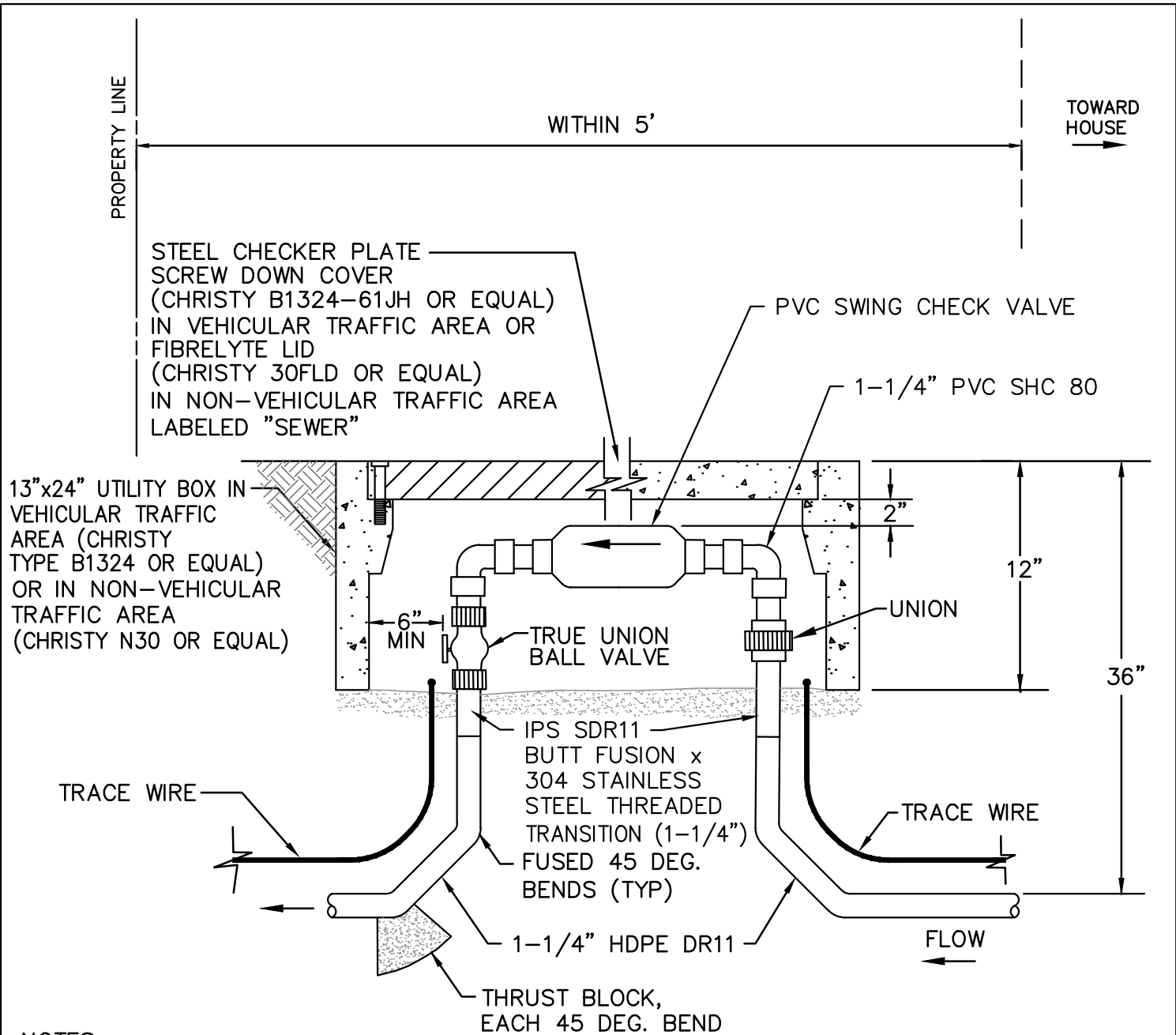
WEST BAY	
SANITARY DISTRICT	
AIR RELEASE ASSEMBLY FOR STEP MAIN	
APPROVED BY:	
/S/ - PHIL SCOTT	05-20-15
DISTRICT MANAGER	DATE:
	10



NOTES:

1. CONTRACTOR SHALL SUPPLY DISTRICT WITH 4'-5' VALVE ACTUATOR HANDLE TO TURN VALVE.
2. ALL HDPE JOINTS SHALL BE FUSED.
3. TRACE WIRE SHALL BE CONTINUOUS 8 GAUGE SOLID AND COATED COPPER WITH 2 FEET COILED IN BOX.
4. RISER SHALL BE SAME SIZE AS FORCEMAIN.

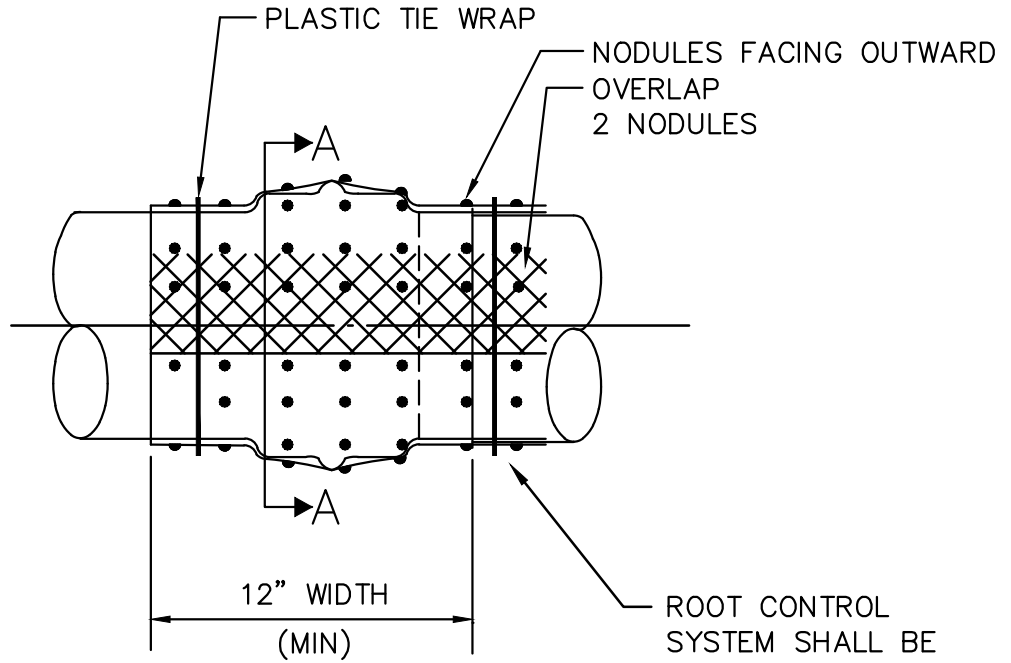
WEST BAY SANITARY DISTRICT	
CLEANOUT 2"-3" FORCEMAIN (STEP AND GRINDER PUMP SYSTEMS)	
APPROVED BY:	
/s/ - PHIL SCOTT	05-20-15
DISTRICT MANAGER	DATE:



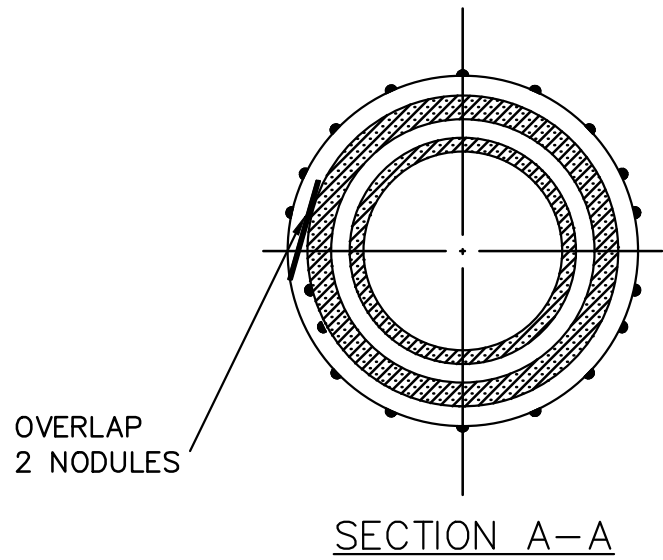
NOTES:

1. THE LATERAL CHECK VALVE STATION SHALL BE LOCATED IN AN AREA APPROVED BY THE DISTRICT.
2. ALL PVC JOINTS SHALL BE GLUED/SOLVENT WELD.
3. TRACE WIRE SHALL BE CONTINUOUS 8 GAUGE SOLID AND COATED COPPER WIRE WITH TWO FEET COILED IN BOX.
4. COVER OVER FORCE MAIN SHALL BE 36" UNLESS OTHERWISE APPROVED BY THE DISTRICT.
5. ALL PIPINGS SHOULD BE PVC SCHEDULE 80 OR HDPE SDR11.

WEST BAY	
SANITARY DISTRICT	
1-1/4" LATERAL CHECK VALVE STATION	
APPROVED BY:	
/s/ - PHIL SCOTT	05-20-15
DISTRICT MANAGER	DATE:
	12



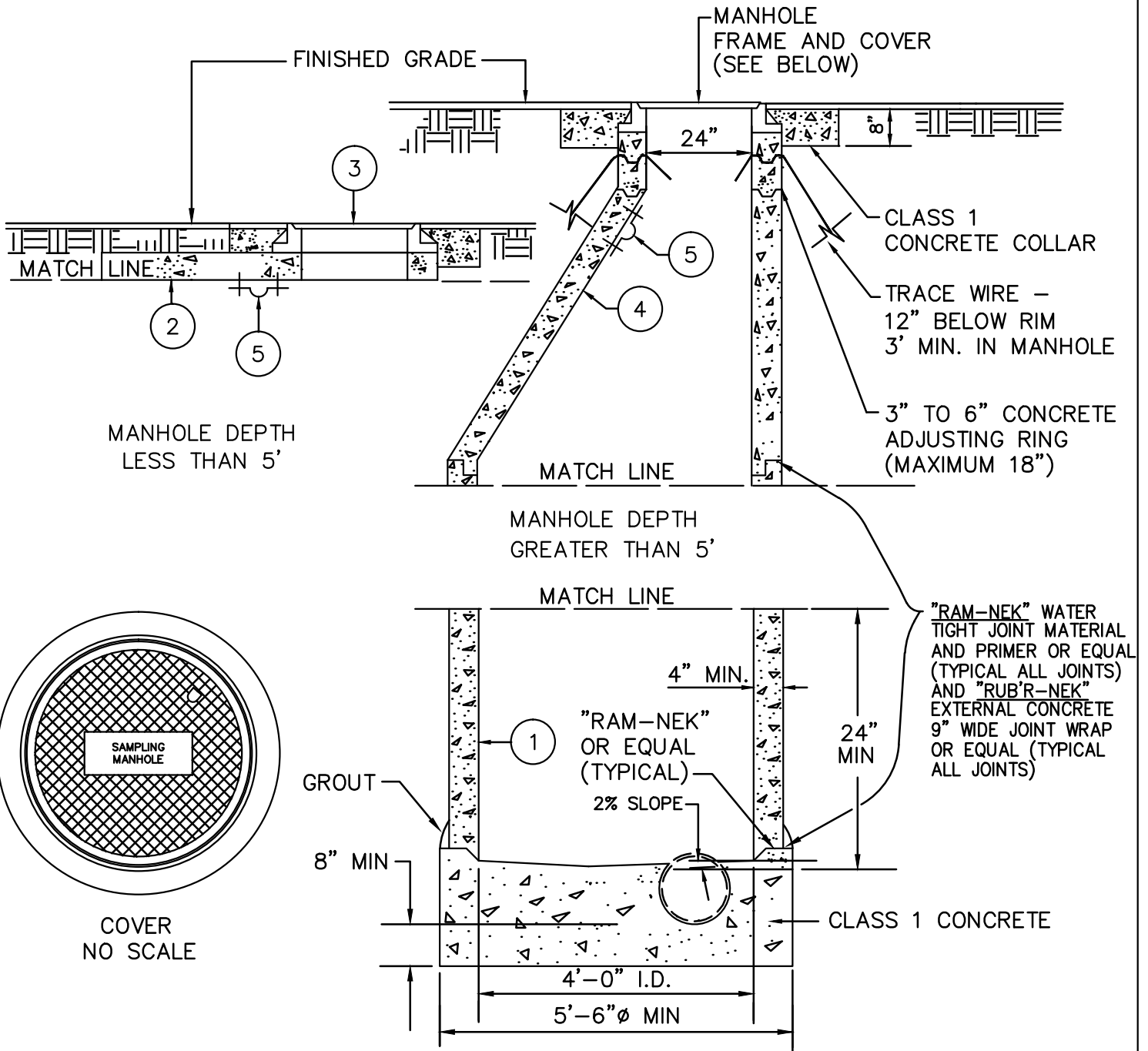
ROOT CONTROL SYSTEM SHALL BE BIOBARRIER OR EQUAL, INSTALLED PER MANUFACTURER RECOMENDATION



APPLICATION (ALL JOINTS):

- 1) ALL NEW MAIN SEWER PROJECTS.
- 2) ALL NEW OR REPLACEMENT SANITARY SEWER LATERAL CONNECTIONS.
- 3) SANITARY SEWER LATERAL REPAIRS.

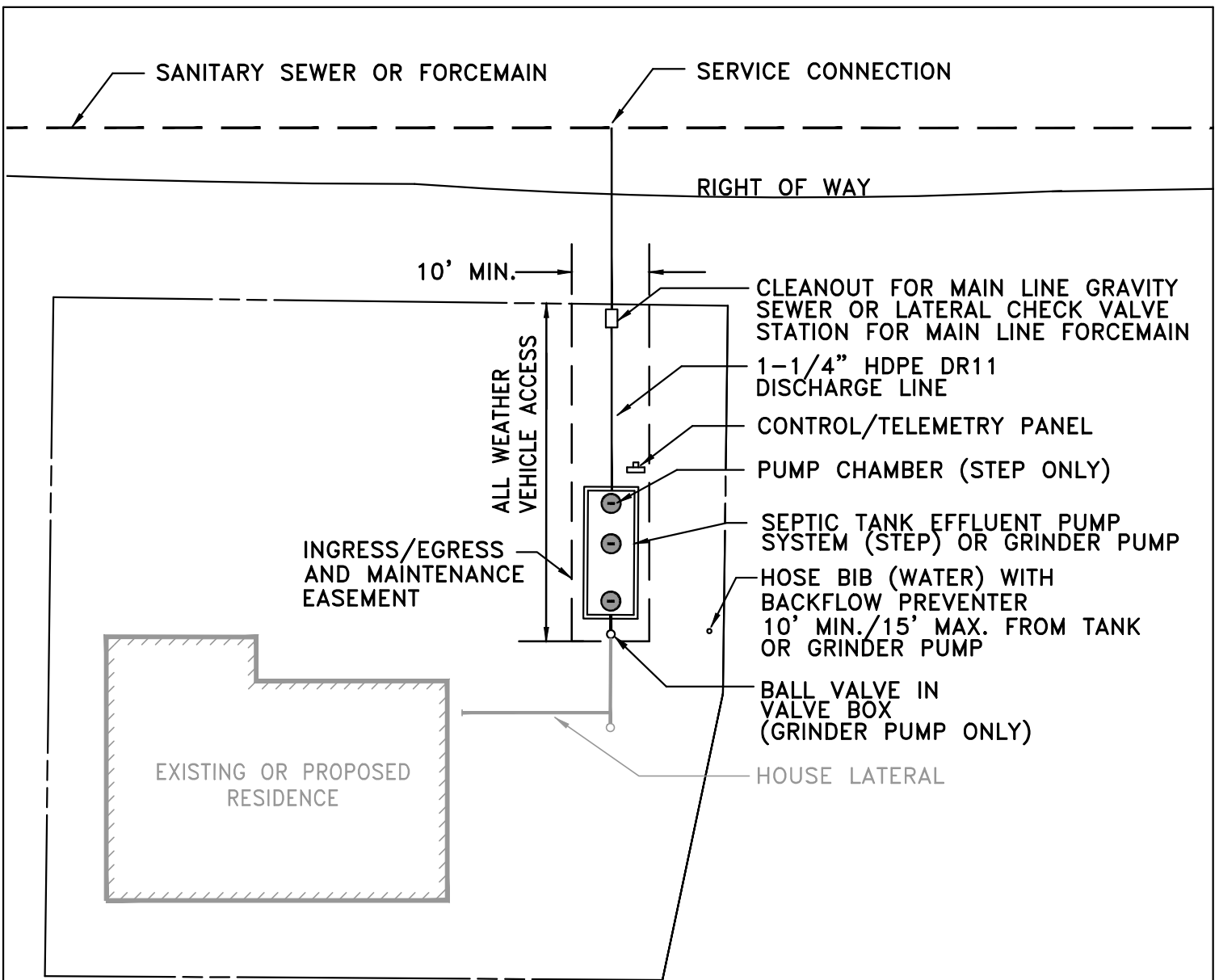
WEST BAY SANITARY DISTRICT	
ROOT CONTROL SYSTEM	
APPROVED BY:	
/s/ - PHIL SCOTT	05-20-15
DISTRICT MANAGER	DATE:



NOTE:

- 1) STANDARD 48" DIAMETER PRECAST MANHOLE SECTION WITHOUT STEPS. HEIGHT AS REQUIRED. SECTIONS SHALL CONFORM TO ASTM C 478
 - 2) PRECAST MANHOLE CAP DESIGNED FOR H-20 FVT LOADING.
 - 3) D&L FOUNDRY STD. A-1024 MANHOLE RING AND COVER OR APPROVED EQUAL WITHIN 5' OF PROPERTY LINE.
 - 4) ECCENTRIC CONE SECTION. MANHOLE OPENING TO BE PLACED OVER CHANNEL
 - 5) WROUGHT STEEL STRAP WITH 3/8" CINCH ANCHORS-GRINNELL FIG. 262 FOR 2" PIPE
- 1) FLEXIBLE PIPE ONLY – AN APPROVED WATER STOP SHALL BE INSTALLED ON ALL FLEXIBLE PIPE ENTERING OR EXITING SAMPLING MANHOLE.
 - 2) ECCENTRIC CONE SHALL BE POSITIONED IN SUCH A MANNER OVER CENTER OF PIPE FOR INSTALLATION OF FLOW METER SENSOR BRACKET.

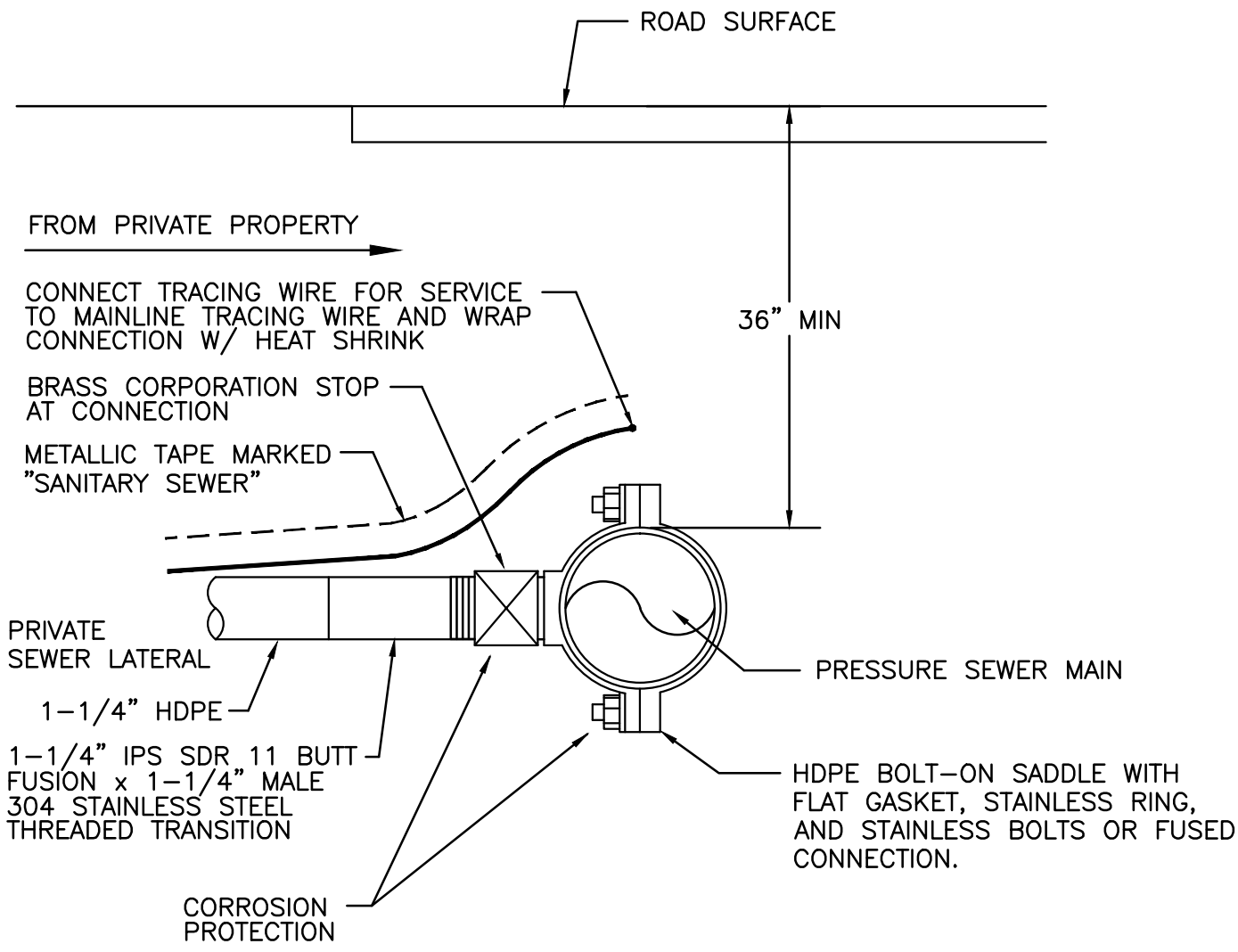
WEST BAY	
SANITARY DISTRICT	
SAMPLING MANHOLE	
APPROVED BY:	
/S/ - PHIL SCOTT	05-20-15
DISTRICT MANAGER	DATE:



NOTES:

- 1) FOR USE IN THE ON-SITE WASTEWATER DISPOSAL ZONE (OWDZ) ONLY.
- 2) LOCATION OF ALL SANITARY FACILITIES SHALL BE SUBJECT TO DISTRICT APPROVAL.
- 3) PROVIDE VEHICLE ACCESS TO GRINDER PUMP/STEP SYSTEM.
- 4) AN EASEMENT SHALL BE GRANTED TO THE DISTRICT FOR VEHICULAR INGRESS/EGRESS AND FOR MAINTENANCE PURPOSES.
- 5) COATED #8 GAUGE WIRE FOR TRACING PURPOSES SHALL BE PLACED ON ALL NEW LATERALS/DISCHARGE LINES.
- 6) CONTRACTOR/APPLICANT SHALL ANNEX INTO THE WEST BAY SANITARY DISTRICT BOUNDARY AND ON-SITE WASTEWATER DISPOSAL ZONE, OBTAIN BOARD APPROVAL, SUBMIT PUMP INFORMATION, SUBMIT ENGINEERED DRAWINGS & MUST OBTAIN A CLASS 3 PERMIT PRIOR TO INSTALLATION.

WEST BAY SANITARY DISTRICT	
TYPICAL STEP/GRINDER PUMP SYSTEM LAYOUT ON-SITE WASTEWATER DISPOSAL ZONE (OWDZ) ONLY	
APPROVED BY:	
/s/ - PHIL SCOTT	05-20-15
DISTRICT MANAGER	DATE:



NOTES:

1. TRACE WIRE SHALL BE CONTINUOUS COATED #8 WIRE.
2. THE CONTRACTOR SHALL EXCAVATE BY HAND EXPOSING THE EXISTING PRESSURE SEWER MAIN.
3. THE CONTRACTOR SHALL COAT CONNECTION WITH CORROSION PROTECTION.

WEST BAY	
SANITARY DISTRICT	
FORCEMAIN SERVICE CONNECTION	
APPROVED BY:	
/s/ - PHIL SCOTT	05-20-15
DISTRICT MANAGER	DATE:
16	

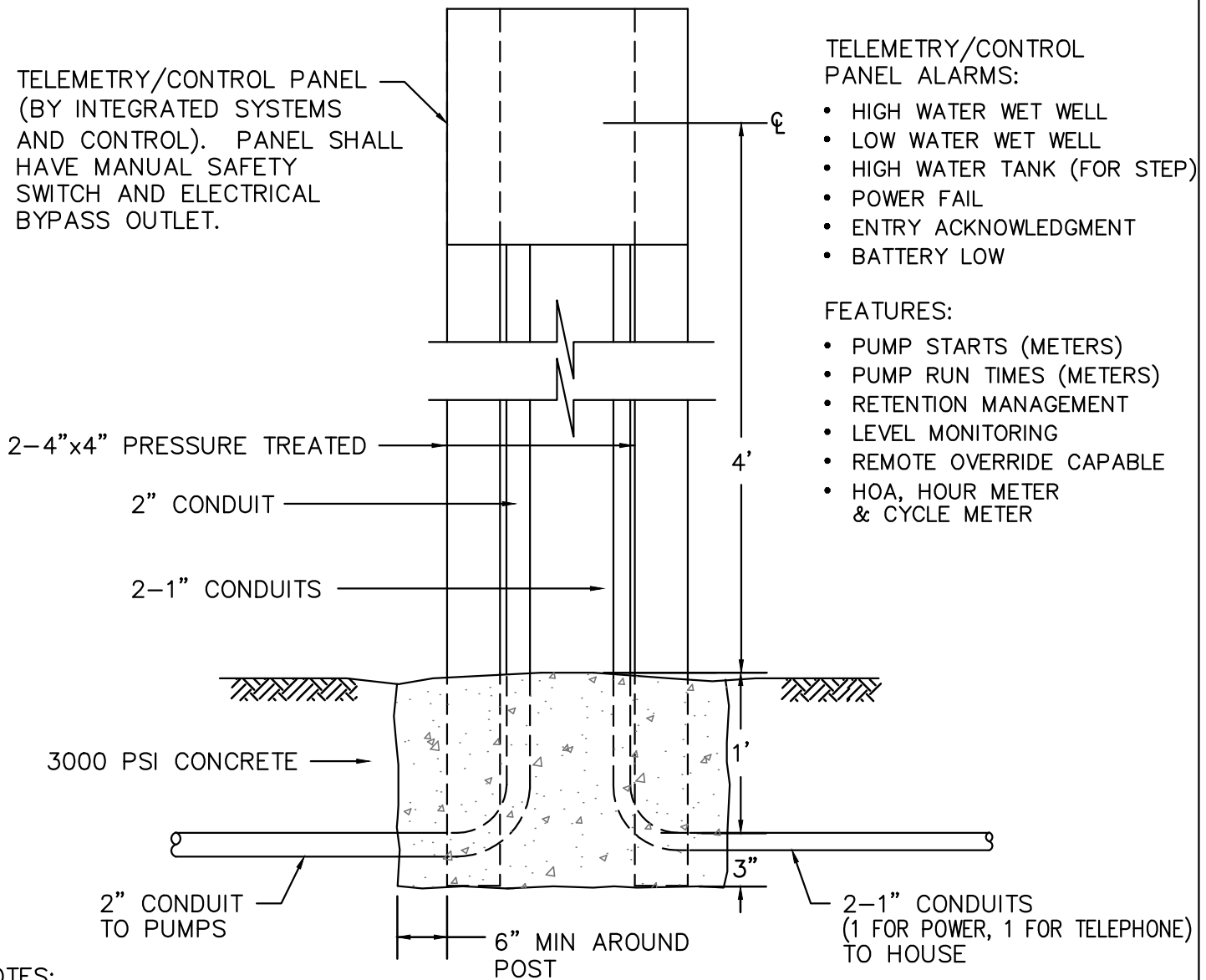
TELEMETRY/CONTROL PANEL (BY INTEGRATED SYSTEMS AND CONTROL). PANEL SHALL HAVE MANUAL SAFETY SWITCH AND ELECTRICAL BYPASS OUTLET.

TELEMETRY/CONTROL PANEL ALARMS:

- HIGH WATER WET WELL
- LOW WATER WET WELL
- HIGH WATER TANK (FOR STEP)
- POWER FAIL
- ENTRY ACKNOWLEDGMENT
- BATTERY LOW

FEATURES:

- PUMP STARTS (METERS)
- PUMP RUN TIMES (METERS)
- RETENTION MANAGEMENT
- LEVEL MONITORING
- REMOTE OVERRIDE CAPABLE
- HOA, HOUR METER & CYCLE METER

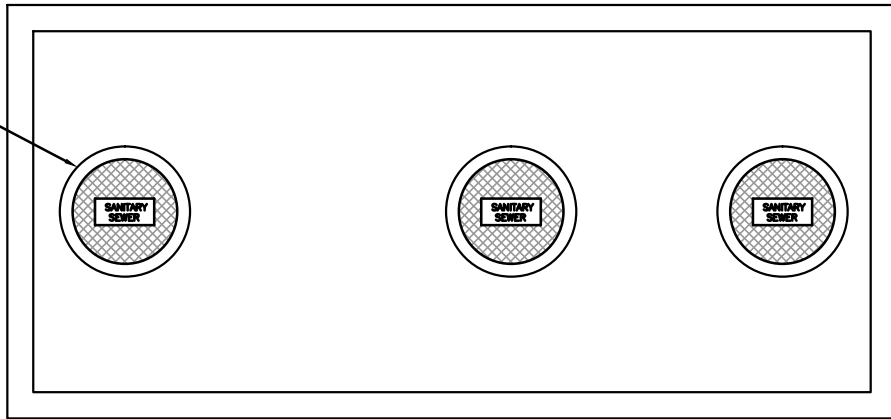


NOTES:

- 1) THE PANEL IS TO CONTROL THE PUMPS AND TO NOTIFY WEST BAY SANITARY DISTRICT SHOULD A MALFUNCTION OCCUR.
- 2) THE PROPERTY OWNER SHALL PROVIDE A DEDICATED PHONE LINE FOR THE PANEL. THE PHONE LINE'S SINGLE PURPOSE SHALL BE FOR TELEMETRY PANEL USE, AND PAID FOR AT THE HOMEOWNERS EXPENSE.
- 3) THE PROPERTY OWNER SHALL PROVIDE A DEDICATED ELECTRICAL CIRCUIT FOR THE PANEL. THE CIRCUIT'S SINGLE PURPOSE SHALL BE FOR TELEMETRY PANEL USE, AND PAID FOR AT THE HOMEOWNERS EXPENSE.
- 4) CONTROL/TELEMETRY PANEL SHALL BE SUPPLIED, APPROVED, AND CERTIFIED BY INTEGRATED SYSTEMS AND CONTROL (ISAC). (530) 878-9038.
- 5) LOCATION SUBJECT TO DISTRICT APPROVAL.
- 6) BURIED CONDUIT SHALL BE PVC SCHEDULE 80. EXPOSED CONDUIT SHALL BE GALVANIZED STEEL OR ALUMINUM.
- 7) CONTROL PANEL MUST BE SUPPLIED WITH HAND-OFF-AUTO SWITCH, HOUR METER, AND CYCLE METER.

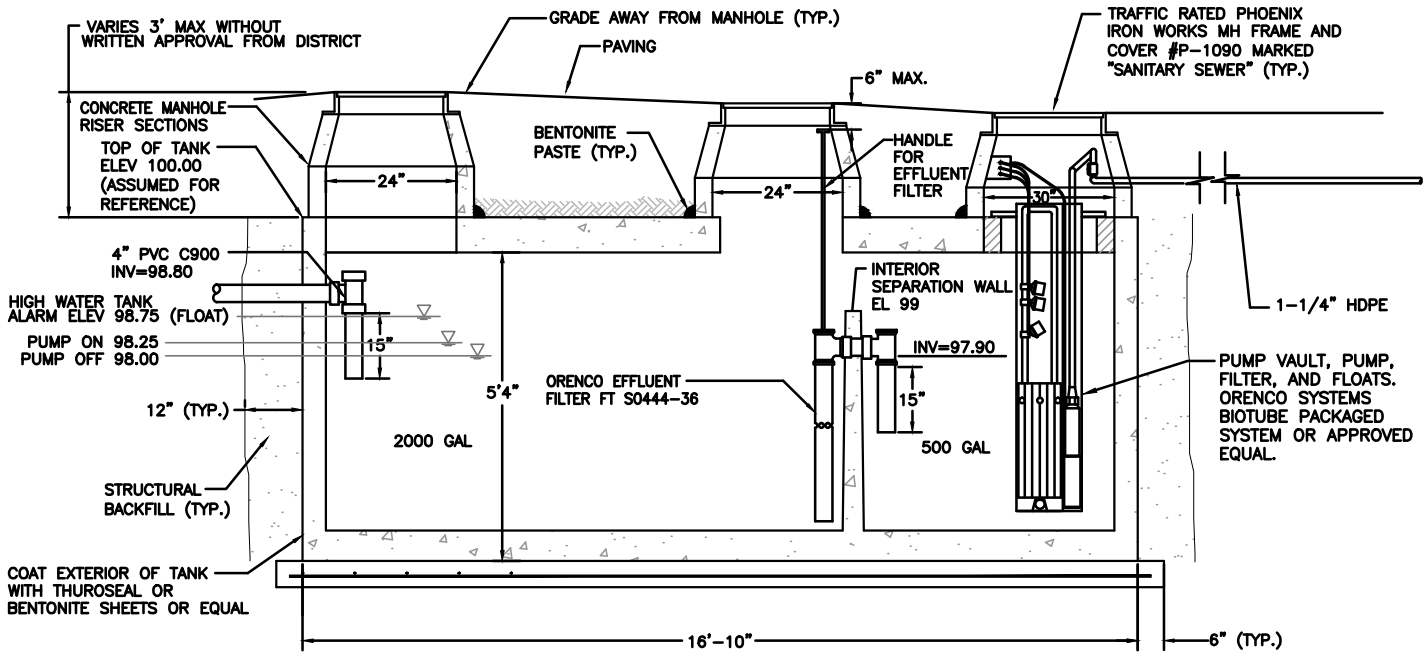
WEST BAY	
SANITARY DISTRICT	
CONTROL/TELEMETRY PANEL STEP/GRINDER SYSTEMS	
APPROVED BY:	
/s/ - PHIL SCOTT	05-20-15
DISTRICT MANAGER	DATE:

TRAFFIC RATED PHOENIX IRON WORKS MH FRAME AND COVER #P-1090 MARKED "SANITARY SEWER" (TYP.)

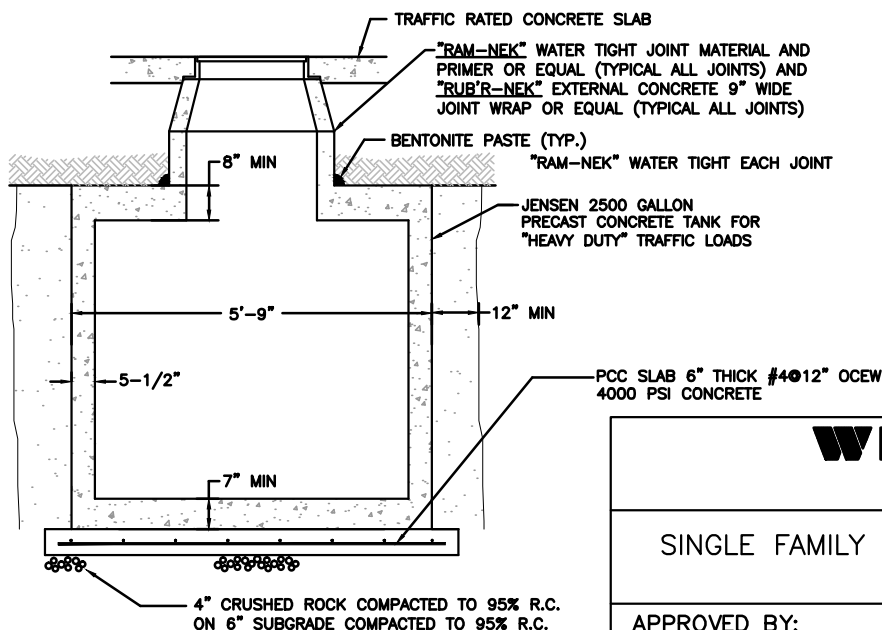


PCC SLAB

PLAN VIEW
NOT TO SCALE



LONGITUDINAL TANK CROSS SECTION
NOT TO SCALE



NOTE:

TANK SHALL BE A TWO COMPARTMENT PRECAST CONCRETE TANK WITH THREE MANHOLES AND GAS-TIGHT LIDS. THE SEDIMENT COMPARTMENT SHALL HAVE 2000 GAL. CAPACITY AND THE EFFLUENT COMPARTMENT SHALL HAVE 500 GAL. CAPACITY.

TYPICAL TANK CROSS SECTION
NOT TO SCALE

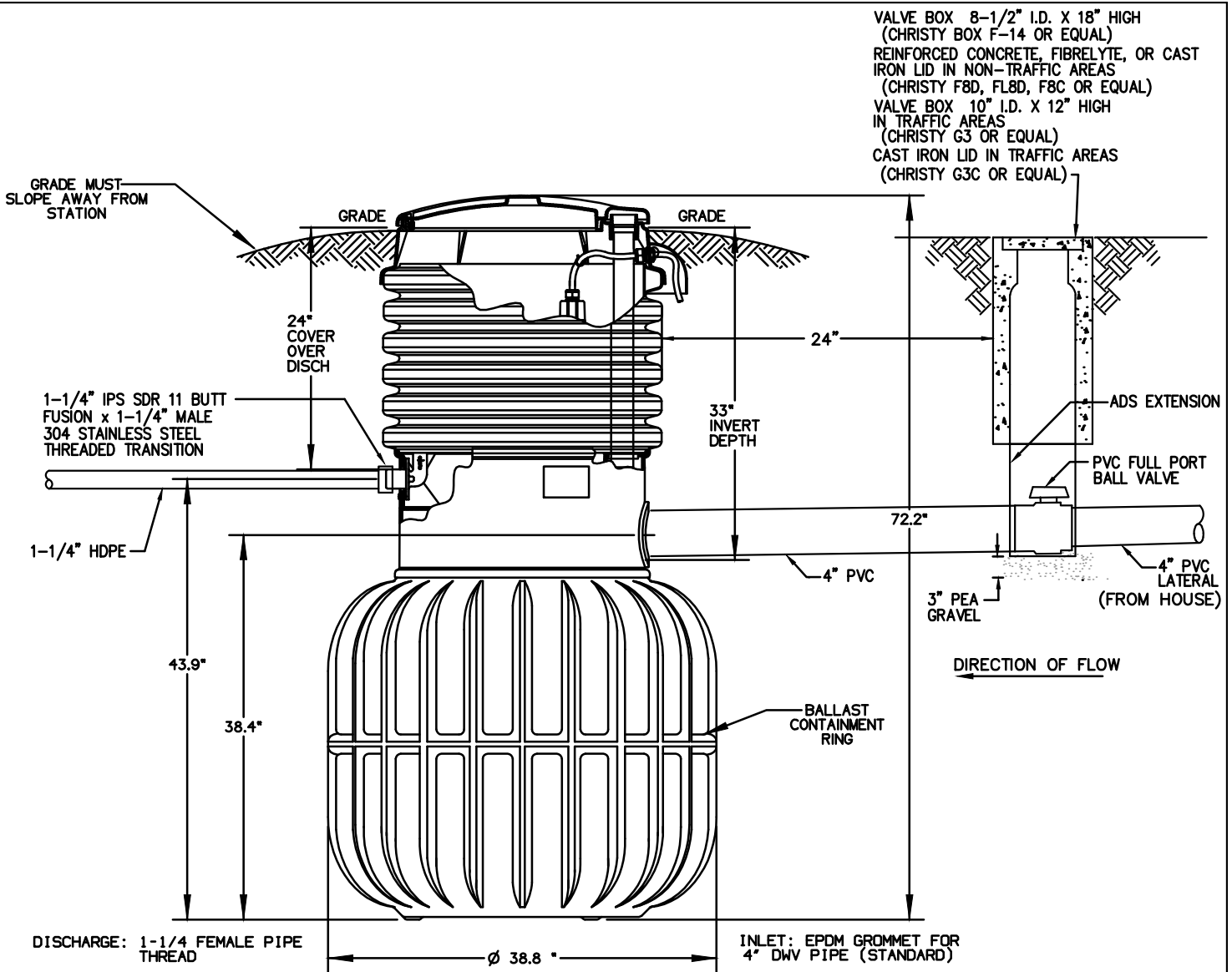
WEST BAY
SANITARY DISTRICT

SINGLE FAMILY SEPTIC TANK EFFLUENT PUMPING (STEP) SYSTEM

APPROVED BY:

/S/ - PHIL SCOTT
DISTRICT MANAGER

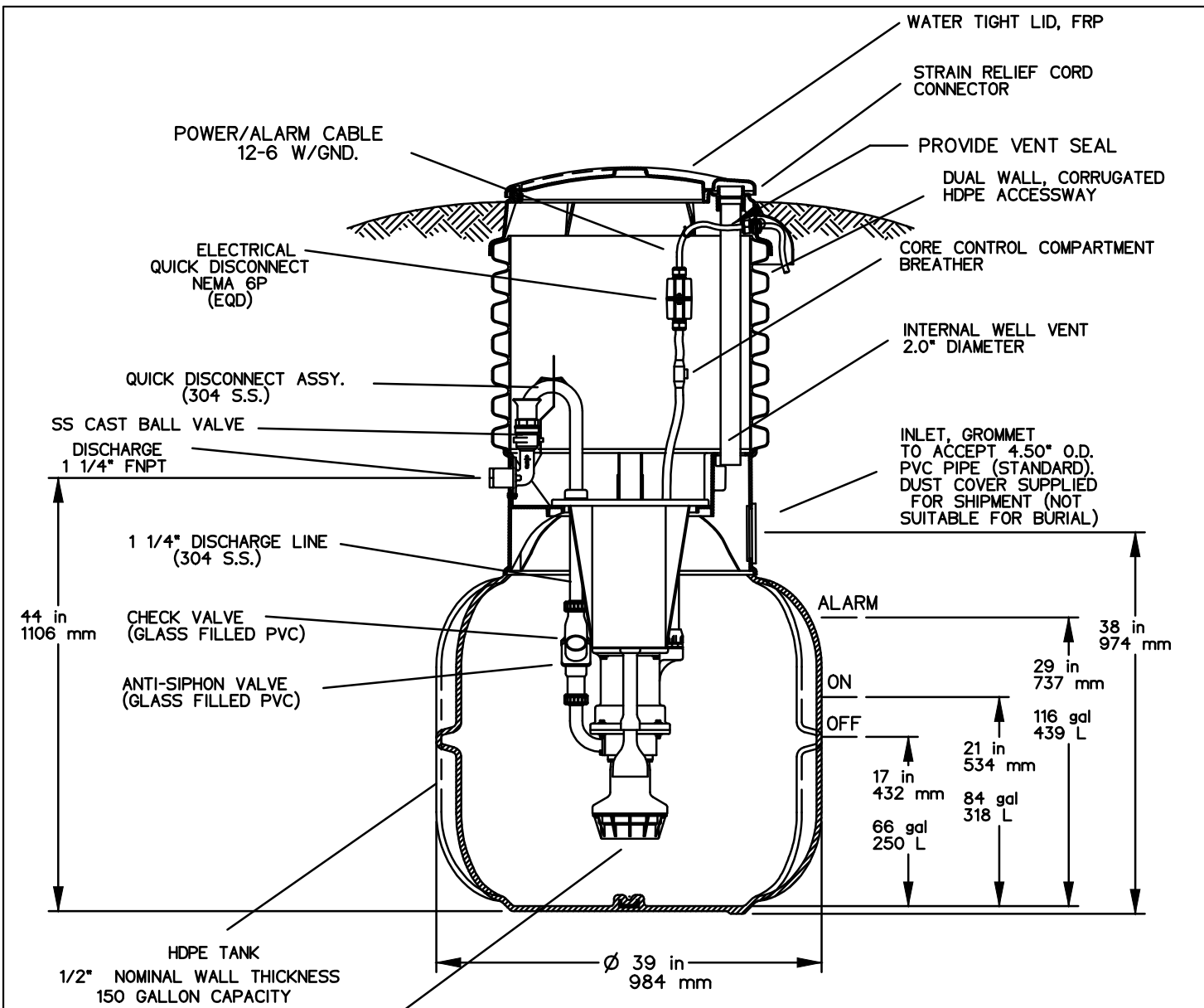
05-20-15
DATE:



NOTES:

1. Pump shall be Environment One Model DH151-74 with poured-in-place concrete anchor. (2773 Balltown Road, Schenectady, NY 12309-1090. (518) 346-6161, Fax (518) 346-6188. Local Representative: Signa Mechanical (949) 548-1125).
2. Pump shall be installed per manufacturer's recommendations.
3. See Single Family Grinder Pump Information Detail for pump anchor detail.
4. See 1-1/4 Inch Lateral Check Valve Station Detail for discharge line valve requirements.
5. Contractor shall supply District with handle to turn PVC ball valve.
6. Control Panel (supplied by ISAC (per West Bay Detail #17)).
7. If the homeowner has an on-site pump system that pumps into the grinder pump, the homeowner shall notify the District when applying for permit. Additional requirements specific to the project will be applied.
8. Owner shall provide a spare grinder pump to the District.

WEST BAY	
SANITARY DISTRICT	
SINGLE FAMILY GRINDER PUMP INSTALLATION DETAIL	
APPROVED BY:	
/S/ - PHIL SCOTT	05-20-15
DISTRICT MANAGER	DATE:

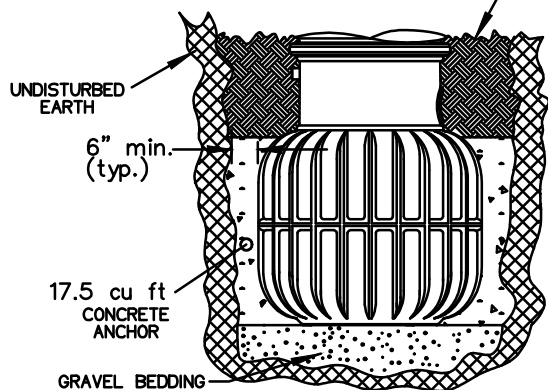


SEMI-POSITIVE DISPLACEMENT TYPE PUMP
 DIRECTLY DRIVEN BY A 1 HP MOTOR
 CAPABLE OF DELIVERING 9 gpm AT 138' T.D.H.

NOTE:

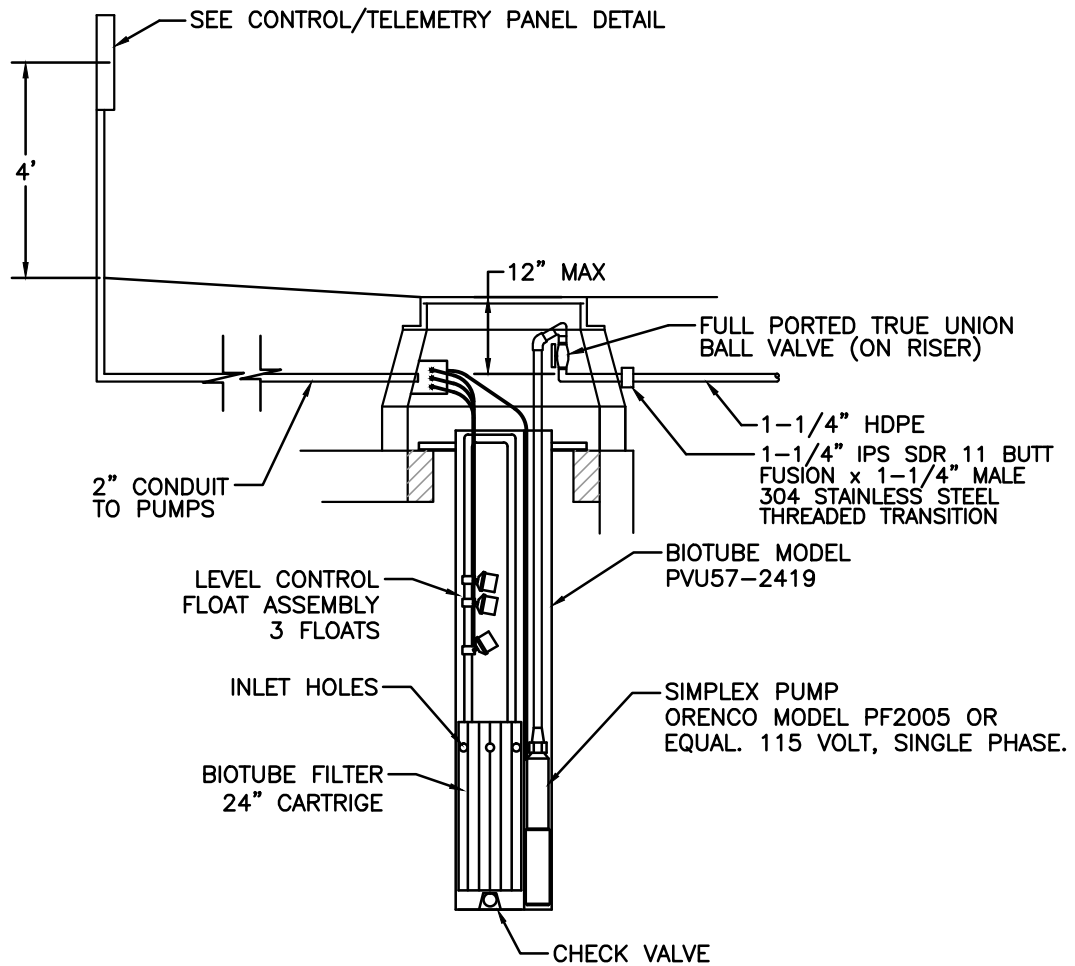
1. Pump shall be Environment One Model DH151-74 with poured-in-place concrete anchor. (2773 Balltown Road, Schenectady, NY 12309-1090. (518) 346-6161, Fax (518) 346-6188. Local Representative: Signa Mechanical (949) 548-1125. OWNER SHALL PROVIDE A SPARE PUMP TO THE DISTRICT.

FILL TO GRADE WITH CLEAN, COMPACTABLE BACKFILL, SUCH AS PEA GRAVEL OR CRUSHED STONE, 1/8" - 3/4" IN SIZE. CLAY AND SILTS ARE NOT ACCEPTABLE BACKFILL

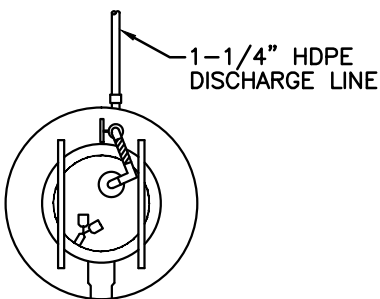


POURED-IN-PLACE CONCRETE ANCHOR DETAIL

WEST BAY	
SANITARY DISTRICT	
SINGLE FAMILY GRINDER PUMP INFORMATION DETAIL	
APPROVED BY:	
/s/ - PHIL SCOTT	05-20-15
DISTRICT MANAGER	DATE:



PUMP DETAIL
NOT TO SCALE



TOP VIEW
RISER ASSEMBLY

NOTES:

- 1) INSTALL PUMP AND VAULT PER MANUFACTURER'S RECOMMENDATIONS.
- 2) CORD LENGTHS TO BE DETERMINED BY DESIGN ENGINEER OR CONTRACTOR.
- 3) SPARE PUMP TO BE PROVIDED TO THE DISTRICT.

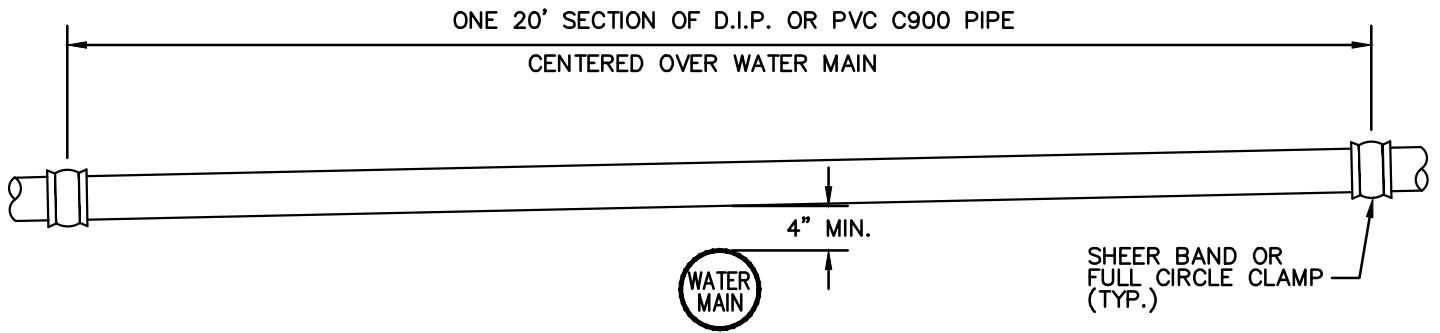
WEST BAY
SANITARY DISTRICT

PUMP DETAIL—SINGLE FAMILY SEPTIC TANK
EFFLUENT PUMP (STEP) SYSTEM

APPROVED BY:

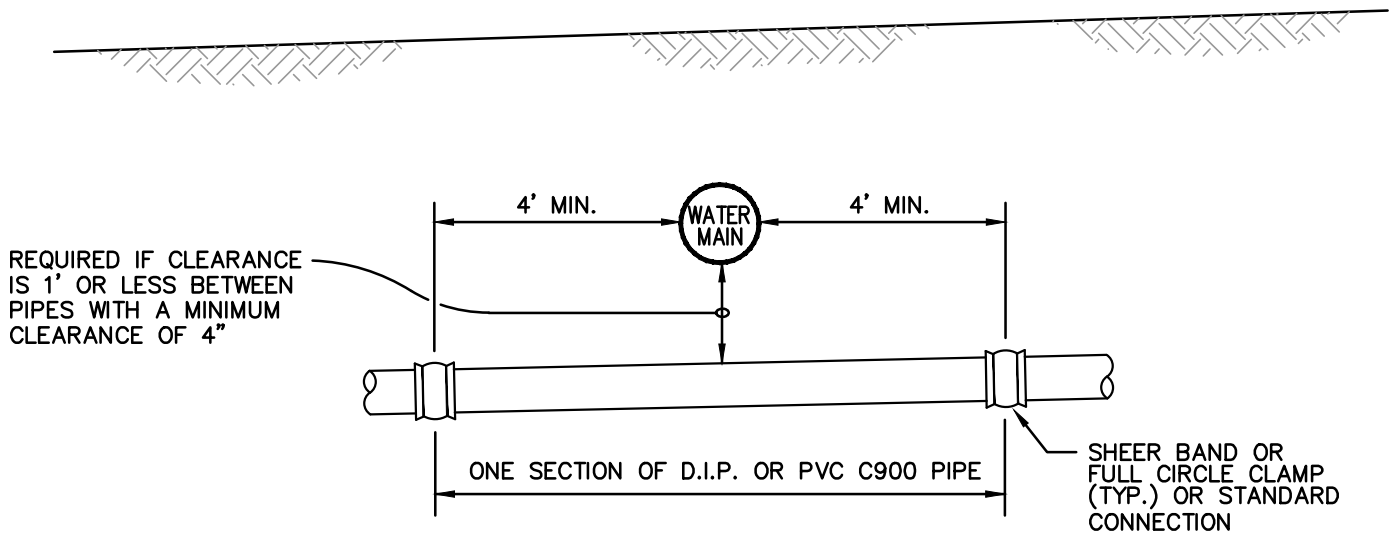
/S/ - PHIL SCOTT
DISTRICT MANAGER

05-20-15
DATE:



NOTE:
 REQUIRED WHENEVER A SANITARY SEWER MAIN
 OR LATERAL CROSSES OVER A WATER MAIN.

TYPICAL CROSSING OVER WATER MAIN



REQUIRED IF CLEARANCE
 IS 1' OR LESS BETWEEN
 PIPES WITH A MINIMUM
 CLEARANCE OF 4"

TYPICAL CROSSING UNDER WATER MAIN

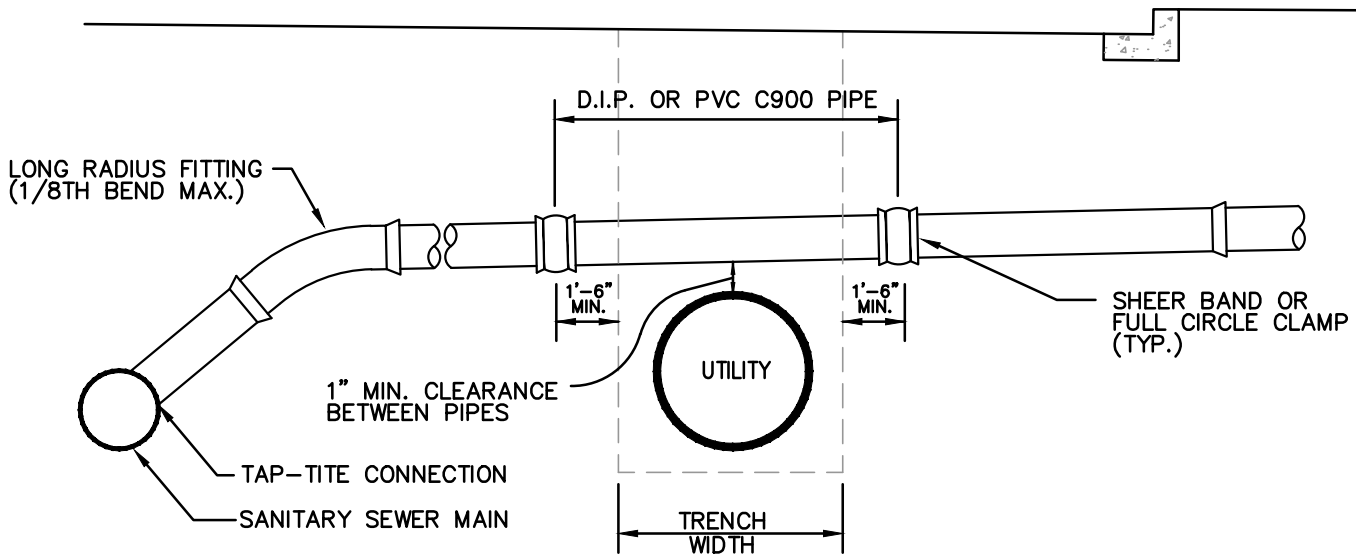
WEST BAY
 SANITARY DISTRICT

SANITARY SEWER WATER MAIN CROSSINGS

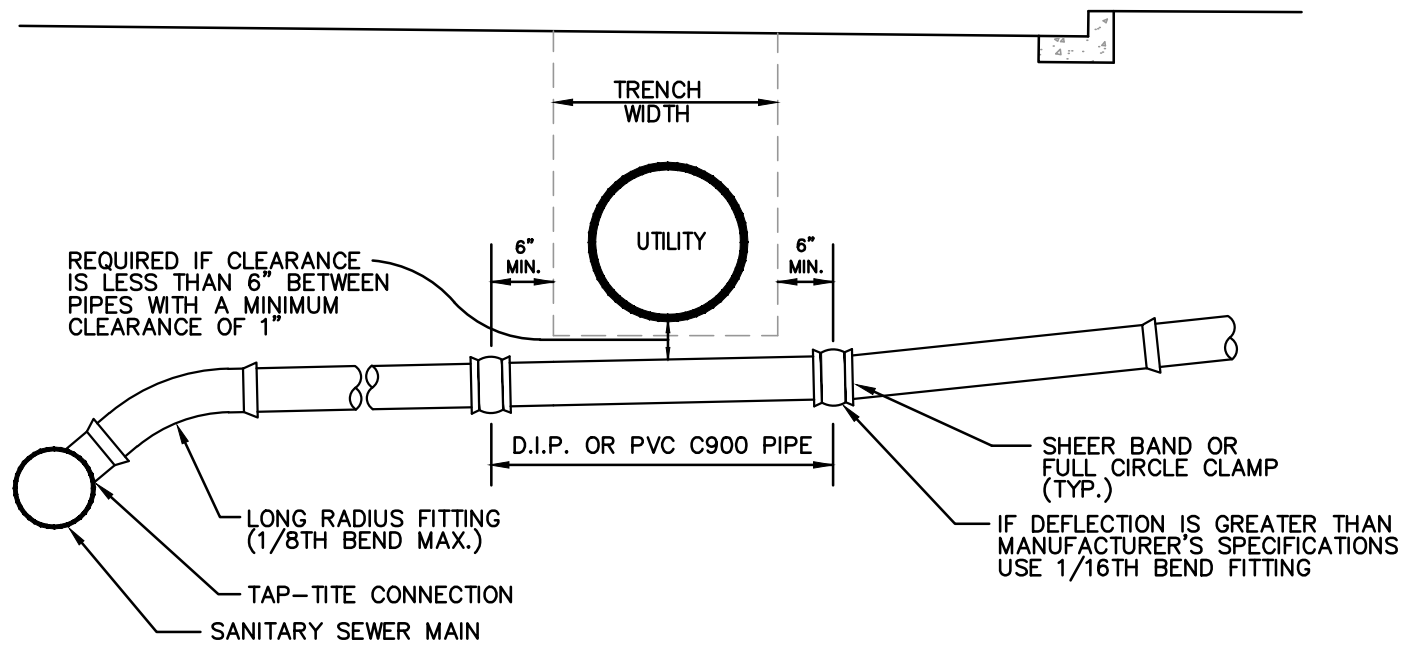
APPROVED BY:

/S/ - PHIL SCOTT
 DISTRICT MANAGER

05-20-15
 DATE:



TYPICAL LATERAL CROSSING OVER UTILITY (EXCLUDING WATER)

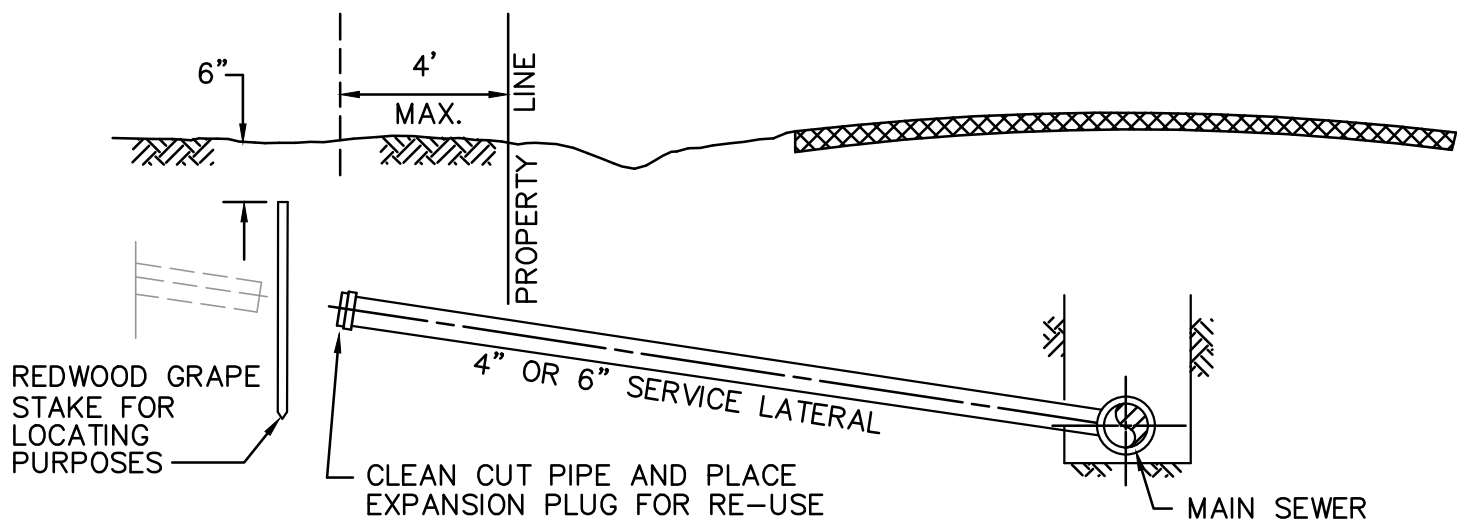


TYPICAL LATERAL CROSSING UNDER UTILITY (EXCLUDING WATER)

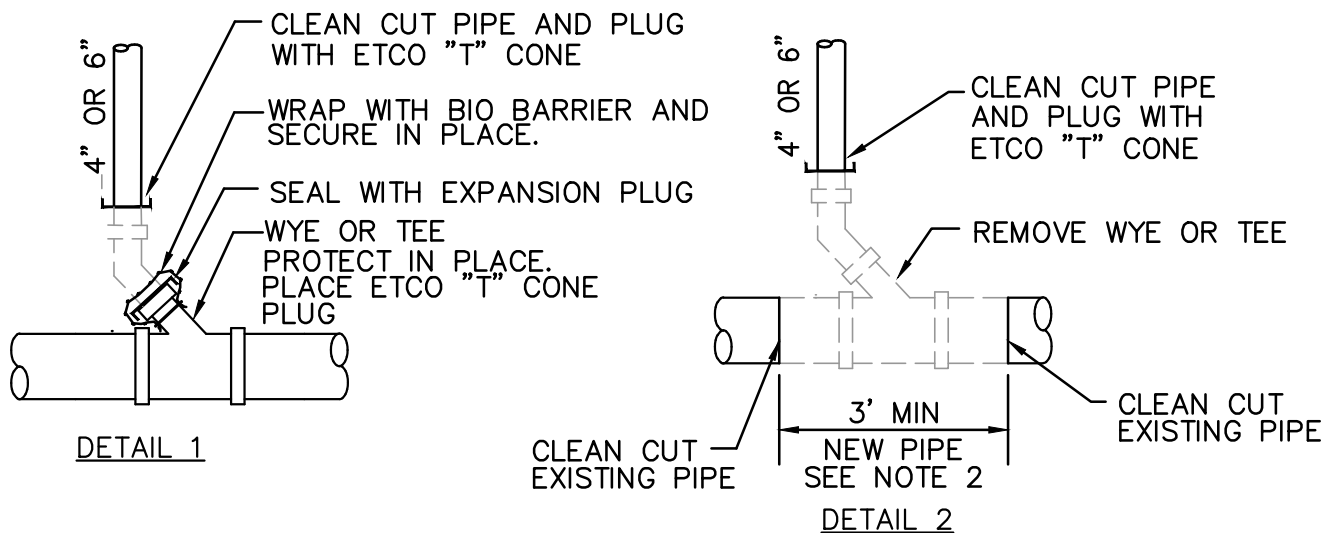
NOTE:

1) D.I.P. PIPE SHALL BE CLASS 50 OR 51, OR PVC PIPE SHALL BE C-900 DR 18.

WEST BAY SANITARY DISTRICT	
SANITARY SEWER LATERAL UTILITY CROSSINGS (EXCLUDING WATER)	
APPROVED BY: /s/ - PHIL SCOTT DISTRICT MANAGER	05-20-15 DATE:
23	



LATERAL DISCONNECTION AT PROPERTY LINE FOR RE-USE



LATERAL DISCONNECTION AT MAIN SEWER (SEE NOTES 1&5)

NOTES:

1) THE CONTRACTOR SHALL EXCAVATE BY HAND EXPOSING THE WYE/TEE AT THE MAIN SEWER LINE FOR INSPECTION BY A WEST BAY REPRESENTATIVE. IF THE MAIN AND WYE/TEE ARE DEEMED IN GOOD CONDITION, PLUG WYE/TEE AS SHOWN IN DETAIL 1. IF THE MAIN IS IN GOOD CONDITION AND THE WYE/TEE IS IN POOR CONDITION, REMOVE TEE AND SECTION OF PIPE AS SHOWN IN DETAIL 2. IF BOTH MAIN AND WYE/TEE ARE IN POOR CONDITION, NOTIFY WBSD.

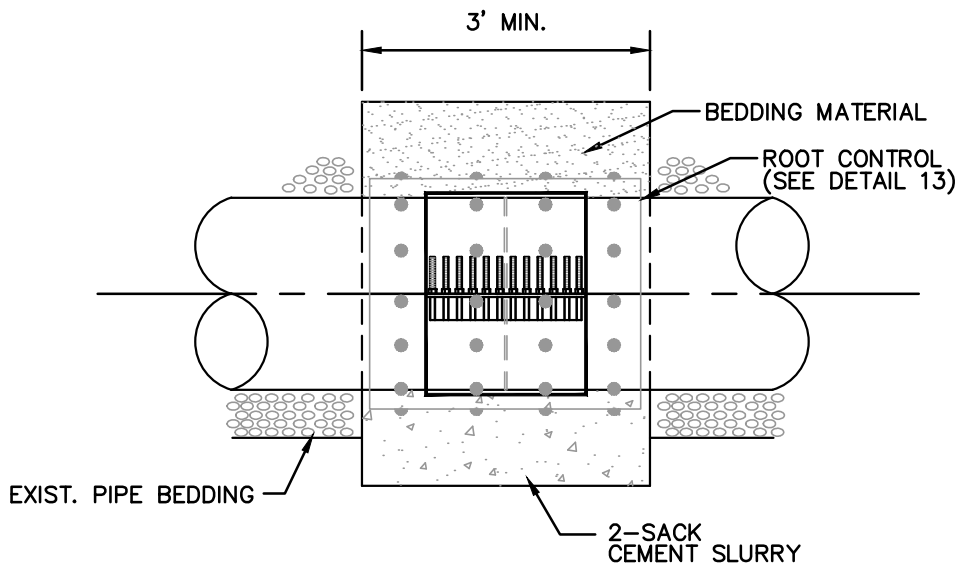
2) REPLACEMENT PIPE SHALL MATCH EXISTING SEWER MAIN PIPE. COUPLING SHALL BE SMITH-BLAIR 226 FULL CIRCLE STAINLESS STEEL CLAMP OR EQUAL FOR MAIN DIAMETER LESS THAN 15" AND ROCKWELL 228 FULL CIRCLE CLAMP OR EQUAL FOR MAIN 15" OR GREATER.

3) IF SEWER MAIN IS CONCRETE ENCASED OR CRADLED, ANY PORTION REMOVED BY CONTRACTOR SHALL BE REPLACED ENTIRELY TO THE SATISFACTION OF THE DISTRICT'S FIELD REPRESENTATIVE.

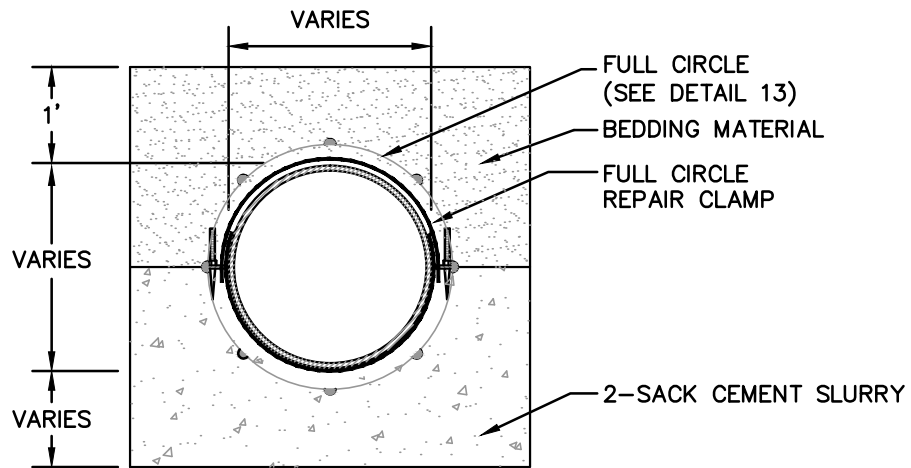
4) CONTRACTOR SHALL SUPPLY ADDRESS OF ABANDONED LATERAL AND DISTANCE AS MEASURED FROM THE DOWNSTREAM MANHOLE.

5) IT IS THE CONTRACTORS RESPONSIBILITY TO CONFIRM THAT NO OTHER PROPERTIES ARE CONNECTED TO THE LATERAL PRIOR TO DISCONNECTION.

WEST BAY SANITARY DISTRICT	
SANITARY SEWER LATERAL DISCONNECTIONS	
APPROVED BY: <u>/s/ - PHIL SCOTT</u> DISTRICT MANAGER	05-20-15 DATE:
	24



PLAN



SECTION

NOTE:

1. REPAIR SLEEVE SHALL BE STAINLESS STEEL FULL CIRCLE ROCKWELL 228, 3 BAND, 20" WIDE CLAMP OR EQUAL.

WEST BAY
SANITARY DISTRICT

REPAIR COUPLING FOR 15" DIAMETER AND LARGER PIPE

APPROVED BY:

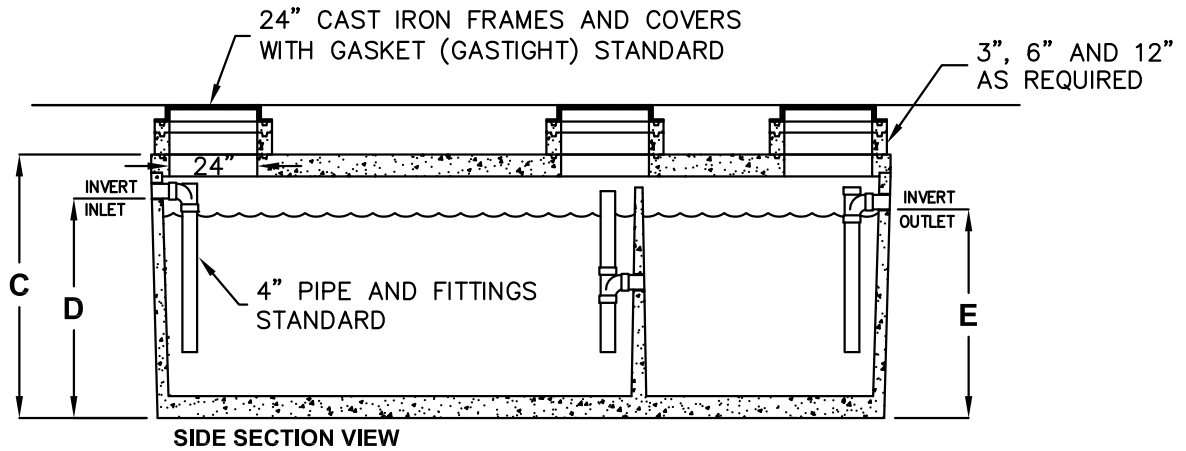
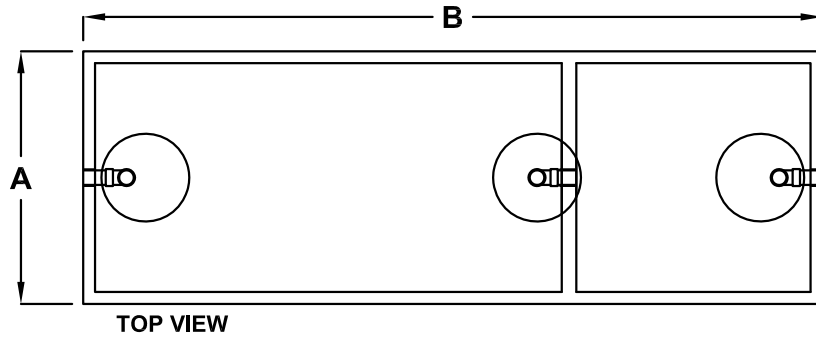
/s/ - PHIL SCOTT

DISTRICT MANAGER

05-20-15

DATE:

25



LIQUID CAPACITY (GALLONS)	DIM A	DIM B	DIM C	DIM D	DIM E
320	3'-0"	7'-0"	4'-6"	3'-7"	3'-4"
500	4'-0"	6'-0"	5'-10"	4'-10"	4'-7"
750	4'-0"	8'-1"	6'-3"	5'-0"	4'-9"
1000	5'-1"	8'-2"	6'-3"	5'-0"	4'-9"
1200	5'-9"	8'-6"	6'-6"	5'-0"	4'-9"
1500	5'-7"	10'-8"	6'-3"	5'-0"	4'-9"
2000	4'-11"	15'-11"	6'-0"	5'-0"	4'-9"
2500	5'-9"	16'-10"	6'-0"	5'-0"	4'-9"
3000	5'-9"	16'-10"	6'-9"	5'-9"	5'-6"
4000	7'-8"	16'-7"	6'-9"	5'-6"	5'-3"
5000	7'-8"	16'-7"	7'-11"	6'-9"	6'-6"

NOTES:

DESIGN LOAD: H-20 TRAFFIC WITH DRY SOIL CONDITIONS (WATER LEVEL BELOW TANK.)

BEDDING NOTE: SUITABLE SUB-BASE BEDDED WITH GRANULAR MATERIAL SHALL BE PREPARED TO HANDLE ANTICIPATED LOADS.

WEST BAY
SANITARY DISTRICT

GREASE INTERCEPTOR

APPROVED BY:

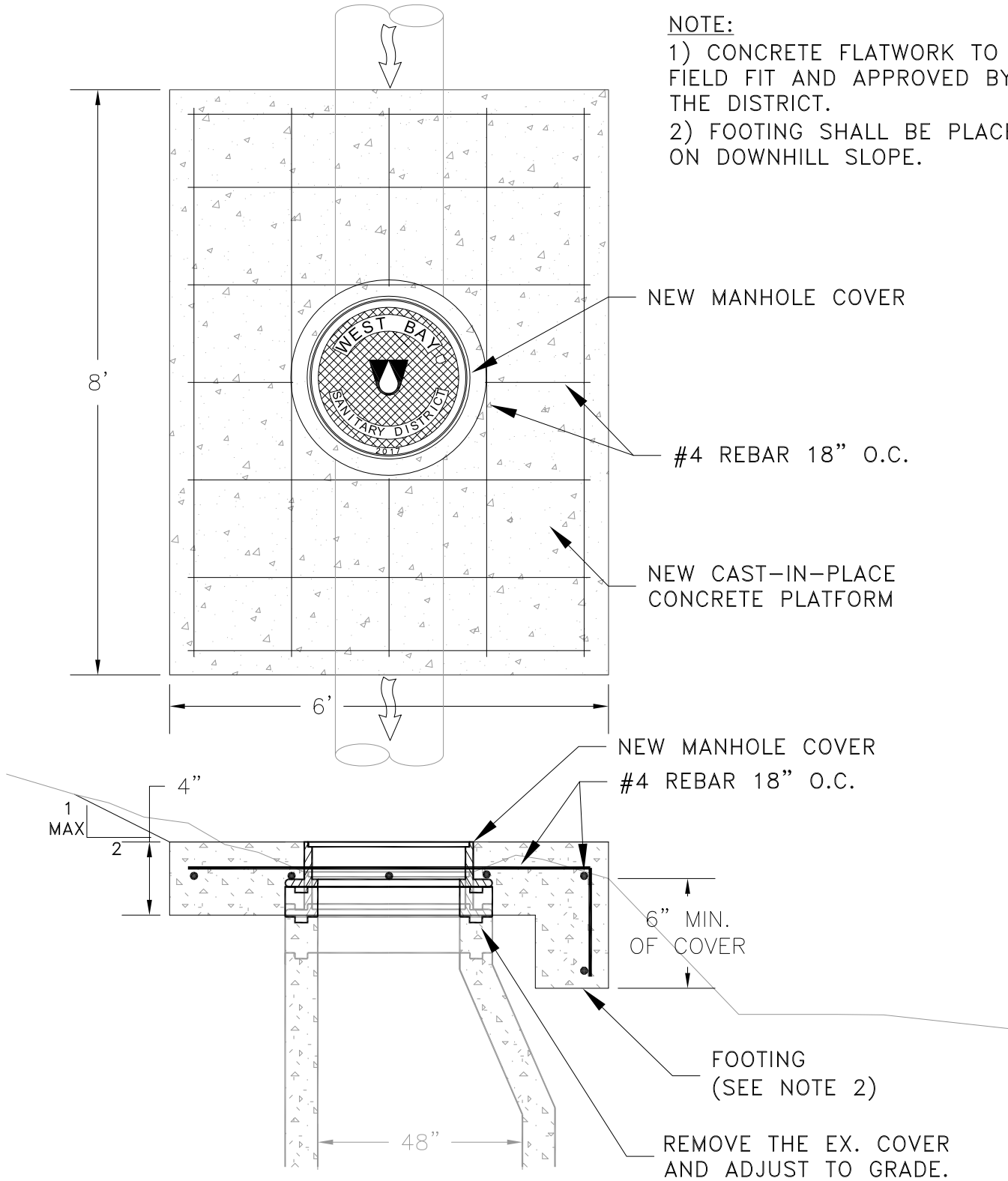
/S/ - PHIL SCOTT
DISTRICT MANAGER

05-20-15
DATE:

26

NOTE:

- 1) CONCRETE FLATWORK TO BE FIELD FIT AND APPROVED BY THE DISTRICT.
- 2) FOOTING SHALL BE PLACED ON DOWNHILL SLOPE.



WEST BAY
SANITARY DISTRICT

CONCRETE PLATFORM – NON PAVED AREAS

APPROVED BY:

/S/ – PHIL SCOTT
DISTRICT MANAGER

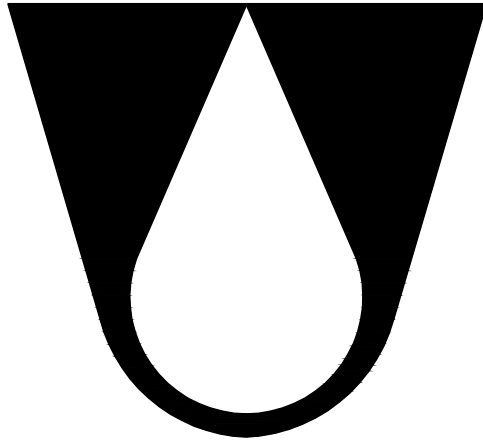
10-17-17
DATE:



Sewer System Management Plan

5B WBSD Standard Details

WEST BAY
SANITARY DISTRICT



STANDARD
DETAILS

500 LAUREL STREET
MENLO PARK, CALIFORNIA

MAY 2015

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DETAIL 25 REPAIR COUPLING FOR 15" DIAMETER AND LARGER PIPES

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WEST BAY
SANITARY DISTRICT

TABLE OF CONTENTS

APPROVED BY:

/S/ - PHIL SCOTT

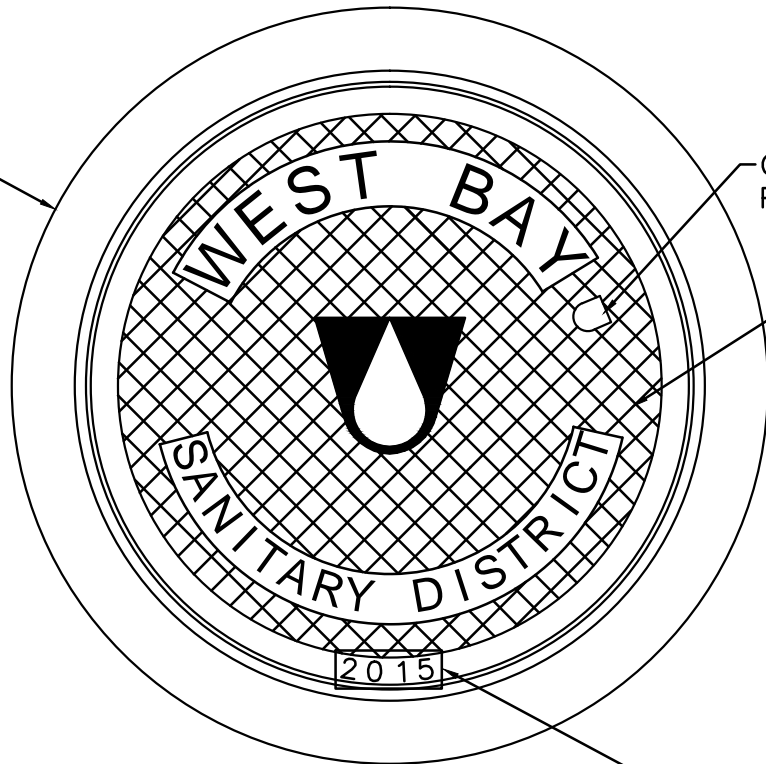
DISTRICT MANAGER

05-20-15

DATE:

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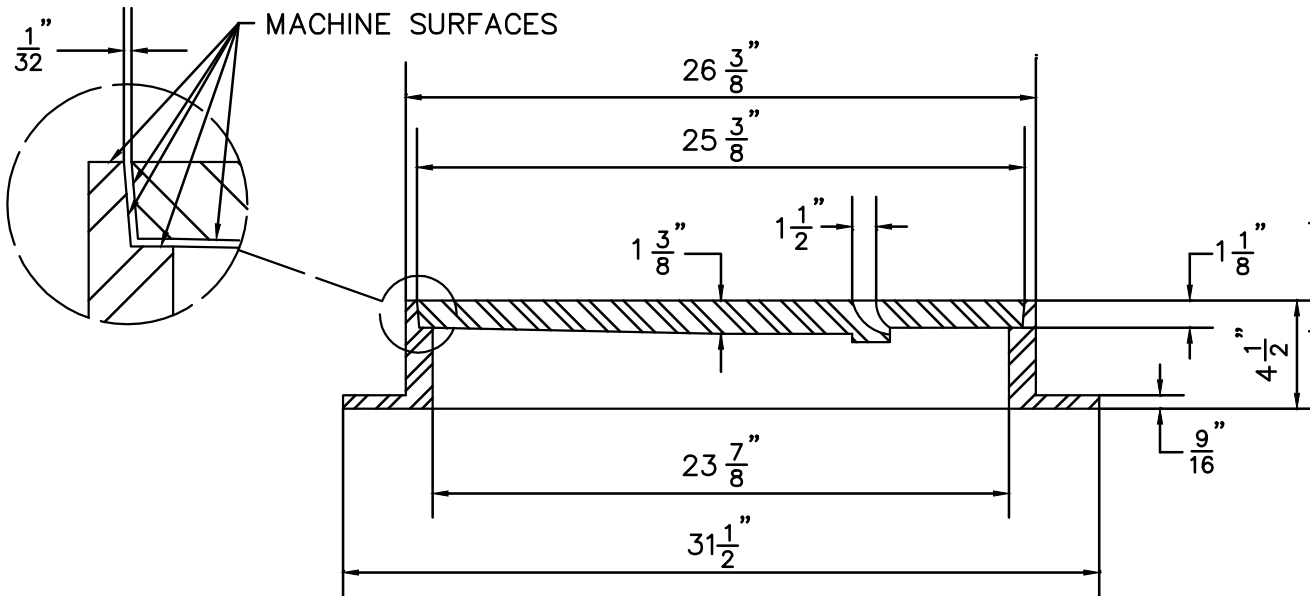
D&L FOUNDRY
STD. A-1024
MANHOLE RING
AND COVER OR
APPROVED EQUAL.



ONE MAN BLIND
PICK HOLE

SKID RESISTANT
DIAMOND TREAD
PATTERN

INSTALL CURRENT YEAR



NOTES:

- 1) CAST IRON FOR FRAME AND COVER SHALL BE CLASS 30 MINIMUM PER ASTM A-48.
- 2) COVERS SHALL BE H-20, FULL VEHICULAR TRAFFIC LOADING, RATED AND SHALL NOT EXCEED 145 POUNDS IN WEIGHT.
- 3) THE FRAME AND COVER SHALL BE PAINTED OR DIPPED IN ASPHALT PRIOR TO LEAVING FOUNDRY.

SECTION

WEST BAY

SANITARY DISTRICT

MANHOLE FRAME AND COVER

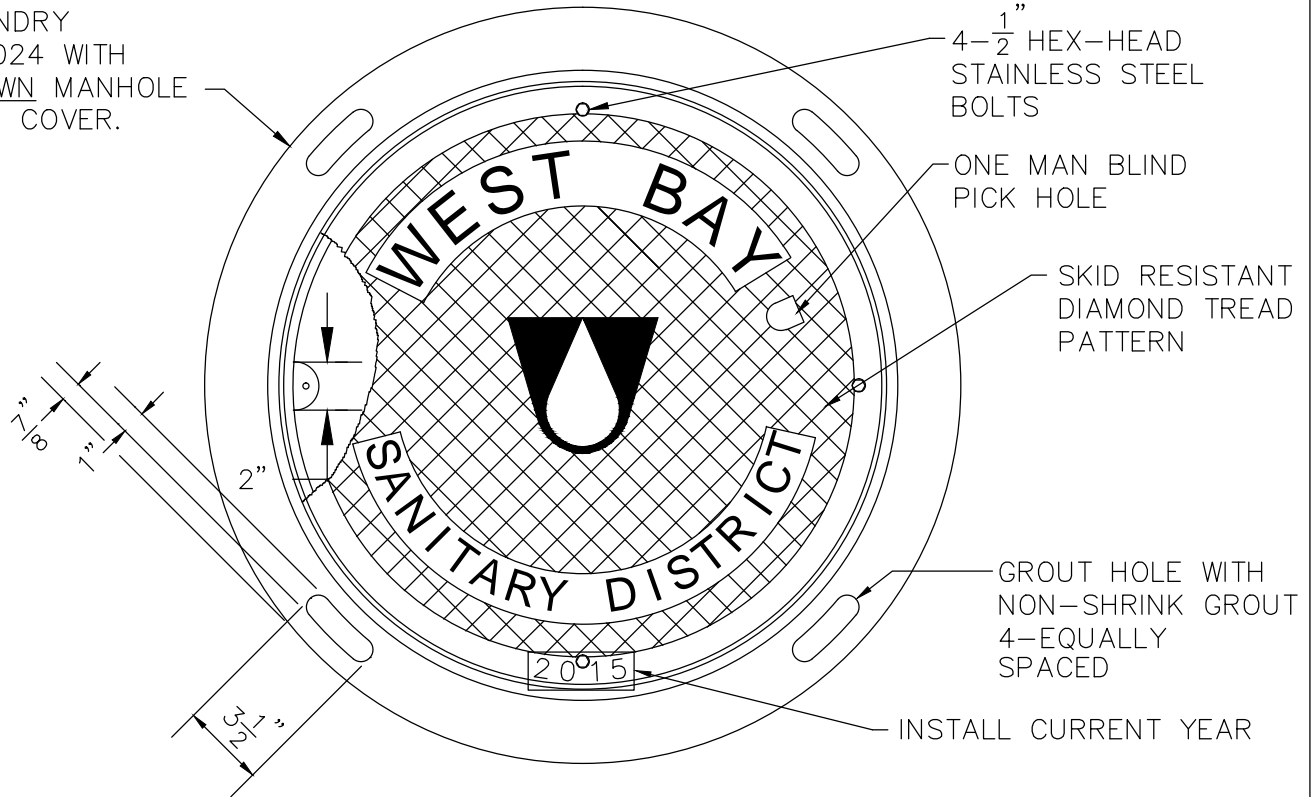
APPROVED BY:

/S/ - PHIL SCOTT
DISTRICT MANAGER

05-20-15
DATE:

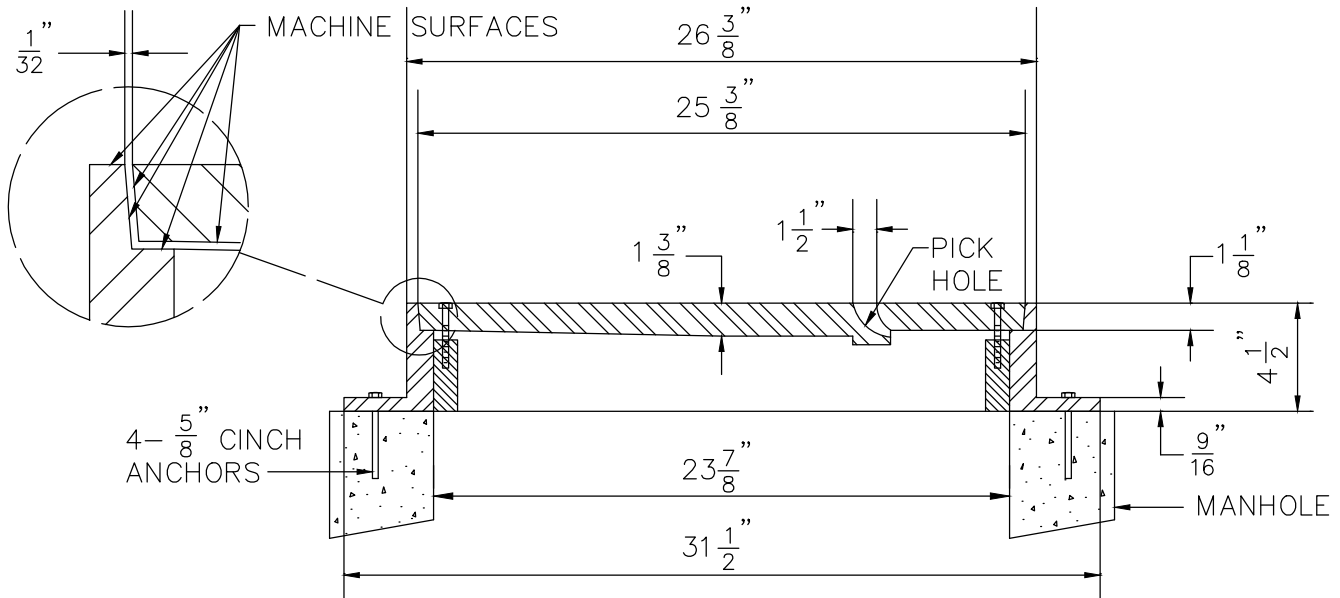
1

D&L FOUNDRY
 STD A-1024 WITH
 BOLT-DOWN MANHOLE
 RING AND COVER.



PLAN

OPTION OF MANHOLE
 RIM WITH HINGE AND
 J-BOLT LOCK IN LIEU
 OF 4 BOLTS



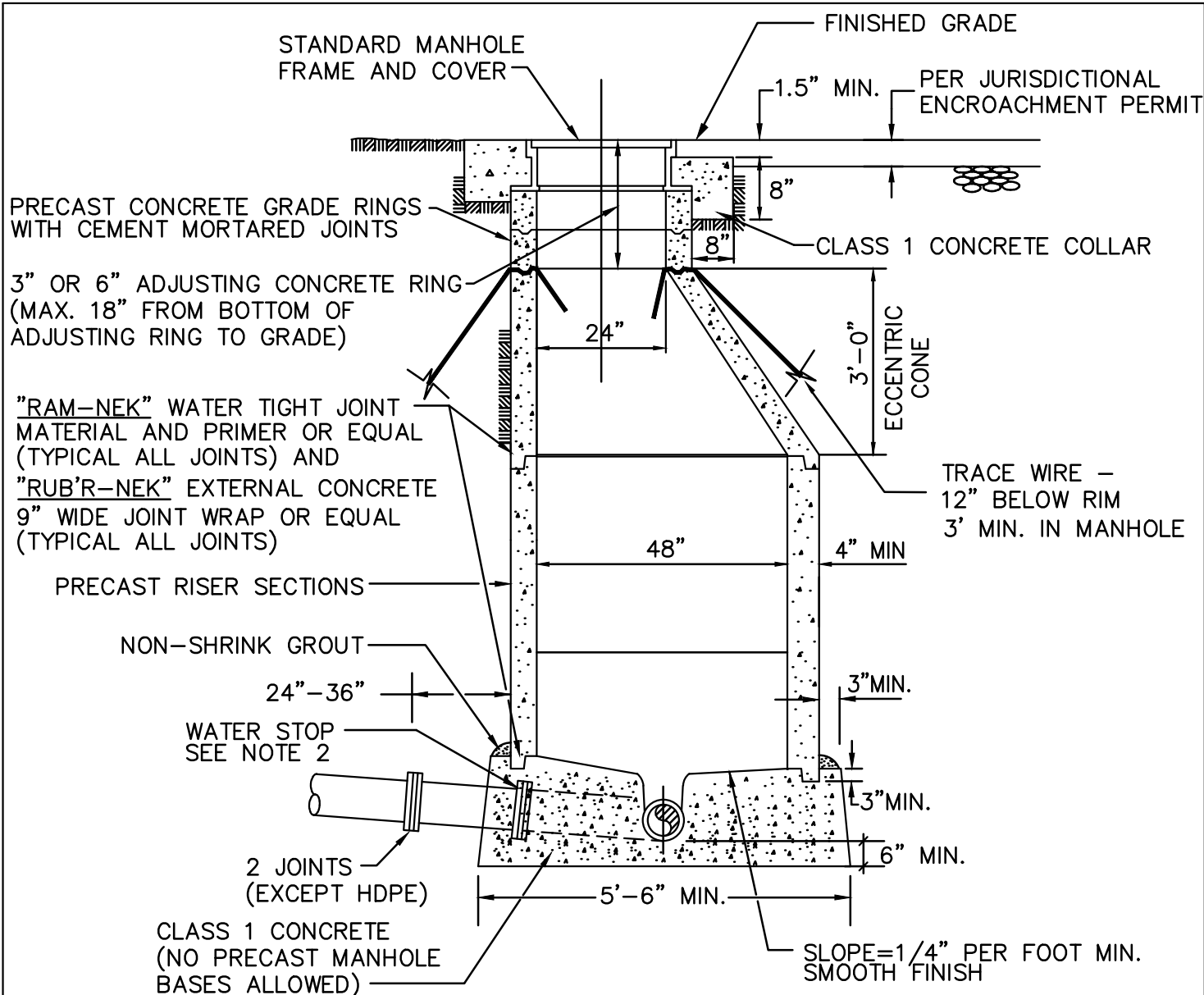
SECTION

NOTES:

1) ALL MATERIAL SHALL CONFORM TO ASTM SPECIFICATION A-159-70T-G3000.

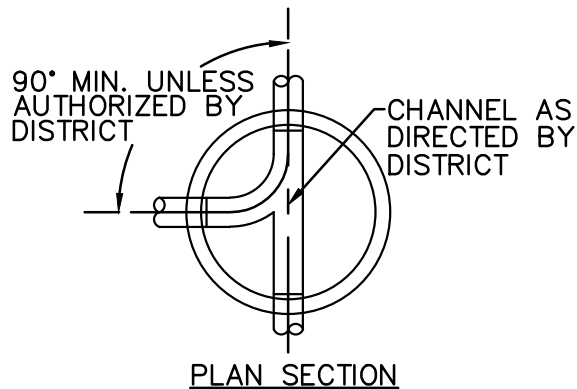
2) COVERS SHALL BE H-20, FULL VEHICULAR TRAFFIC LOADING, RATED AND SHALL NOT EXCEED 145 POUNDS IN WEIGHT.

WEST BAY		
SANITARY DISTRICT		
SCREW DOWN TYPE MANHOLE FRAME AND COVER		
APPROVED BY:		
/S/ - PHIL SCOTT		05-20-15
DISTRICT MANAGER		DATE:
		2



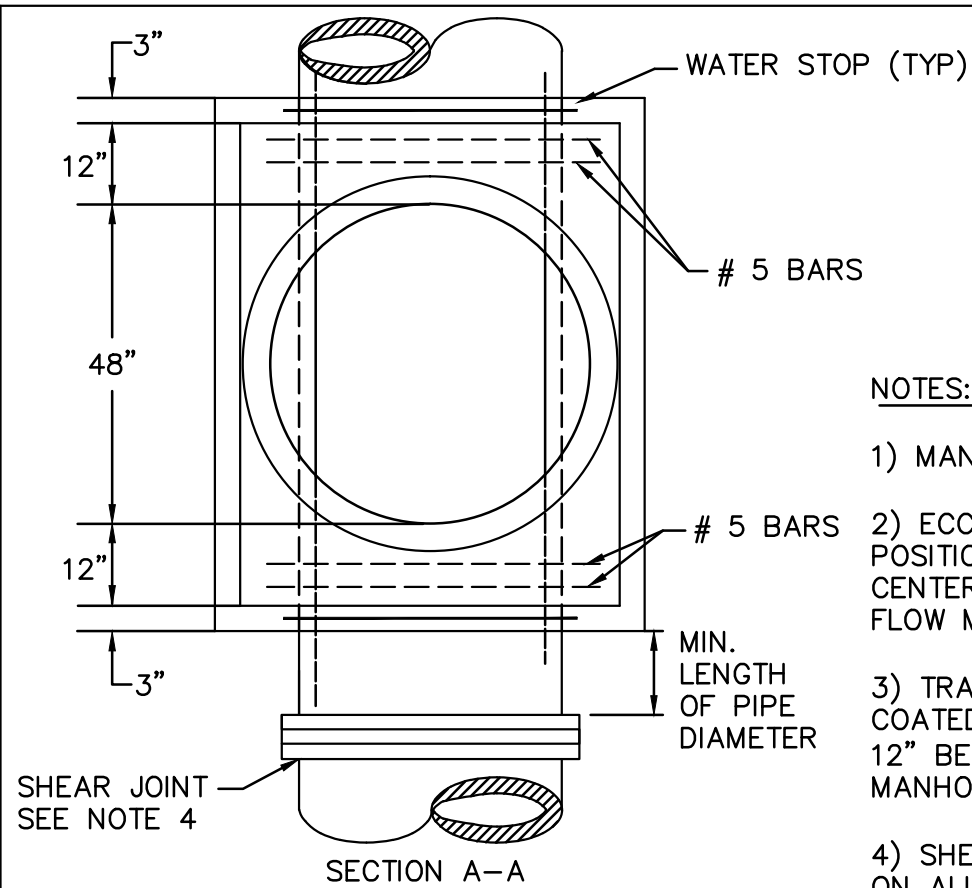
NOTES:

- 1) MANHOLE BASES SHALL BE PLACED ON IMPORTED BEDDING MATERIAL COMPACTED TO 95% RELATIVE COMPACTION.
- 2) AN APPROVED WATER STOP SHALL BE INSTALLED ON ALL FLEXIBLE PIPE ENTERING OR LEAVING A MANHOLE, AND CENTERED UNDER MANHOLE WALL.
- 3) INSTALL "RAM-NEK" WATER TIGHT JOINT MATERIAL OR EQUAL BETWEEN EACH JOINT OF CONE AND BARREL SECTIONS TO MAKE A FLEXIBLE WATERTIGHT JOINT. AFTER JOINT IS MADE, TRIM JOINT SMOOTH ON INSIDE OF MANHOLE.
- 4) STEPS IN MANHOLES ARE NOT ALLOWED.
- 5) TRACE WIRE SHALL BE SOLID AND COATED 8 GAUGE COPPER WIRE PLACED 12" BELOW RIM WITH 3' COILED UP IN MANHOLE.
- 6) MANHOLES SHALL BE VACUUM TESTED.
- 7) ECCENTRIC CONE SHALL BE POSITIONED IN SUCH A MANNER OVER CENTER OF PIPE FOR INSTALLATION OF FLOW METER SENSOR BRACKET.
- 8) CONCRETE PLATFORMS MAY BE REQUIRED ON A CASE BY CASE BASIS.



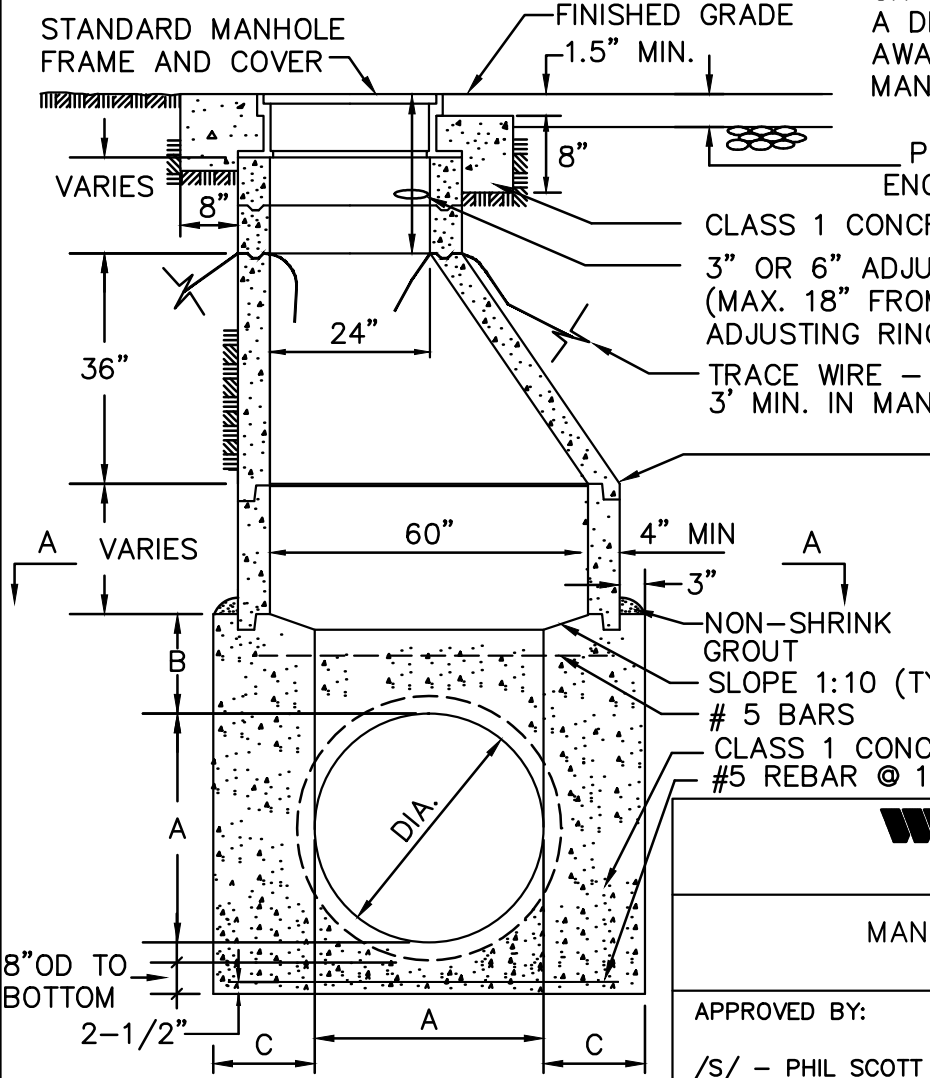
WEST BAY	
SANITARY DISTRICT	
MANHOLE FOR 21" DIAMETER AND SMALLER PIPE	
APPROVED BY:	
/S/ - PHIL SCOTT	05-20-15
DISTRICT MANAGER	DATE:
	3

DIA.	A	B	C MIN.
24"	24"	9"	19"
27"	27"	9"	17.5"
30"	30"	9"	16"
36"	36"	9.5"	13"



NOTES:

- 1) MANHOLE SHALL BE VACUUM TESTED.
- 2) ECCENTRIC CONE SHALL BE POSITIONED IN SUCH A MANNER OVER CENTER OF PIPE FOR INSTALLATION OF FLOW METER SENSOR BRACKET.
- 3) TRACE WIRE SHALL BE SOLID AND COATED 8 GAUGE COPPER WIRE PLACED 12" BELOW RIM WITH 3' COILED UP IN MANHOLE.
- 4) SHEAR JOINT SHALL BE INSTALLED ON ALL INCOMING AND OUTGOING PIPES A DISTANCE OF ONE PIPE DIAMETER AWAY FROM THE OUTSIDE OF THE MANHOLE.



- PER JURISDICTIONAL ENCROACHMENT PERMIT
- CLASS 1 CONCRETE COLLAR
- 3" OR 6" ADJUSTING CONCRETE RING (MAX. 18" FROM BOTTOM OF ADJUSTING RING TO GRADE)
- TRACE WIRE - 12" BELOW RIM 3' MIN. IN MANHOLE
- "RAM-NEK" WATER TIGHT JOINT MATERIAL AND PRIMER OR EQUAL (TYPICAL ALL JOINTS) AND
- "RUB'R-NEK" EXTERNAL CONCRETE 9" WIDE JOINT WRAP OR EQUAL (TYPICAL ALL JOINTS)
- NON-SHRINK GROUT
- SLOPE 1:10 (TYP.)
- # 5 BARS
- CLASS 1 CONCRETE
- #5 REBAR @ 12" O.C.E.W.

WEST BAY
SANITARY DISTRICT

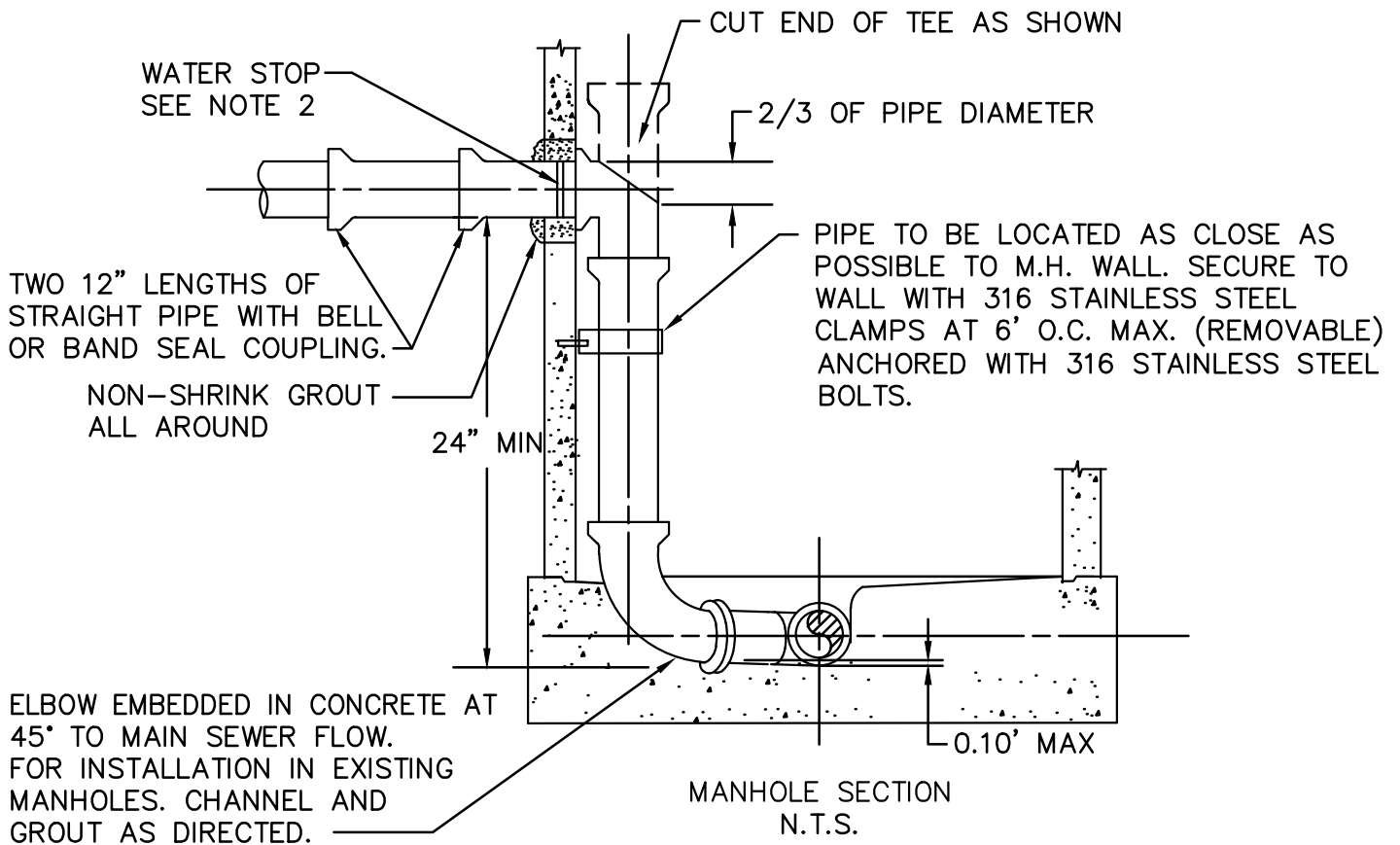
MANHOLE FOR 24" DIAMETER
AND LARGER PIPE

APPROVED BY: _____ DATE: _____

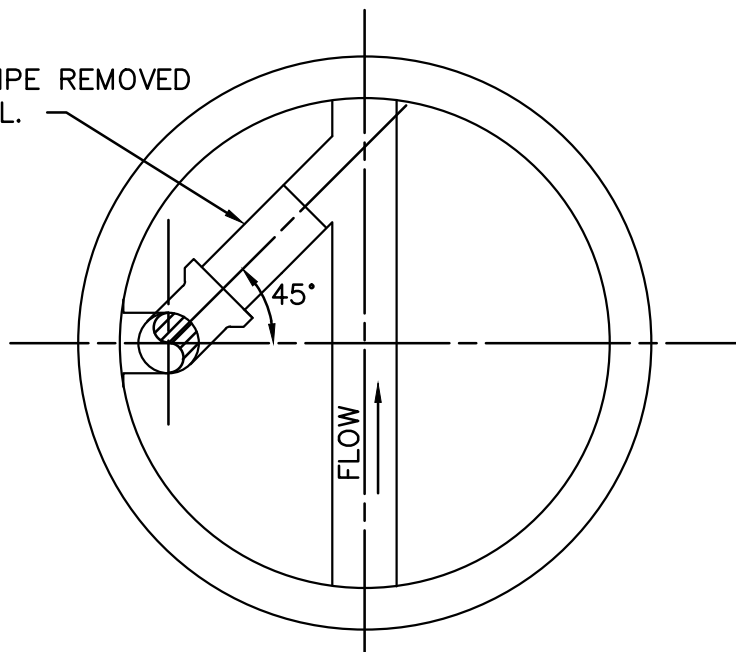
/S/ - PHIL SCOTT
DISTRICT MANAGER

05-20-15
DATE:

4



TOP 1/2 PIPE REMOVED
BEYOND ELL.



NOTE:

1. ALL INSIDE DROP PIPING TO BE SAME SIZE AND MATERIAL AS EXTERNAL PIPE, UNLESS APPROVED BY DISTRICT.
2. AN APPROVED WATER STOP SHALL BE INSTALLED ON ALL FLEXIBLE PIPE ENTERING OR EXITING MANHOLE.
3. SEE DETAIL 3 AND 4 FOR MANHOLE DETAIL.

WEST BAY
SANITARY DISTRICT

STANDARD INSIDE DROP MANHOLES
(4", 6" AND 8" DIAMETER PIPES ONLY)

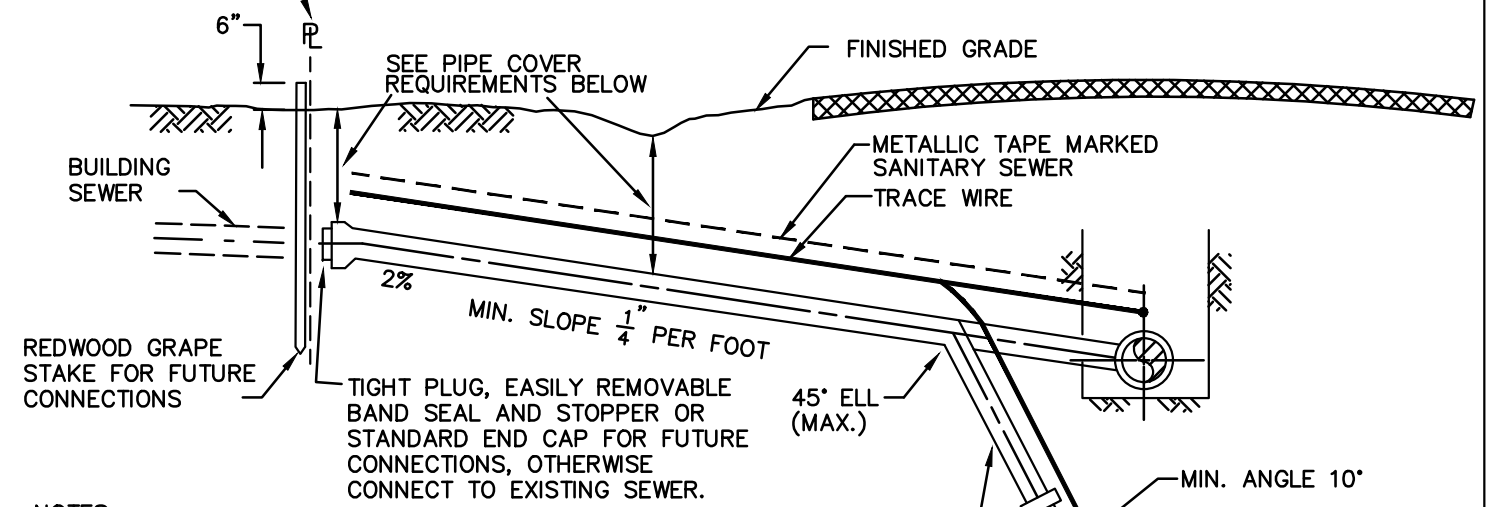
APPROVED BY:

/S/ - PHIL SCOTT
DISTRICT MANAGER

05-20-15
DATE:

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INSTALL WYE C/O AT OR WITHIN FIVE FEET OF PROPERTY LINE



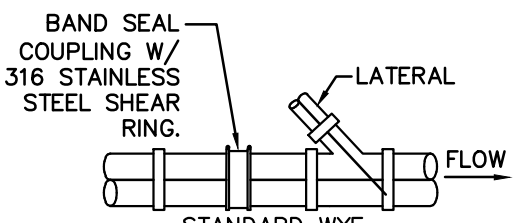
NOTES:

1. FOR SEWER DEPTHS FROM MINIMUM COVER TO 5 FEET, USE STANDARD WYE CONNECTION. FOR DEPTHS BELOW 5 FEET, USE STANDARD TEE CONNECTION WITH SLOPING RISER AS SHOWN. TAP-TITE CONNECTIONS MAY BE USED WHERE APPLICABLE.
2. WHEN SEWER IS AT MINIMUM DEPTH, HOLD SERVICE LINE TO MINIMUM SLOPE AND LESSEN COVER AT PROPERTY LINE, OTHERWISE 3 FEET OF COVER TO OFFICIAL GRADE IS REQUIRED AT PROPERTY LINE.
3. THE LOCATION OF ALL SEWER LATERALS SHALL BE MARKED WITH A LETTER "S" ON TOP OF CURB OR BACK OF WALK.
4. ALL SERVICE TEES OR WYES SHALL BE MANUFACTURER'S STANDARD FITTINGS. CONNECTION CLOSURE SHALL BE BY STANDARD BAND SEAL COUPLINGS WITH 316 STAINLESS STEEL SHEAR RING ON SERVICE ADDITIONS. NO PIPE BREAKING AND CONCRETE PATCHING WILL BE PERMITTED, ONLY NEATLY SNAPPED OR SAWCUT LENGTHS WILL BE ALLOWED.
5. 8 GAUGE COPPER WIRE OR COATED COPPER WIRE FOR TRACING PURPOSES SHALL BE PLACED ON ALL NEW LATERALS AND REPLACEMENT LATERALS WHEN EXCAVATION IS FROM MAIN LINE TO THE PROPERTY LINE CLEANOUT. WIRE TO BE BROUGHT TO RISER WITH TWO FEET COILED INSIDE BOX.
6. TAP-TITE AND TEE CONNECTIONS ARE NOT ALLOWED IN TERMINATING SEWER MAINS (MOST UPSTREAM LINE).
7. CONTRACTOR SHALL PLACE ROOT CONTROL FABRIC OVER ALL JOINTS AS SHOWN ON WEST BAY SANITARY DISTRICT DETAIL NO. 13.
8. CONTRACTOR SHALL INSTALL BEDDING AND BACKFILL MATERIAL AS SHOWN ON WEST BAY SANITARY DISTRICT DETAIL NO. 8.
9. PIPE MATERIAL FOR LATERALS SHALL BE DIP CLASS 50 OR 51, OR PVC C900 DR18.

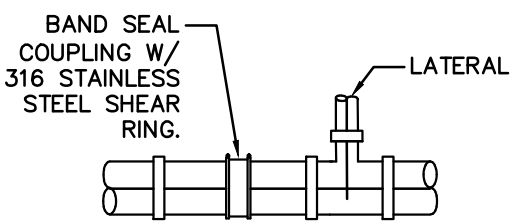
RISER TO REST AGAINST UNDISTURBED SOIL. WHERE TRENCH IS TOO WIDE, PVC C-900 DR 18 PIPE SHALL BE USED AND SHALL BE INSTALLED VERTICALLY IN CONCRETE CRADLE.

POUR CONCRETE SUPPORT 1'-0" WIDE

DEEP SEWER - GREATER THAN 10'

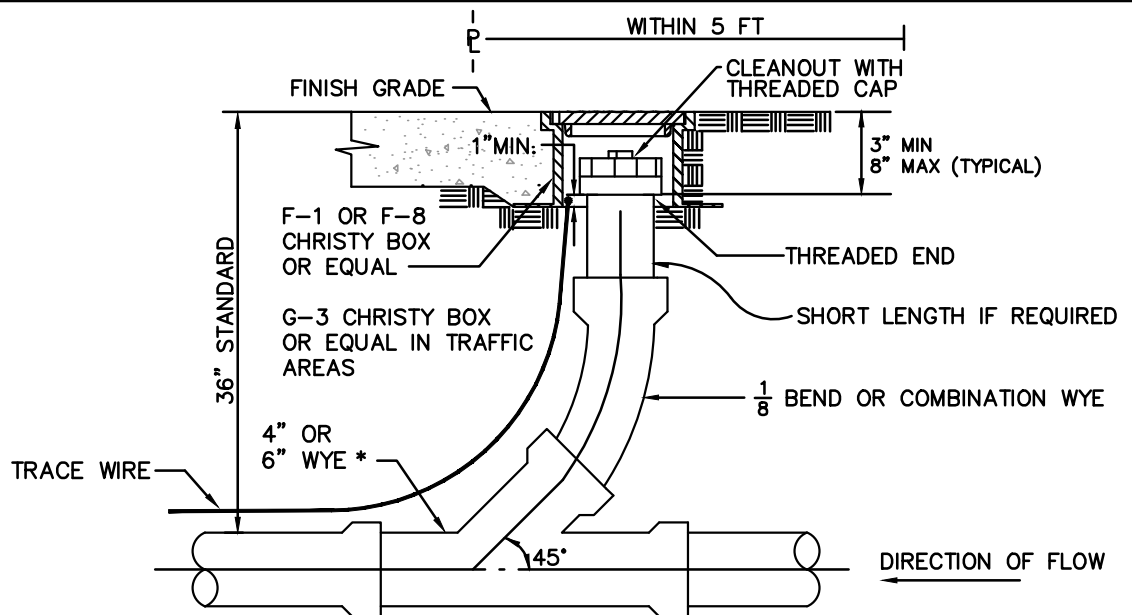


SEE NOTES 1 AND 4



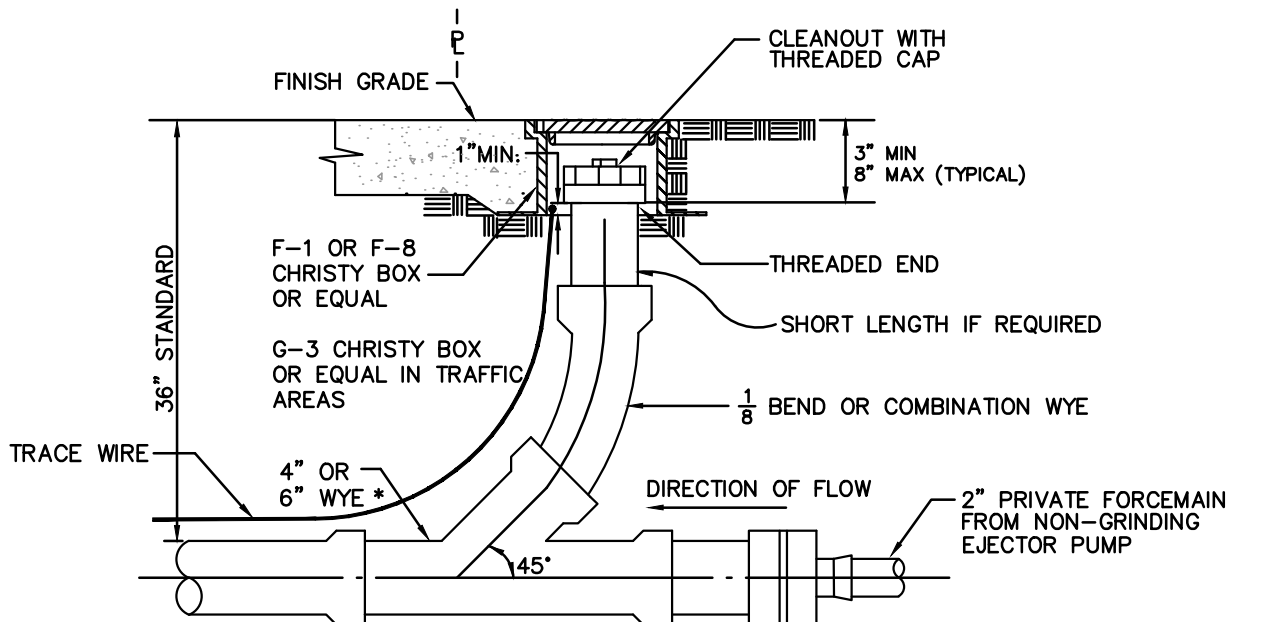
SEE NOTES 1 AND 4

WEST BAY	
SANITARY DISTRICT	
SANITARY SEWER LATERAL CONNECTIONS	
APPROVED BY:	
/s/ - PHIL SCOTT	05-20-15
DISTRICT MANAGER	DATE:
	6



NOTE: SEWER PIPE JOINTS SHALL BE "BELL AND SPIGOT" JOINTS

VERTICAL RISER/GRAVITY SEWER



NOTE: SEWER PIPE JOINTS SHALL BE "BELL AND SPIGOT" JOINTS

VERTICAL RISER/PRIVATE FORCEMAIN TO GRAVITY SEWER

NOTES:

- 1) THE CLEAN OUT ASSEMBLY SHALL BE THE SAME SIZE AS THE LATERAL SEWER IT SERVICES.
- 2) COVERS SHALL BE C.I. FOR STREETS, ALLEYS OR DRIVES, OTHERWISE FIBRELYTE OR CONCRETE FOR NON-TRAFFIC USE.
- 3) #8 GAUGE SOLID AND COATED COPPER WIRE FOR TRACING PURPOSES SHALL BE PLACED ON ALL NEW LATERALS AND REPLACEMENT LATERALS WHEN EXCAVATION IS FROM MAIN LINE TO THE PROPERTY LINE CLEANOUT. WIRE TO BE BROUGHT TO RISER WITH TWO FEET COILED INSIDE BOX.
- 4) ALL CLEAN OUT BOX LIDS SHALL BE MARKED WITH A LETTER "S" OR THE WORD "SEWER".
- 5) WYE SHALL BE INSTALLED AT OR WITHIN 5 FEET OF PROPERTY LINE.

6) CONTRACTOR SHALL PLACE ROOT CONTROL FABRIC OVER ALL JOINTS AS SHOWN ON WEST BAY SANITARY DISTRICT DETAIL NO. 13.

7) CONTRACTOR SHALL INSTALL BEDDING AND BACKFILL MATERIAL AS SHOWN ON WEST BAY SANITARY DISTRICT DETAIL NO. 8.

WEST BAY

SANITARY DISTRICT

SERVICE LATERAL CLEANOUT

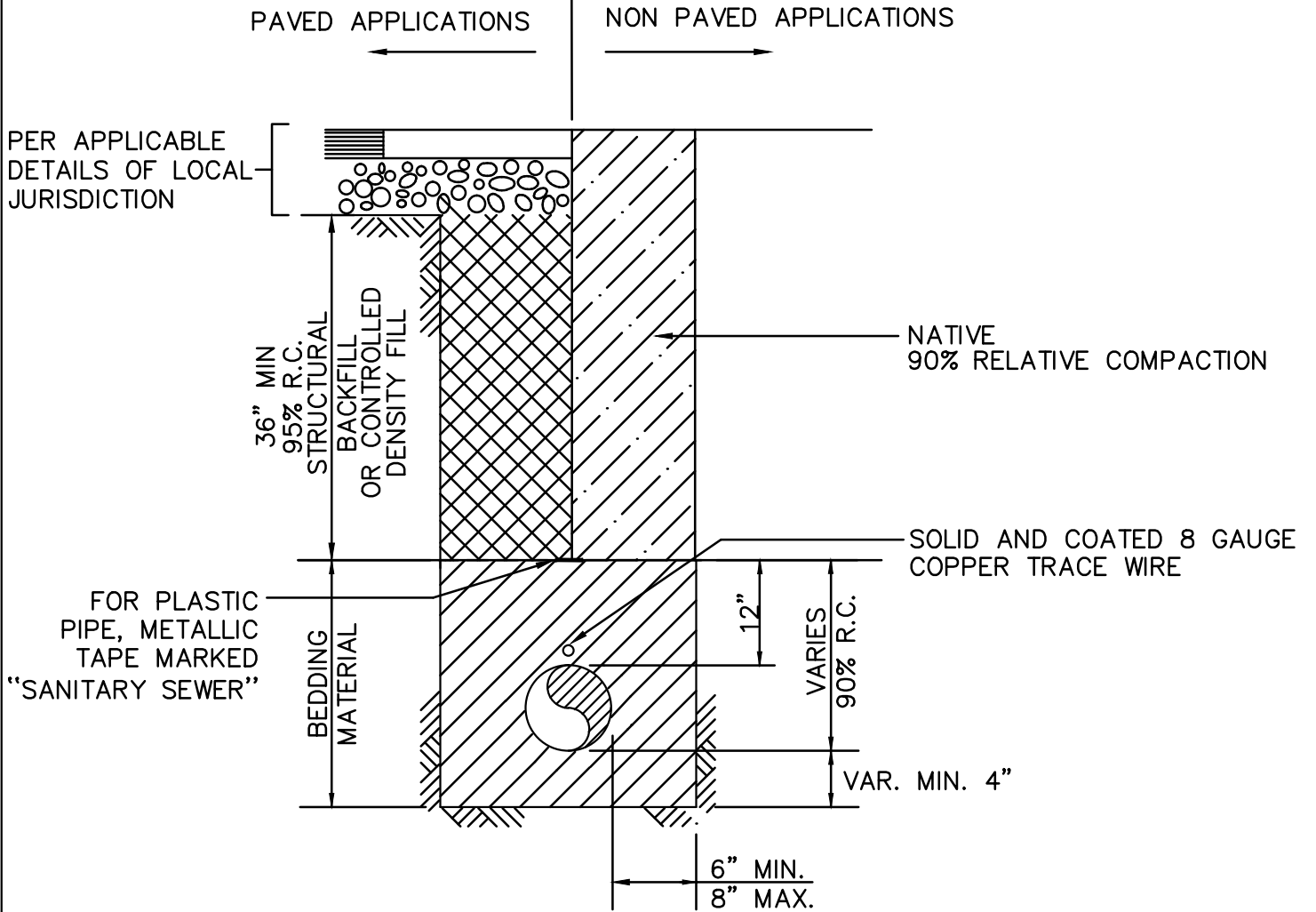
APPROVED BY:

/S/ - PHIL SCOTT

DISTRICT MANAGER

05-20-15

DATE:



TYPICAL TRENCH SECTION

BEDDING MATERIAL

ANGULAR BEDDING MATERIAL REQUIREMENTS
PERCENT PASSING (CRUSHED DRAIN ROCK)

SIEVE SIZES	PERCENTAGE PASSING
1"	100
3/4"	90-100
3/8"	20-55
#4	0-10
#8	0-5

STRUCTURAL BACKFILL

STRUCTURAL BACKFILL REQUIREMENTS
PERCENT PASSING

SIEVE SIZES	PERCENTAGE PASSING
1-1/2"	100
3/4"	80-100
#4	30-60
#30	5-35
#200	0-12

WEST BAY

SANITARY DISTRICT

EXCAVATION, BACKFILL AND
SURFACE RESTORATION

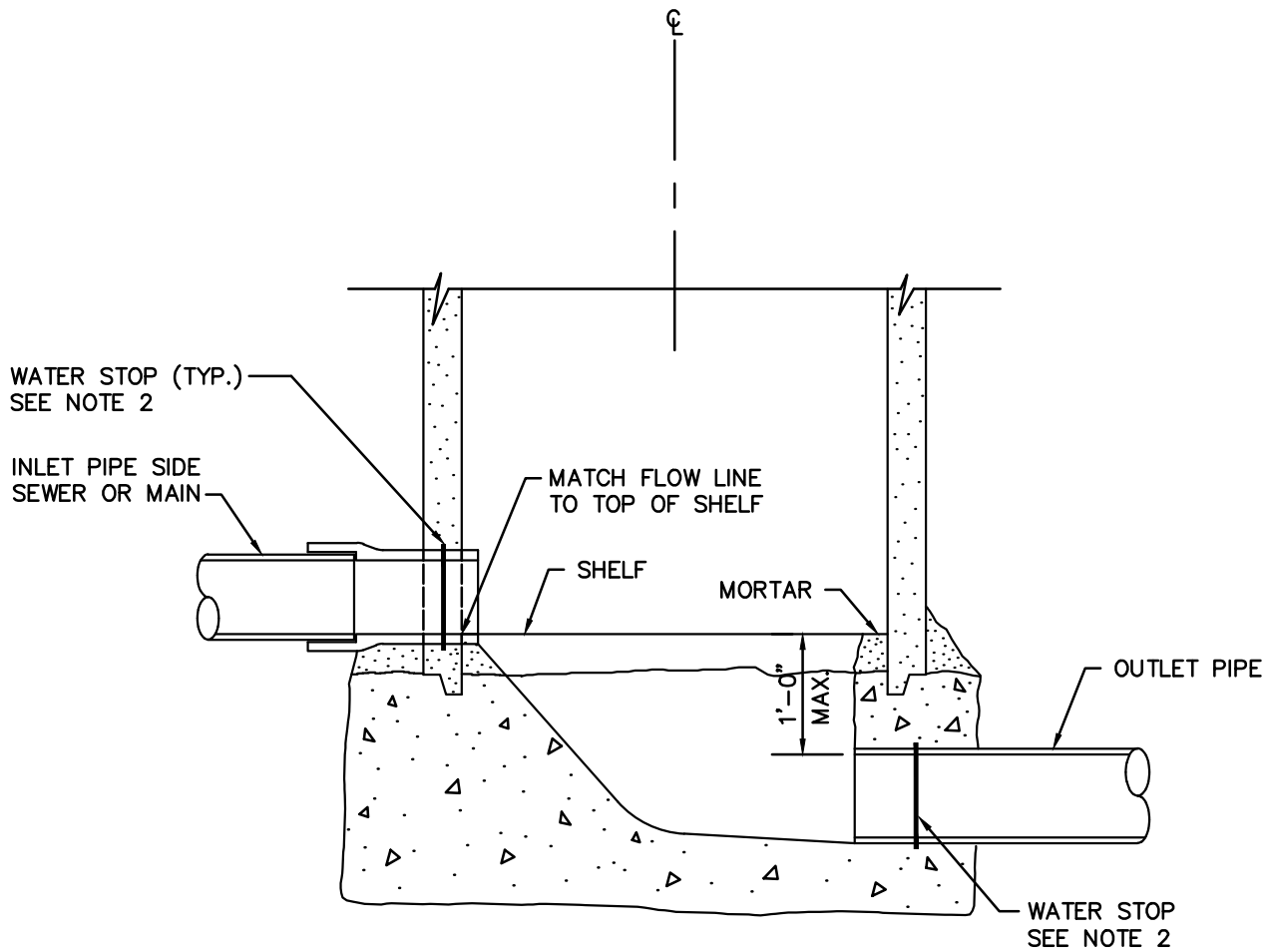
APPROVED BY:

/s/ - PHIL SCOTT

DISTRICT MANAGER

05-20-15

DATE:



ELEVATION

NOTES:

- 1) SEE STANDARD MANHOLE DETAIL FOR MANHOLE CONSTRUCTION AND DIMENSIONS.
- 2) AN APPROVED WATER STOP SHALL BE INSTALLED ON ALL FLEXIBLE PIPE ENTERING OR EXITING MANHOLE.

WEST BAY
SANITARY DISTRICT

DROP MANHOLE DETAIL FOR CONNECTION
OF EXISTING SEWER TO NEW MANHOLE

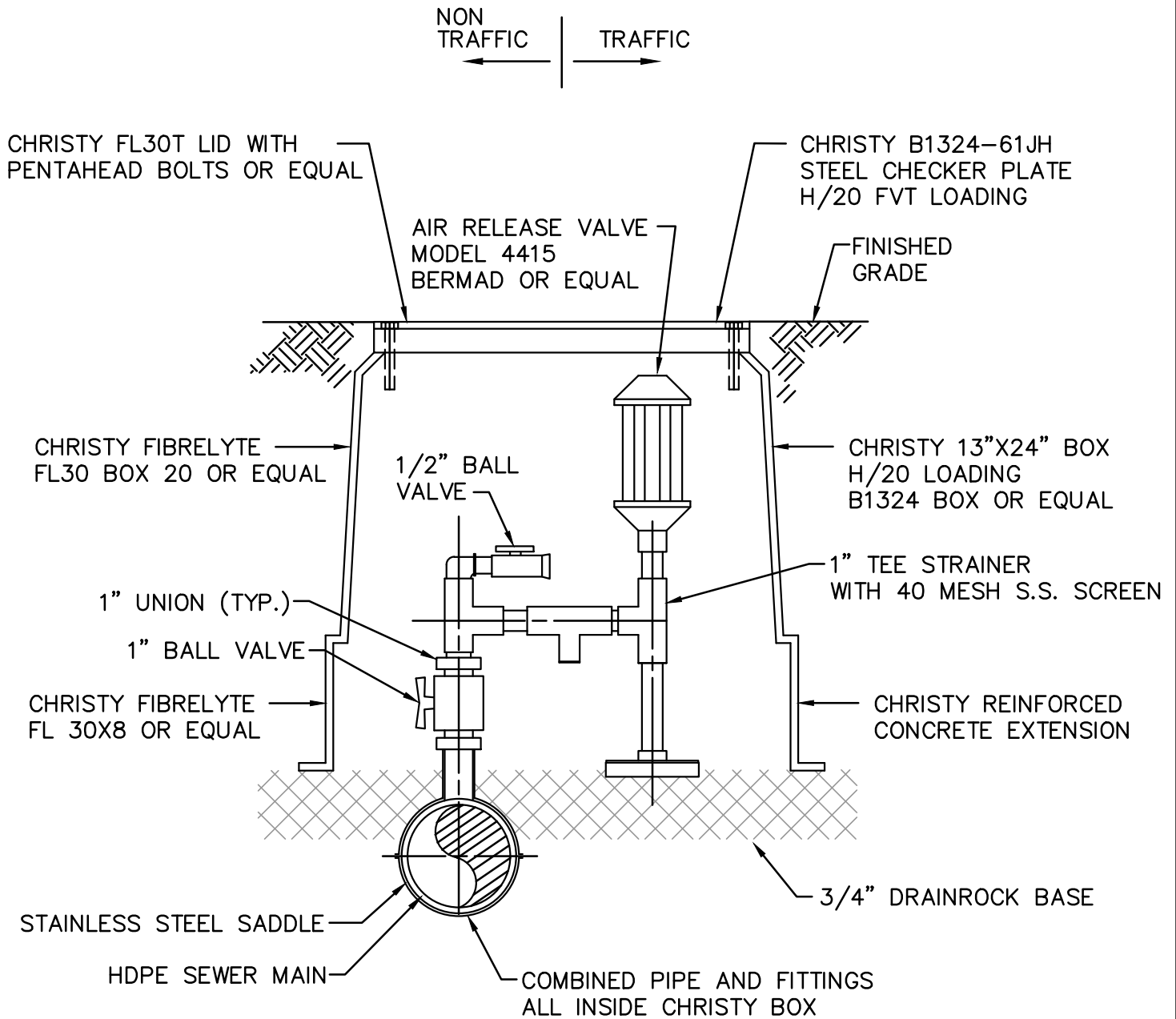
APPROVED BY:

/S/ - PHIL SCOTT

DISTRICT MANAGER

05-20-15

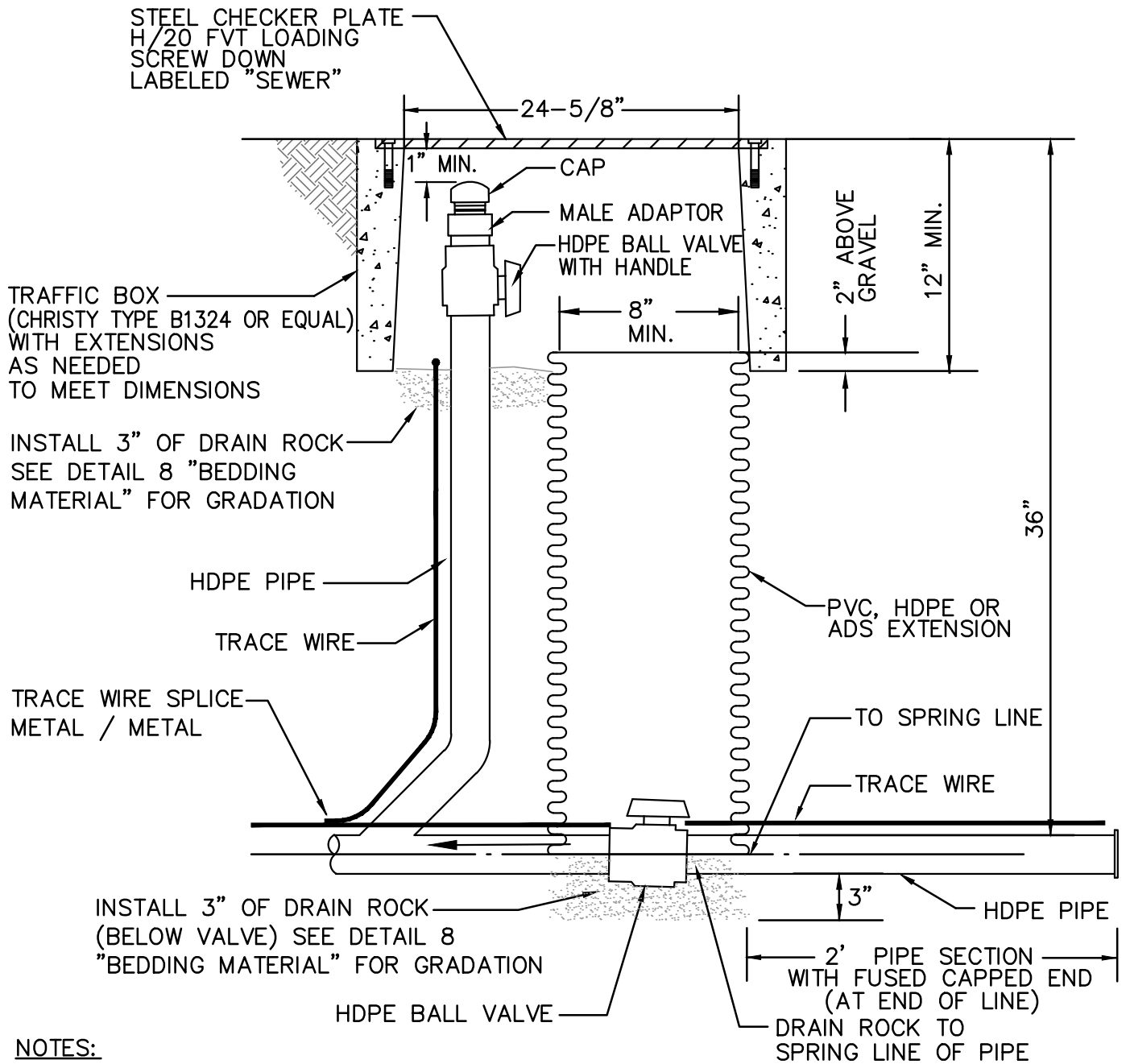
DATE:



NOTE:

- 1) AIR RELEASE ASSEMBLY PIPE AND FITTINGS TO BE PVC.
- 2) THE CONTRACTOR MUST OBTAIN A CLASS 3 PERMIT FROM THE DISTRICT PRIOR TO INSTALLATION.

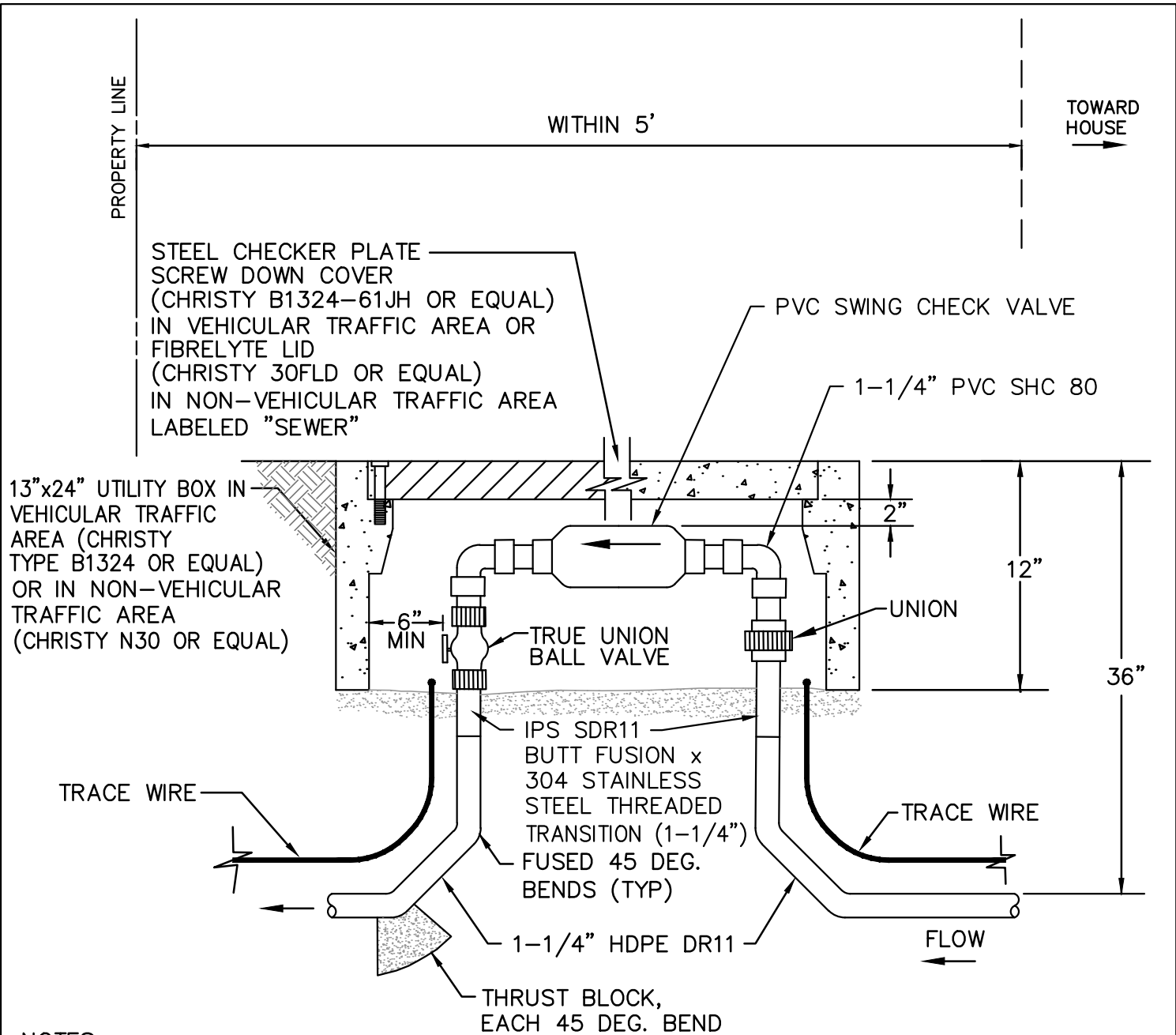
WEST BAY	
SANITARY DISTRICT	
AIR RELEASE ASSEMBLY FOR STEP MAIN	
APPROVED BY:	
/s/ - PHIL SCOTT	05-20-15
DISTRICT MANAGER	DATE:
	10



NOTES:

1. CONTRACTOR SHALL SUPPLY DISTRICT WITH 4'-5' VALVE ACTUATOR HANDLE TO TURN VALVE.
2. ALL HDPE JOINTS SHALL BE FUSED.
3. TRACE WIRE SHALL BE CONTINUOUS 8 GAUGE SOLID AND COATED COPPER WITH 2 FEET COILED IN BOX.
4. RISER SHALL BE SAME SIZE AS FORCEMAIN.

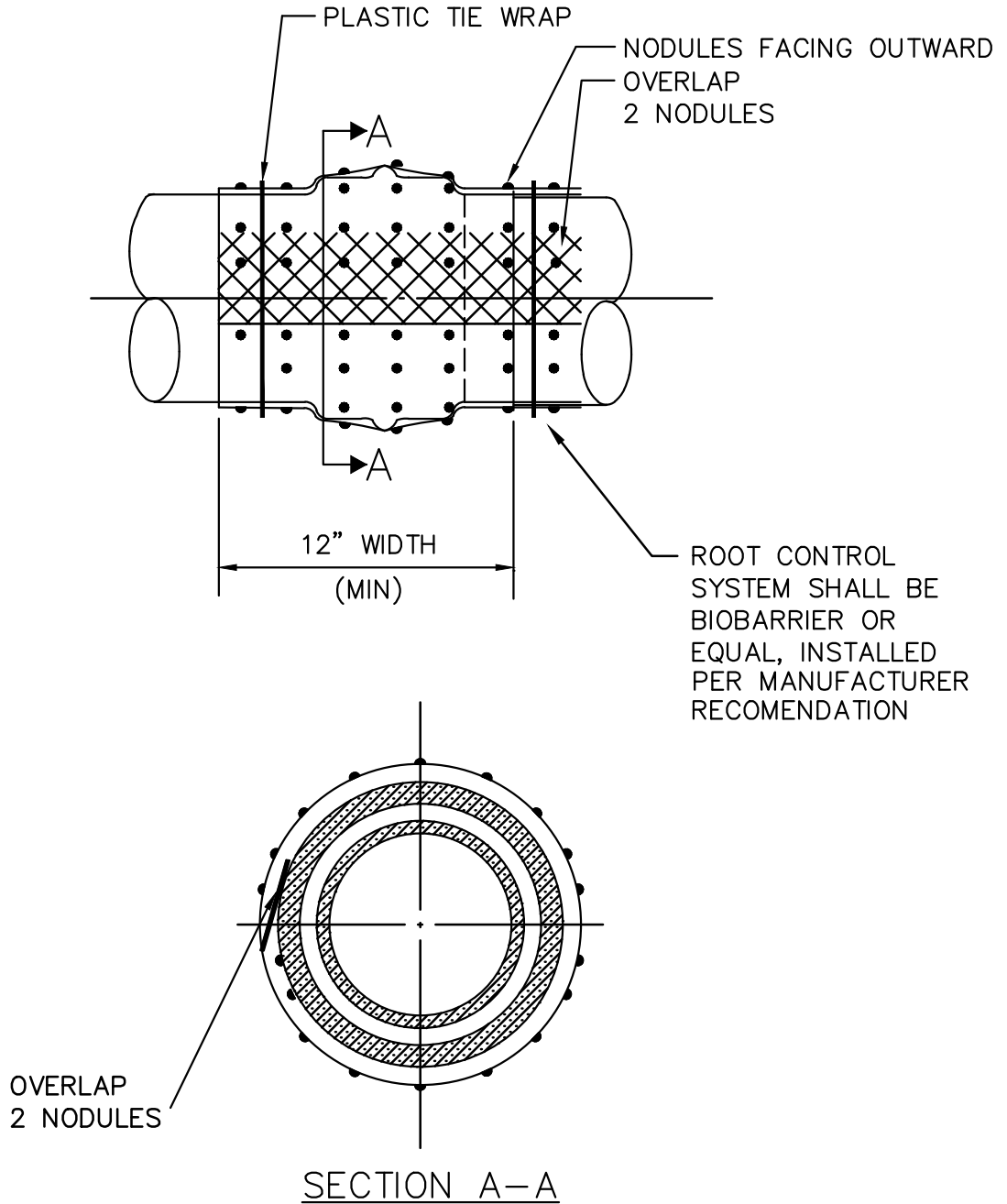
WEST BAY SANITARY DISTRICT	
CLEANOUT 2"-3" FORCEMAIN (STEP AND GRINDER PUMP SYSTEMS)	
APPROVED BY:	
/s/ - PHIL SCOTT	05-20-15
DISTRICT MANAGER	DATE:



NOTES:

1. THE LATERAL CHECK VALVE STATION SHALL BE LOCATED IN AN AREA APPROVED BY THE DISTRICT.
2. ALL PVC JOINTS SHALL BE GLUED/SOLVENT WELD.
3. TRACE WIRE SHALL BE CONTINUOUS 8 GAUGE SOLID AND COATED COPPER WIRE WITH TWO FEET COILED IN BOX.
4. COVER OVER FORCE MAIN SHALL BE 36" UNLESS OTHERWISE APPROVED BY THE DISTRICT.
5. ALL PIPINGS SHOULD BE PVC SCHEDULE 80 OR HDPE SDR11.

WEST BAY	
SANITARY DISTRICT	
1-1/4" LATERAL CHECK VALVE STATION	
APPROVED BY:	
/s/ - PHIL SCOTT	05-20-15
DISTRICT MANAGER	DATE:
	12



APPLICATION (ALL JOINTS):

- 1) ALL NEW MAIN SEWER PROJECTS.
- 2) ALL NEW OR REPLACEMENT SANITARY SEWER LATERAL CONNECTIONS.
- 3) SANITARY SEWER LATERAL REPAIRS.

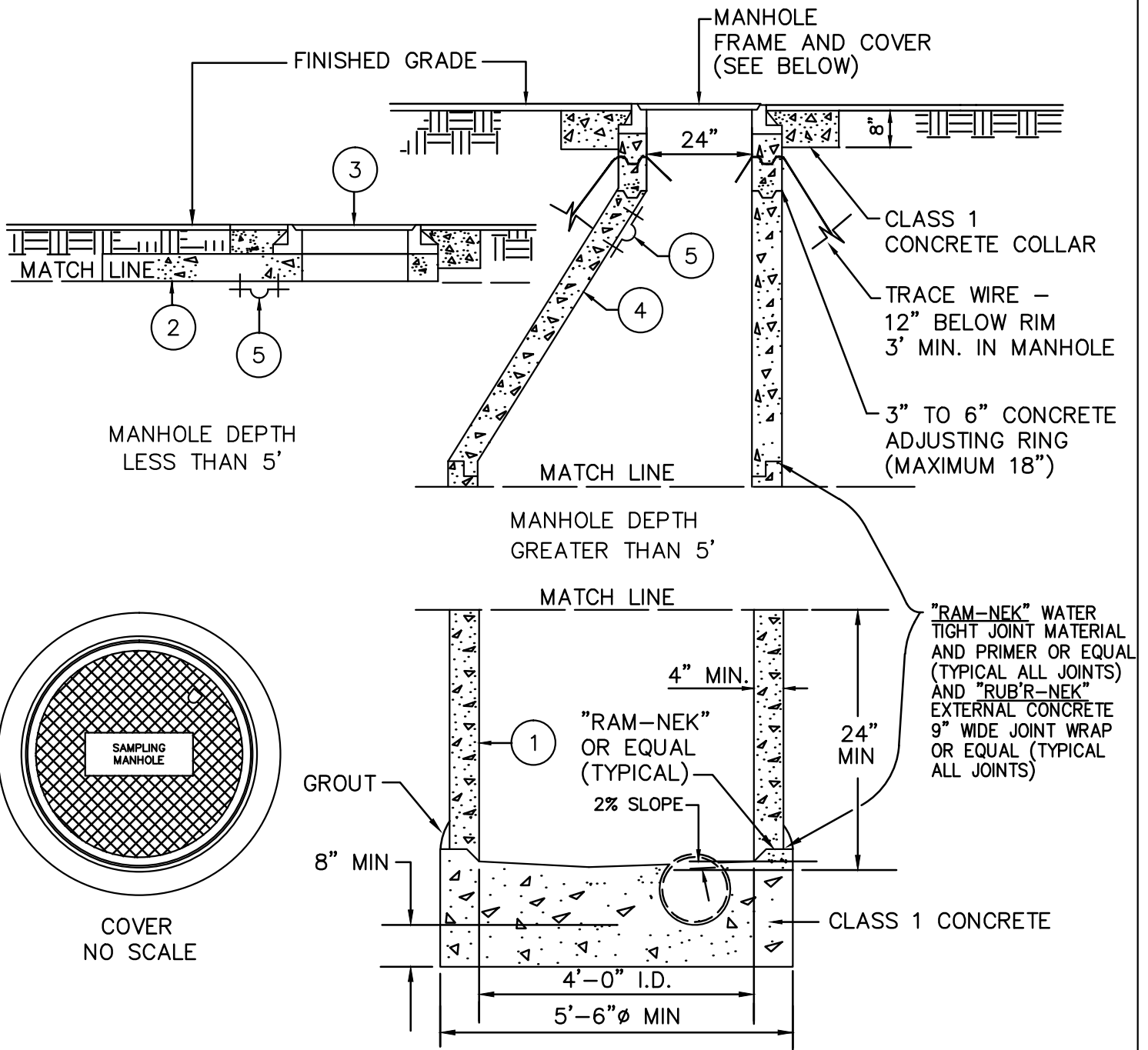
WEST BAY
SANITARY DISTRICT

ROOT CONTROL SYSTEM

APPROVED BY:

/S/ - PHIL SCOTT
DISTRICT MANAGER

05-20-15
DATE:



NOTE:

- 1) STANDARD 48" DIAMETER PRECAST MANHOLE SECTION WITHOUT STEPS. HEIGHT AS REQUIRED. SECTIONS SHALL CONFORM TO ASTM C 478
 - 2) PRECAST MANHOLE CAP DESIGNED FOR H-20 FVT LOADING.
 - 3) D&L FOUNDRY STD. A-1024 MANHOLE RING AND COVER OR APPROVED EQUAL WITHIN 5' OF PROPERTY LINE.
 - 4) ECCENTRIC CONE SECTION. MANHOLE OPENING TO BE PLACED OVER CHANNEL
 - 5) WROUGHT STEEL STRAP WITH 3/8" CINCH ANCHORS-GRINNELL FIG. 262 FOR 2" PIPE
- 1) FLEXIBLE PIPE ONLY - AN APPROVED WATER STOP SHALL BE INSTALLED ON ALL FLEXIBLE PIPE ENTERING OR EXITING SAMPLING MANHOLE.
 - 2) ECCENTRIC CONE SHALL BE POSITIONED IN SUCH A MANNER OVER CENTER OF PIPE FOR INSTALLATION OF FLOW METER SENSOR BRACKET.

WEST BAY

SANITARY DISTRICT

SAMPLING MANHOLE

APPROVED BY:

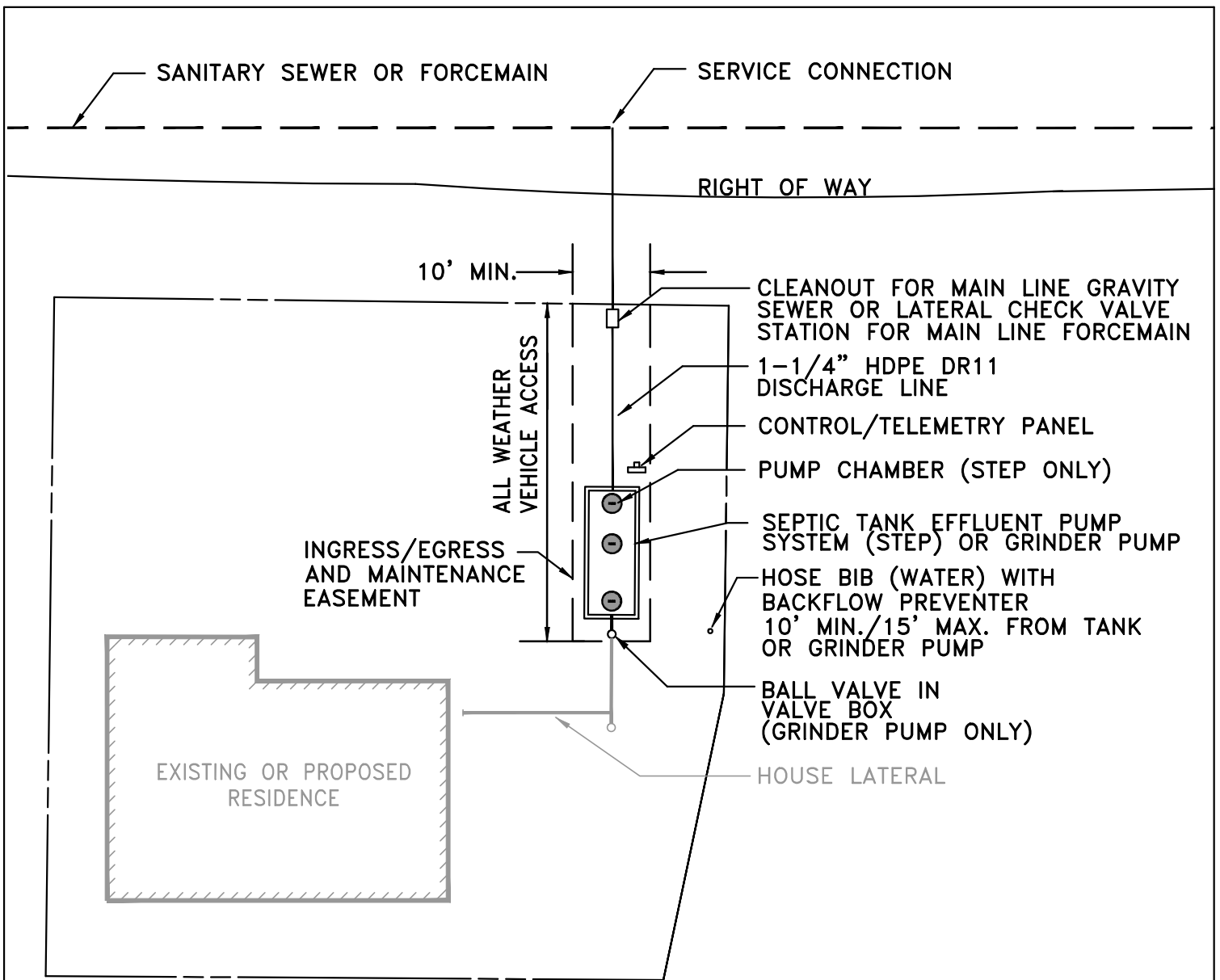
/s/ - PHIL SCOTT

DISTRICT MANAGER

05-20-15

DATE:

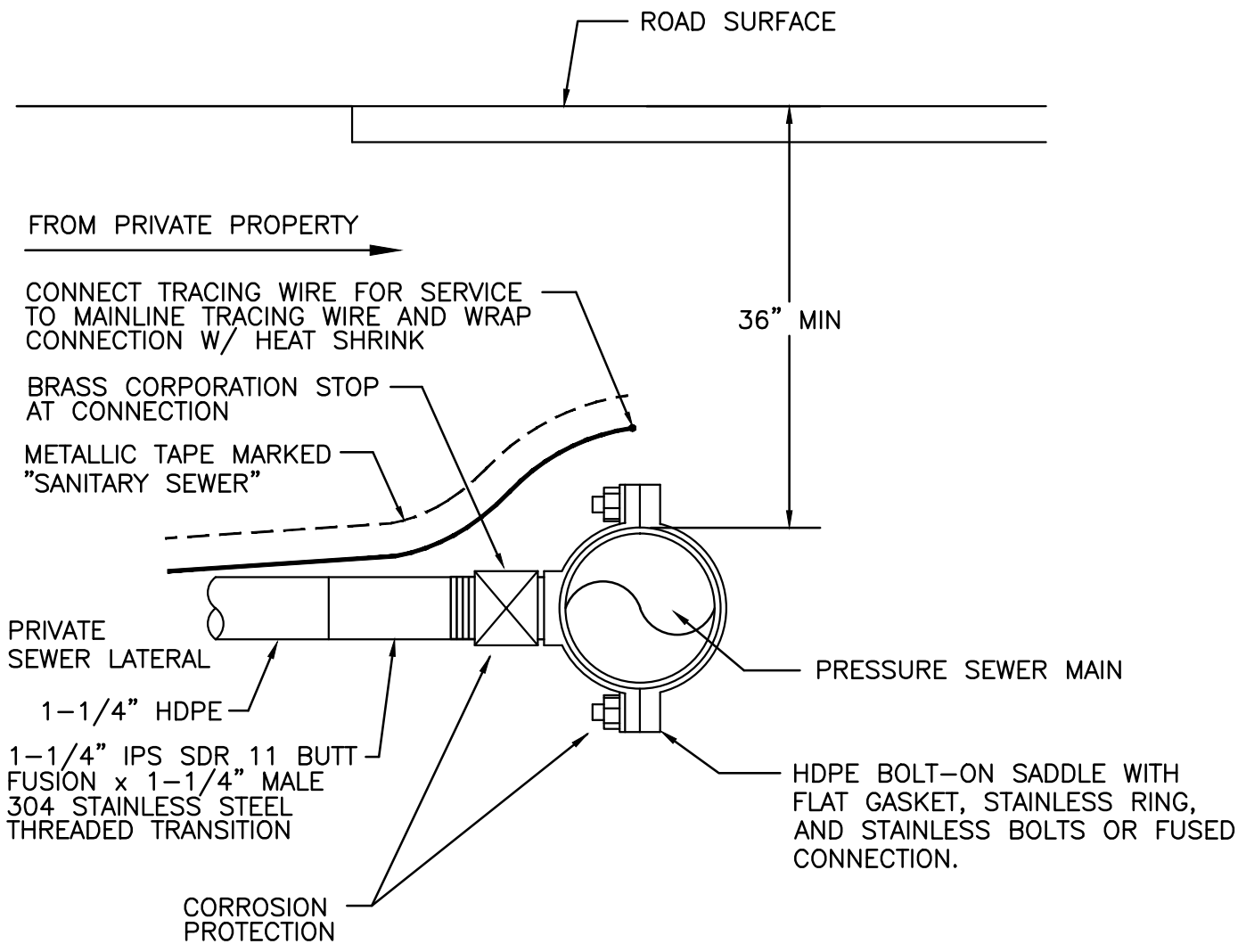
14



NOTES:

- 1) FOR USE IN THE ON-SITE WASTEWATER DISPOSAL ZONE (OWDZ) ONLY.
- 2) LOCATION OF ALL SANITARY FACILITIES SHALL BE SUBJECT TO DISTRICT APPROVAL.
- 3) PROVIDE VEHICLE ACCESS TO GRINDER PUMP/STEP SYSTEM.
- 4) AN EASEMENT SHALL BE GRANTED TO THE DISTRICT FOR VEHICULAR INGRESS/EGRESS AND FOR MAINTENANCE PURPOSES.
- 5) COATED #8 GAUGE WIRE FOR TRACING PURPOSES SHALL BE PLACED ON ALL NEW LATERALS/DISCHARGE LINES.
- 6) CONTRACTOR/APPLICANT SHALL ANNEX INTO THE WEST BAY SANITARY DISTRICT BOUNDARY AND ON-SITE WASTEWATER DISPOSAL ZONE, OBTAIN BOARD APPROVAL, SUBMIT PUMP INFORMATION, SUBMIT ENGINEERED DRAWINGS & MUST OBTAIN A CLASS 3 PERMIT PRIOR TO INSTALLATION.

WEST BAY SANITARY DISTRICT	
TYPICAL STEP/GRINDER PUMP SYSTEM LAYOUT ON-SITE WASTEWATER DISPOSAL ZONE (OWDZ) ONLY	
APPROVED BY:	
/s/ - PHIL SCOTT	05-20-15
DISTRICT MANAGER	DATE:



NOTES:

1. TRACE WIRE SHALL BE CONTINUOUS COATED #8 WIRE.
2. THE CONTRACTOR SHALL EXCAVATE BY HAND EXPOSING THE EXISTING PRESSURE SEWER MAIN.
3. THE CONTRACTOR SHALL COAT CONNECTION WITH CORROSION PROTECTION.

WEST BAY	
SANITARY DISTRICT	
FORCEMAIN SERVICE CONNECTION	
APPROVED BY:	
/s/ - PHIL SCOTT	05-20-15
DISTRICT MANAGER	DATE:
	16

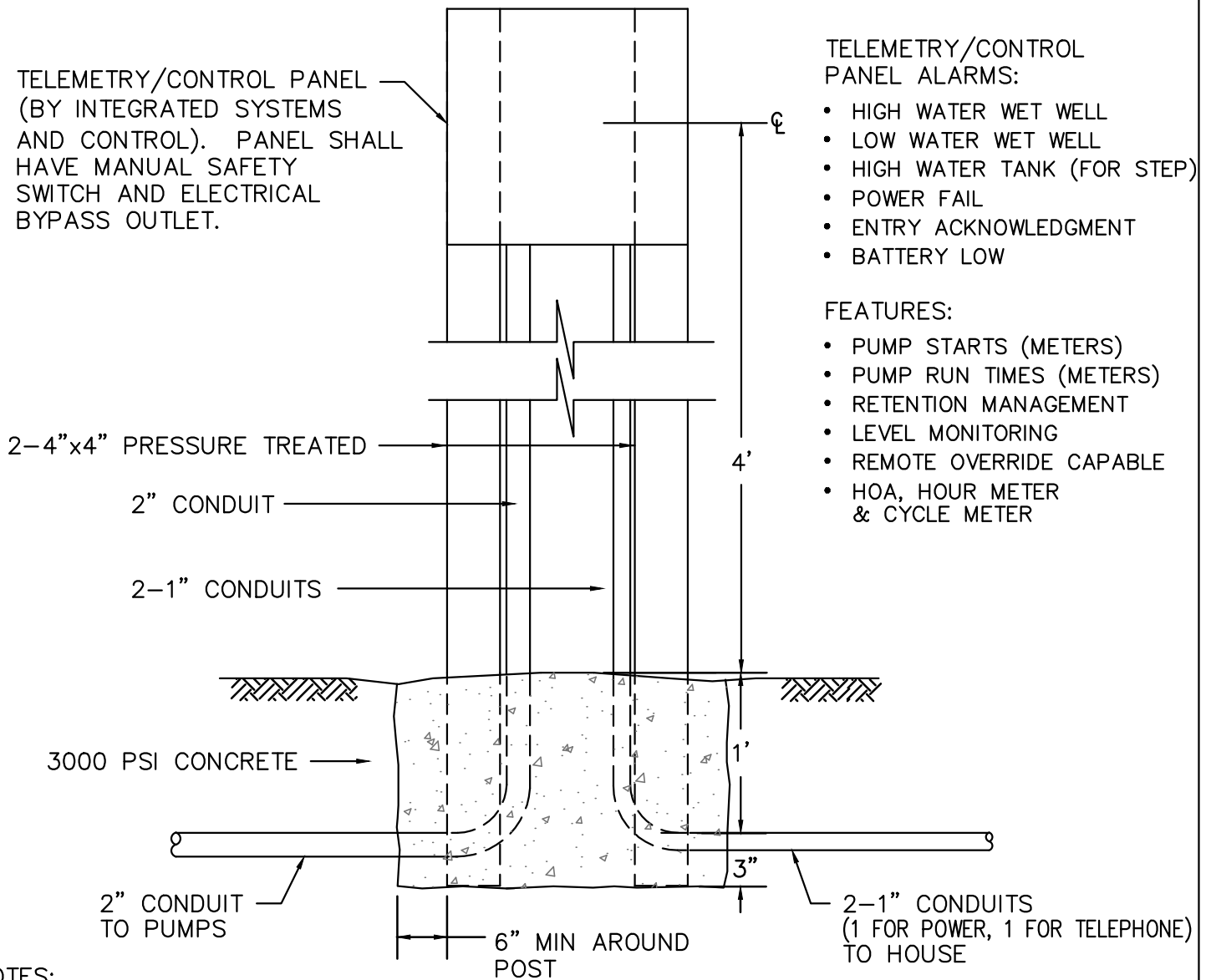
TELEMETRY/CONTROL PANEL (BY INTEGRATED SYSTEMS AND CONTROL). PANEL SHALL HAVE MANUAL SAFETY SWITCH AND ELECTRICAL BYPASS OUTLET.

TELEMETRY/CONTROL PANEL ALARMS:

- HIGH WATER WET WELL
- LOW WATER WET WELL
- HIGH WATER TANK (FOR STEP)
- POWER FAIL
- ENTRY ACKNOWLEDGMENT
- BATTERY LOW

FEATURES:

- PUMP STARTS (METERS)
- PUMP RUN TIMES (METERS)
- RETENTION MANAGEMENT
- LEVEL MONITORING
- REMOTE OVERRIDE CAPABLE
- HOA, HOUR METER & CYCLE METER

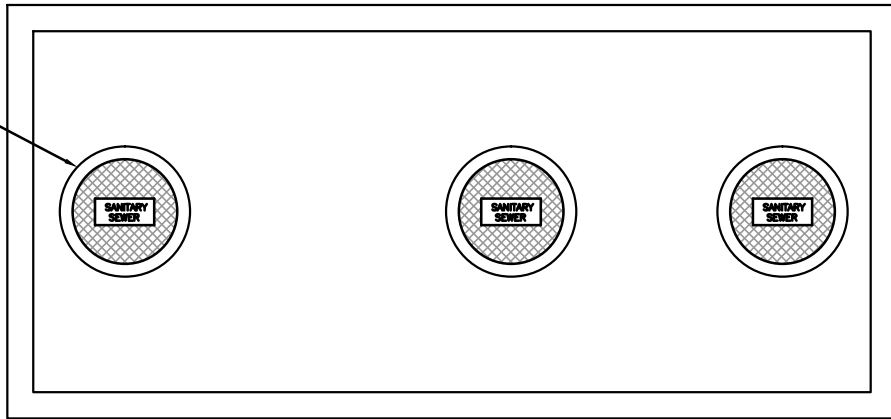


NOTES:

- 1) THE PANEL IS TO CONTROL THE PUMPS AND TO NOTIFY WEST BAY SANITARY DISTRICT SHOULD A MALFUNCTION OCCUR.
- 2) THE PROPERTY OWNER SHALL PROVIDE A DEDICATED PHONE LINE FOR THE PANEL. THE PHONE LINE'S SINGLE PURPOSE SHALL BE FOR TELEMETRY PANEL USE, AND PAID FOR AT THE HOMEOWNERS EXPENSE.
- 3) THE PROPERTY OWNER SHALL PROVIDE A DEDICATED ELECTRICAL CIRCUIT FOR THE PANEL. THE CIRCUIT'S SINGLE PURPOSE SHALL BE FOR TELEMETRY PANEL USE, AND PAID FOR AT THE HOMEOWNERS EXPENSE.
- 4) CONTROL/TELEMETRY PANEL SHALL BE SUPPLIED, APPROVED, AND CERTIFIED BY INTEGRATED SYSTEMS AND CONTROL (ISAC). (530) 878-9038.
- 5) LOCATION SUBJECT TO DISTRICT APPROVAL.
- 6) BURIED CONDUIT SHALL BE PVC SCHEDULE 80. EXPOSED CONDUIT SHALL BE GALVANIZED STEEL OR ALUMINUM.
- 7) CONTROL PANEL MUST BE SUPPLIED WITH HAND-OFF-AUTO SWITCH, HOUR METER, AND CYCLE METER.

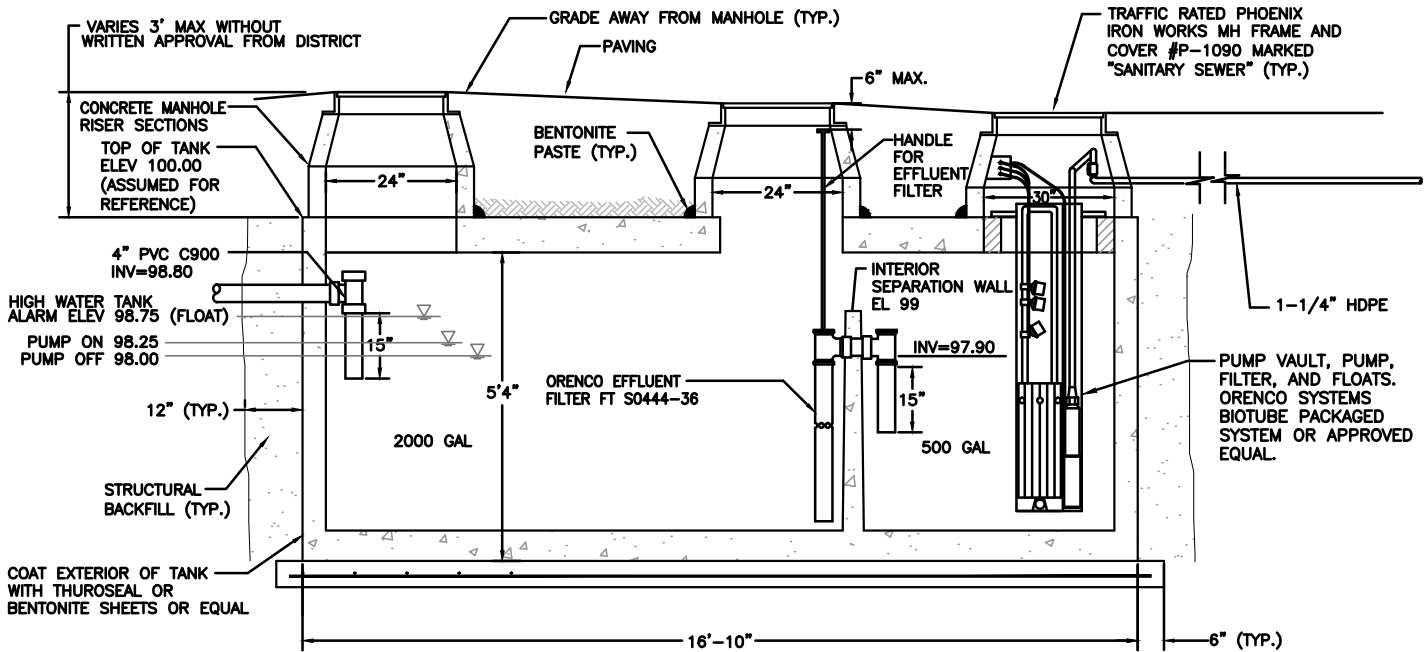
WEST BAY SANITARY DISTRICT	
CONTROL/TELEMETRY PANEL STEP/GRINDER SYSTEMS	
APPROVED BY:	
/s/ - PHIL SCOTT	05-20-15
DISTRICT MANAGER	DATE:

TRAFFIC RATED PHOENIX IRON WORKS MH FRAME AND COVER #P-1090 MARKED "SANITARY SEWER" (TYP.)

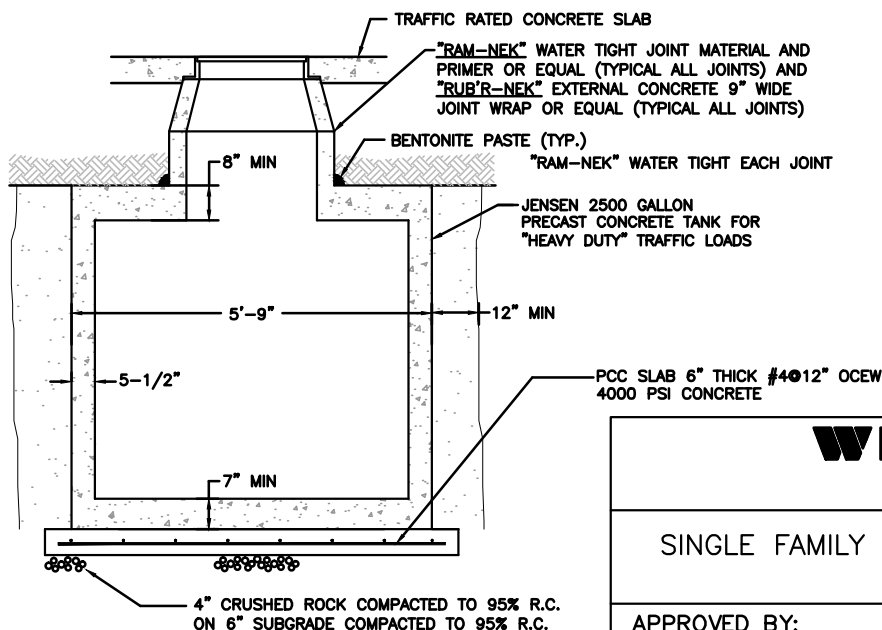


PCC SLAB

PLAN VIEW
NOT TO SCALE



LONGITUDINAL TANK CROSS SECTION
NOT TO SCALE



NOTE:

TANK SHALL BE A TWO COMPARTMENT PRECAST CONCRETE TANK WITH THREE MANHOLES AND GAS-TIGHT LIDS. THE SEDIMENT COMPARTMENT SHALL HAVE 2000 GAL. CAPACITY AND THE EFFLUENT COMPARTMENT SHALL HAVE 500 GAL. CAPACITY.

TYPICAL TANK CROSS SECTION
NOT TO SCALE

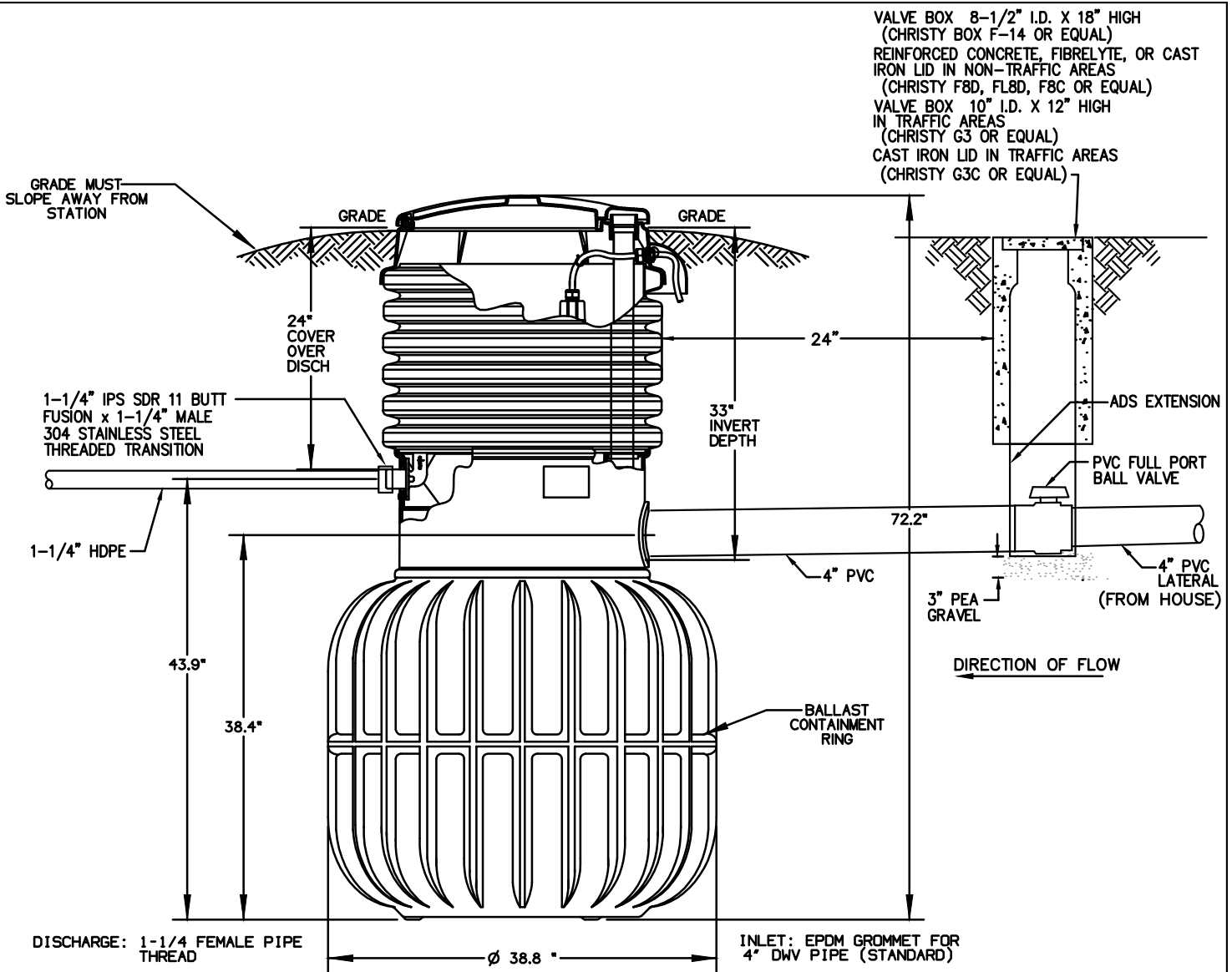
WEST BAY
SANITARY DISTRICT

SINGLE FAMILY SEPTIC TANK EFFLUENT PUMPING (STEP) SYSTEM

APPROVED BY:

/S/ - PHIL SCOTT
DISTRICT MANAGER

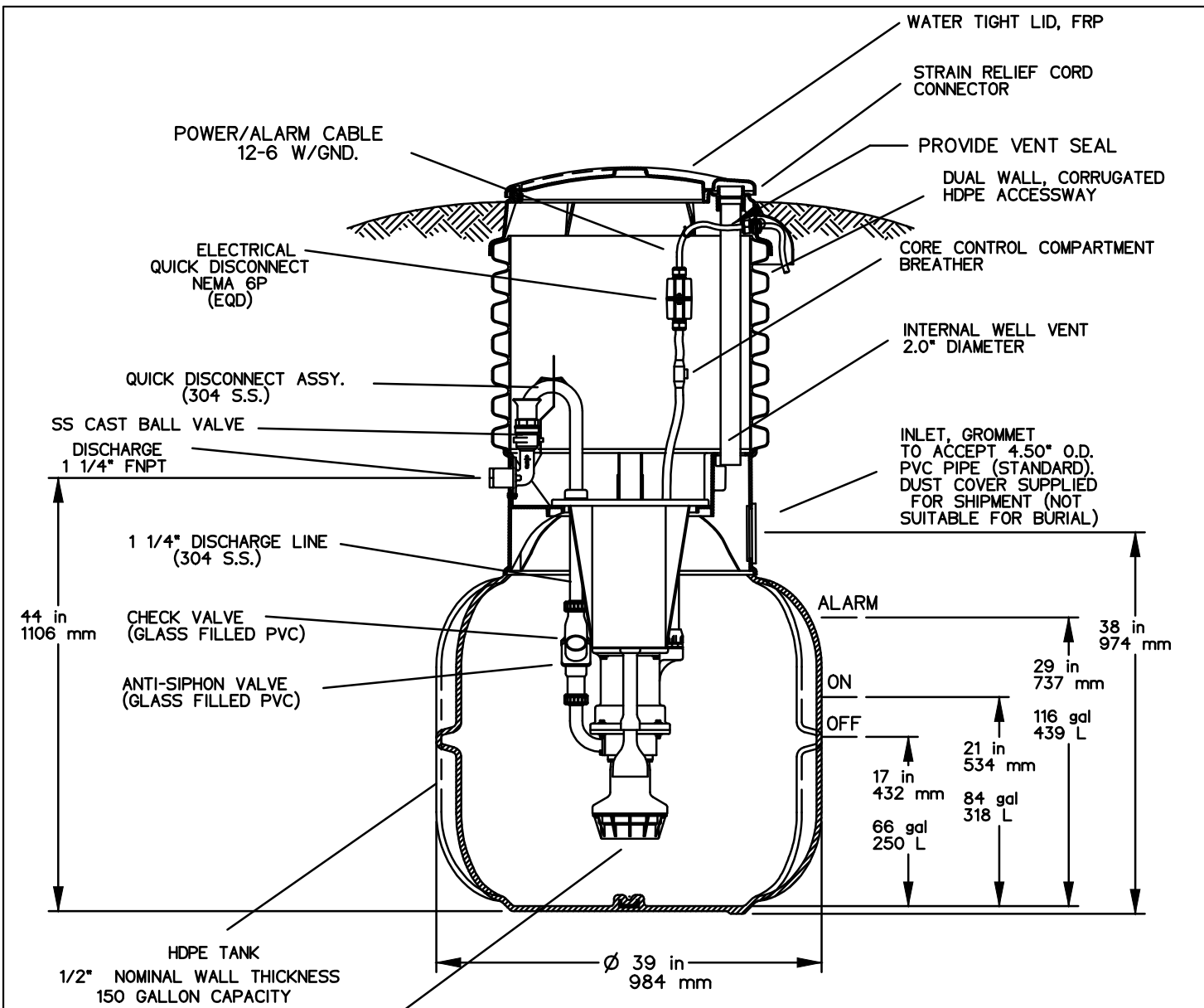
05-20-15
DATE:



NOTES:

1. Pump shall be Environment One Model DH151-74 with poured-in-place concrete anchor. (2773 Balltown Road, Schenectady, NY 12309-1090. (518) 346-6161, Fax (518) 346-6188. Local Representative: Signa Mechanical (949) 548-1125).
2. Pump shall be installed per manufacturer's recommendations.
3. See Single Family Grinder Pump Information Detail for pump anchor detail.
4. See 1-1/4 Inch Lateral Check Valve Station Detail for discharge line valve requirements.
5. Contractor shall supply District with handle to turn PVC ball valve.
6. Control Panel (supplied by ISAC (per West Bay Detail #17)).
7. If the homeowner has an on-site pump system that pumps into the grinder pump, the homeowner shall notify the District when applying for permit. Additional requirements specific to the project will be applied.
8. Owner shall provide a spare grinder pump to the District.

WEST BAY	
SANITARY DISTRICT	
SINGLE FAMILY GRINDER PUMP INSTALLATION DETAIL	
APPROVED BY:	
/S/ - PHIL SCOTT	05-20-15
DISTRICT MANAGER	DATE:

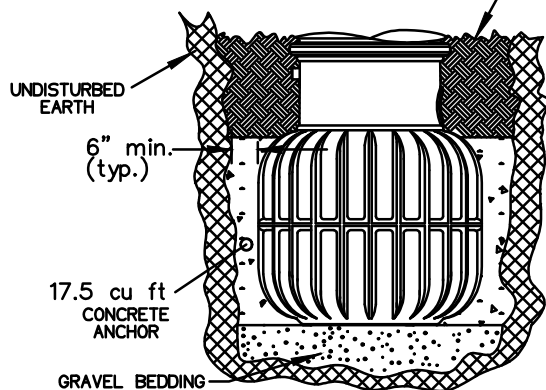


SEMI-POSITIVE DISPLACEMENT TYPE PUMP
 DIRECTLY DRIVEN BY A 1 HP MOTOR
 CAPABLE OF DELIVERING 9 gpm AT 138' T.D.H.

NOTE:

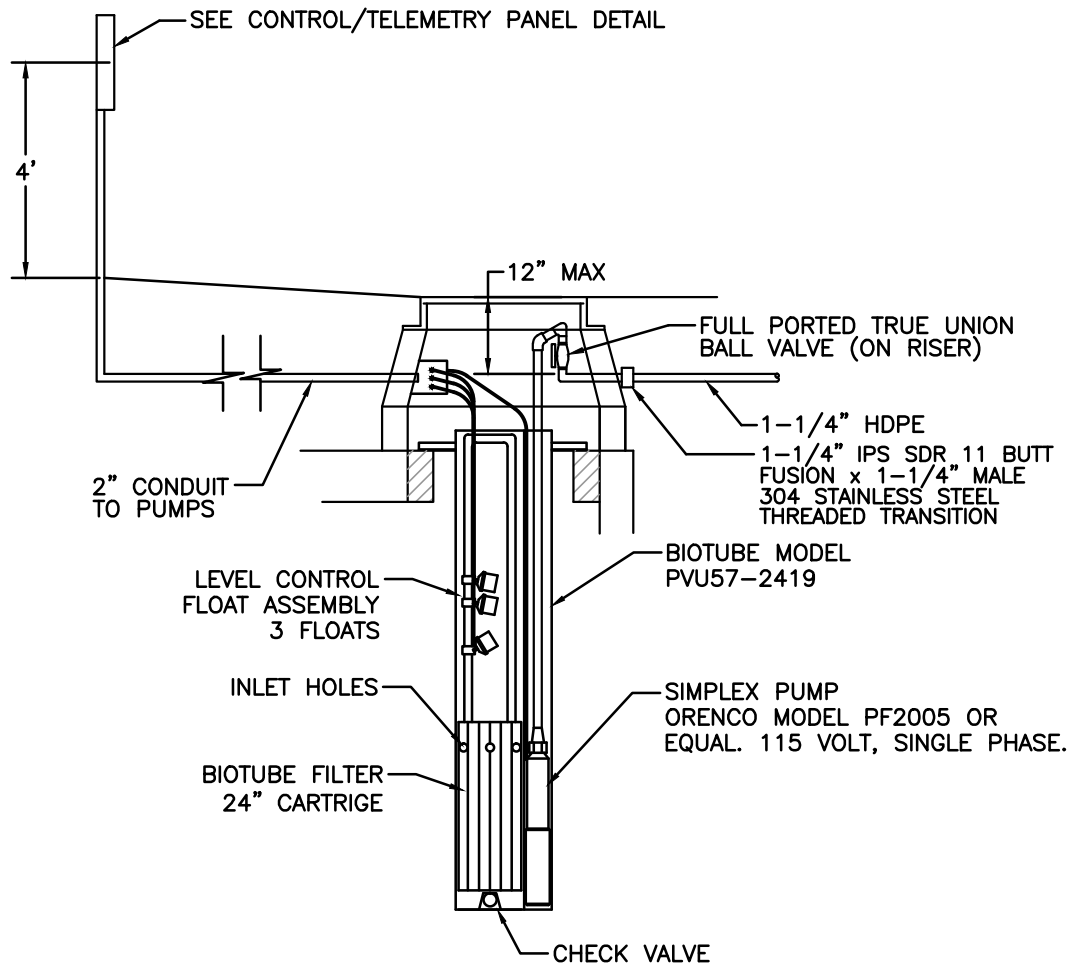
1. Pump shall be Environment One Model DH151-74 with poured-in-place concrete anchor. (2773 Balltown Road, Schenectady, NY 12309-1090. (518) 346-6161, Fax (518) 346-6188. Local Representative: Signa Mechanical (949) 548-1125. OWNER SHALL PROVIDE A SPARE PUMP TO THE DISTRICT.

FILL TO GRADE WITH CLEAN, COMPACTABLE BACKFILL, SUCH AS PEA GRAVEL OR CRUSHED STONE, 1/8" - 3/4" IN SIZE. CLAY AND SILTS ARE NOT ACCEPTABLE BACKFILL

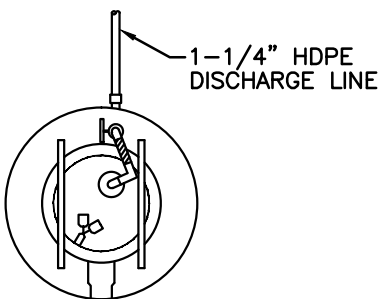


POURED-IN-PLACE CONCRETE ANCHOR DETAIL

WEST BAY	
SANITARY DISTRICT	
SINGLE FAMILY GRINDER PUMP INFORMATION DETAIL	
APPROVED BY:	
/s/ - PHIL SCOTT	05-20-15
DISTRICT MANAGER	DATE:



PUMP DETAIL
NOT TO SCALE



TOP VIEW
RISER ASSEMBLY

NOTES:

- 1) INSTALL PUMP AND VAULT PER MANUFACTURER'S RECOMMENDATIONS.
- 2) CORD LENGTHS TO BE DETERMINED BY DESIGN ENGINEER OR CONTRACTOR.
- 3) SPARE PUMP TO BE PROVIDED TO THE DISTRICT.

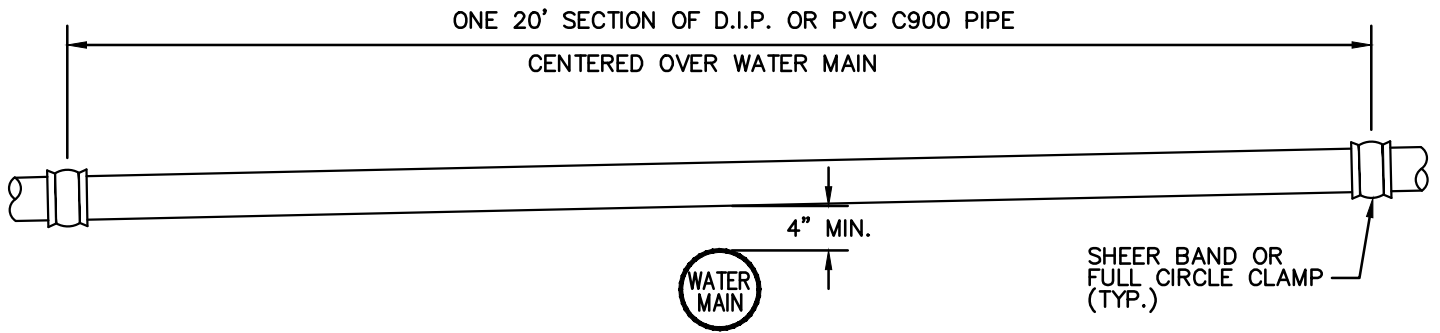
WEST BAY
SANITARY DISTRICT

PUMP DETAIL—SINGLE FAMILY SEPTIC TANK
EFFLUENT PUMP (STEP) SYSTEM

APPROVED BY:

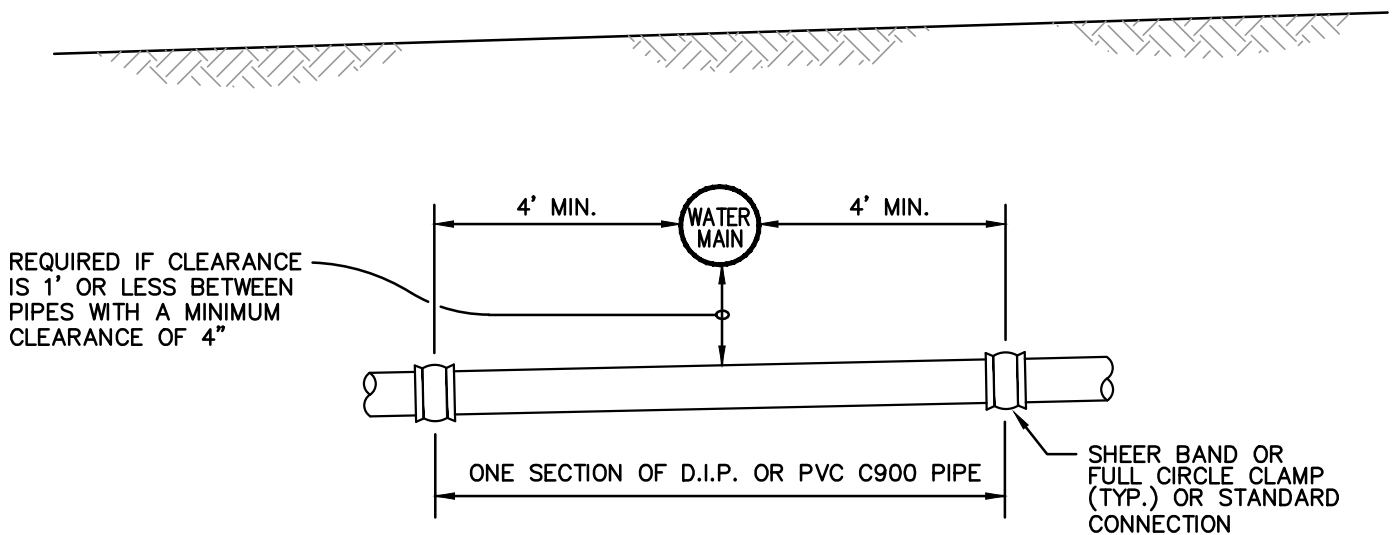
/S/ - PHIL SCOTT
DISTRICT MANAGER

05-20-15
DATE:



NOTE:
 REQUIRED WHENEVER A SANITARY SEWER MAIN
 OR LATERAL CROSSES OVER A WATER MAIN.

TYPICAL CROSSING OVER WATER MAIN



TYPICAL CROSSING UNDER WATER MAIN

WEST BAY
 SANITARY DISTRICT

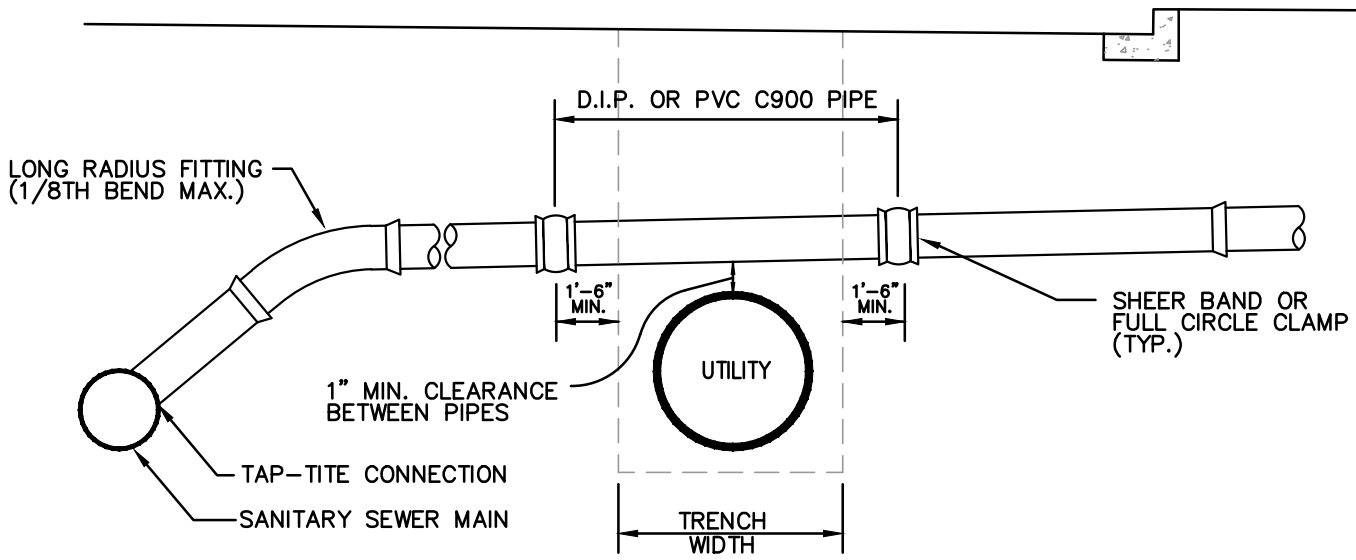
SANITARY SEWER WATER MAIN CROSSINGS

APPROVED BY:

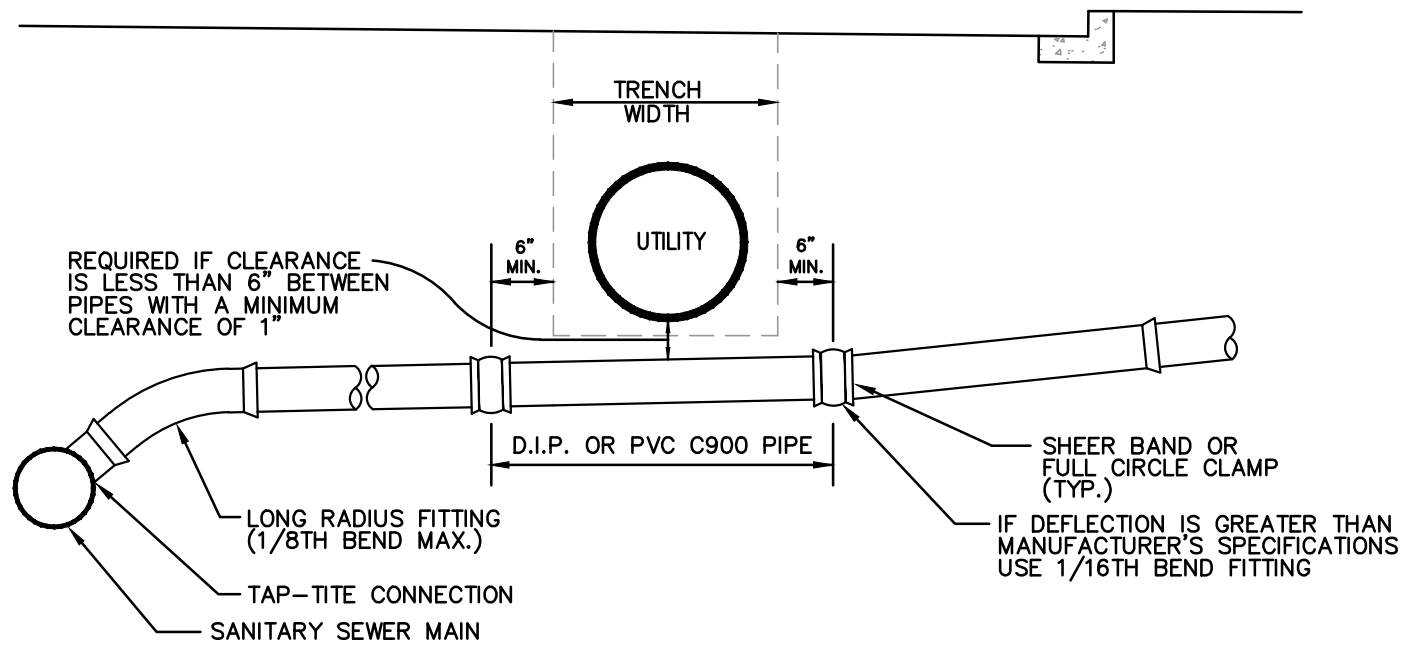
/S/ - PHIL SCOTT
 DISTRICT MANAGER

05-20-15
 DATE:

22



TYPICAL LATERAL CROSSING OVER UTILITY (EXCLUDING WATER)

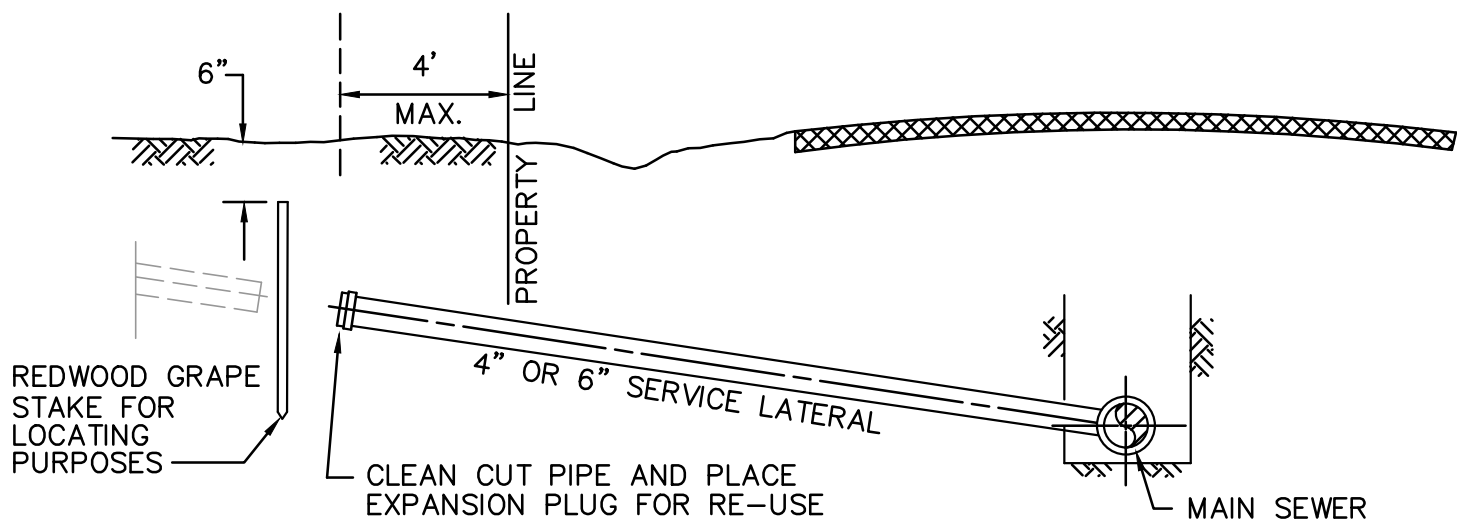


TYPICAL LATERAL CROSSING UNDER UTILITY (EXCLUDING WATER)

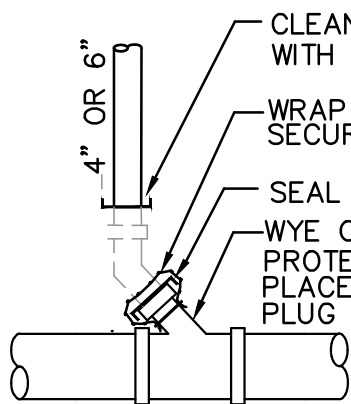
NOTE:

- 1) D.I.P. PIPE SHALL BE CLASS 50 OR 51, OR PVC PIPE SHALL BE C-900 DR 18.

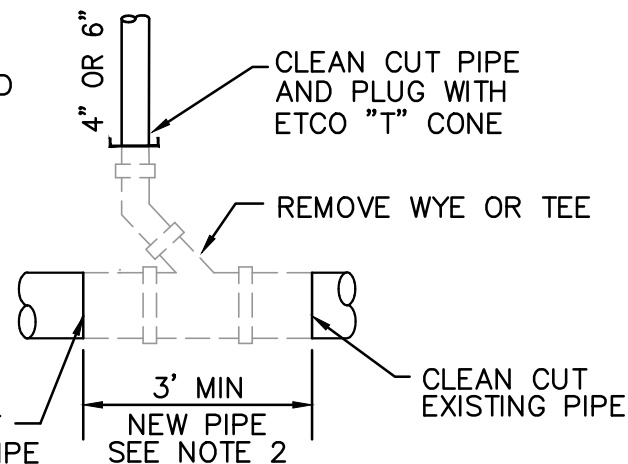
WEST BAY SANITARY DISTRICT	
SANITARY SEWER LATERAL UTILITY CROSSINGS (EXCLUDING WATER)	
APPROVED BY: /s/ - PHIL SCOTT DISTRICT MANAGER	05-20-15 DATE:
23	



LATERAL DISCONNECTION AT PROPERTY LINE FOR RE-USE



DETAIL 1



DETAIL 2

LATERAL DISCONNECTION AT MAIN SEWER (SEE NOTES 1&5)

NOTES:

1) THE CONTRACTOR SHALL EXCAVATE BY HAND EXPOSING THE WYE/TEE AT THE MAIN SEWER LINE FOR INSPECTION BY A WEST BAY REPRESENTATIVE. IF THE MAIN AND WYE/TEE ARE DEEMED IN GOOD CONDITION, PLUG WYE/TEE AS SHOWN IN DETAIL 1. IF THE MAIN IS IN GOOD CONDITION AND THE WYE/TEE IS IN POOR CONDITION, REMOVE TEE AND SECTION OF PIPE AS SHOWN IN DETAIL 2. IF BOTH MAIN AND WYE/TEE ARE IN POOR CONDITION, NOTIFY WBSD.

2) REPLACEMENT PIPE SHALL MATCH EXISTING SEWER MAIN PIPE. COUPLING SHALL BE SMITH-BLAIR 226 FULL CIRCLE STAINLESS STEEL CLAMP OR EQUAL FOR MAIN DIAMETER LESS THAN 15" AND ROCKWELL 228 FULL CIRCLE CLAMP OR EQUAL FOR MAIN 15" OR GREATER.

3) IF SEWER MAIN IS CONCRETE ENCASED OR CRADLED, ANY PORTION REMOVED BY CONTRACTOR SHALL BE REPLACED ENTIRELY TO THE SATISFACTION OF THE DISTRICT'S FIELD REPRESENTATIVE.

4) CONTRACTOR SHALL SUPPLY ADDRESS OF ABANDONED LATERAL AND DISTANCE AS MEASURED FROM THE DOWNSTREAM MANHOLE.

5) IT IS THE CONTRACTORS RESPONSIBILITY TO CONFIRM THAT NO OTHER PROPERTIES ARE CONNECTED TO THE LATERAL PRIOR TO DISCONNECTION.

WEST BAY

SANITARY DISTRICT

SANITARY SEWER
LATERAL DISCONNECTIONS

APPROVED BY:

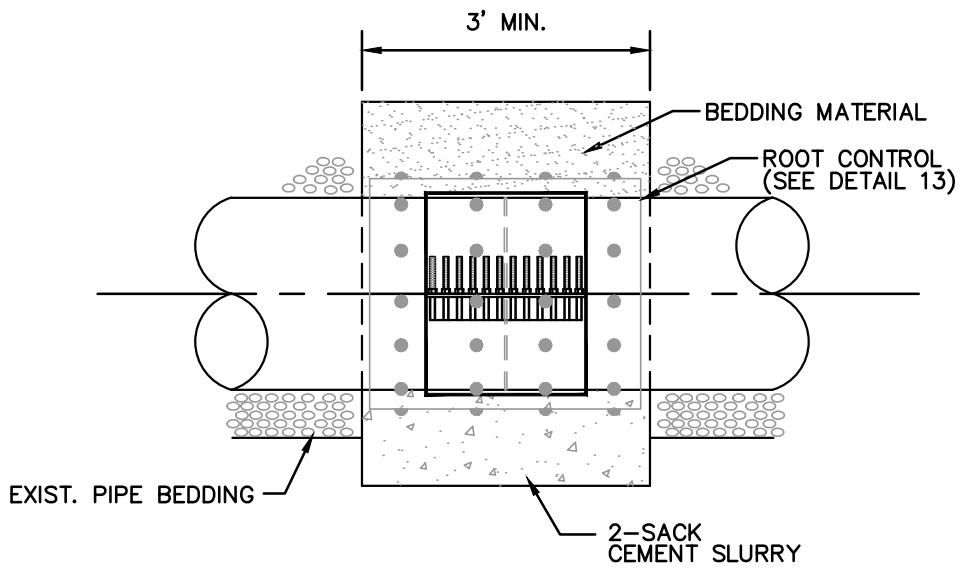
/s/ - PHIL SCOTT

DISTRICT MANAGER

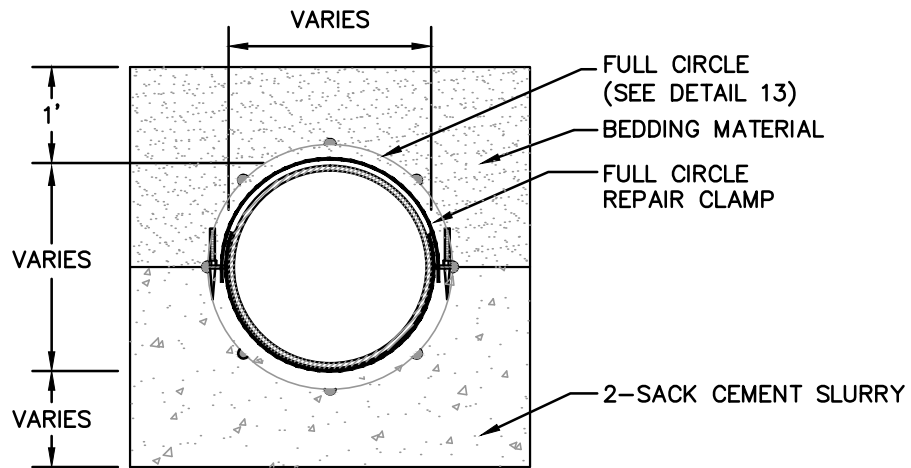
05-20-15

DATE:

24



PLAN



SECTION

NOTE:

1. REPAIR SLEEVE SHALL BE STAINLESS STEEL FULL CIRCLE ROCKWELL 228, 3 BAND, 20" WIDE CLAMP OR EQUAL.

WEST BAY
SANITARY DISTRICT

REPAIR COUPLING FOR 15" DIAMETER AND LARGER PIPE

APPROVED BY:

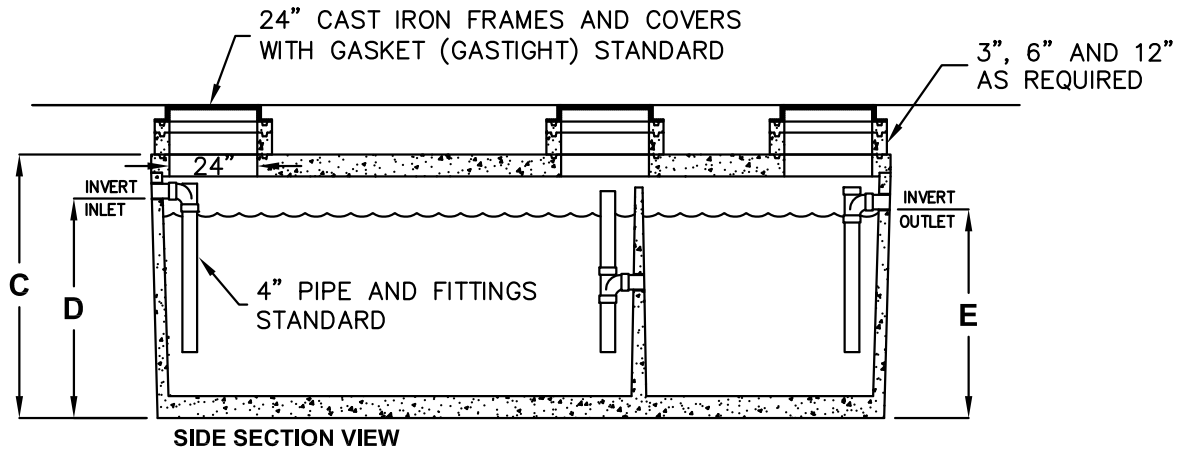
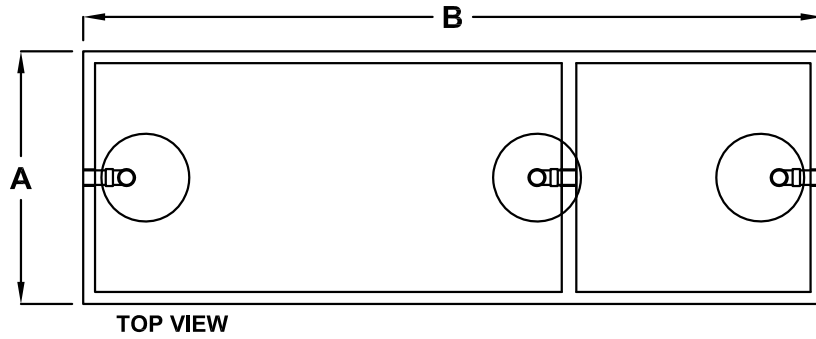
/s/ - PHIL SCOTT

DISTRICT MANAGER

05-20-15

DATE:

25



LIQUID CAPACITY (GALLONS)	DIM A	DIM B	DIM C	DIM D	DIM E
320	3'-0"	7'-0"	4'-6"	3'-7"	3'-4"
500	4'-0"	6'-0"	5'-10"	4'-10"	4'-7"
750	4'-0"	8'-1"	6'-3"	5'-0"	4'-9"
1000	5'-1"	8'-2"	6'-3"	5'-0"	4'-9"
1200	5'-9"	8'-6"	6'-6"	5'-0"	4'-9"
1500	5'-7"	10'-8"	6'-3"	5'-0"	4'-9"
2000	4'-11"	15'-11"	6'-0"	5'-0"	4'-9"
2500	5'-9"	16'-10"	6'-0"	5'-0"	4'-9"
3000	5'-9"	16'-10"	6'-9"	5'-9"	5'-6"
4000	7'-8"	16'-7"	6'-9"	5'-6"	5'-3"
5000	7'-8"	16'-7"	7'-11"	6'-9"	6'-6"

NOTES:

DESIGN LOAD: H-20 TRAFFIC WITH DRY SOIL CONDITIONS (WATER LEVEL BELOW TANK.)

BEDDING NOTE: SUITABLE SUB-BASE BEDDED WITH GRANULAR MATERIAL SHALL BE PREPARED TO HANDLE ANTICIPATED LOADS.

WEST BAY
SANITARY DISTRICT

GREASE INTERCEPTOR

APPROVED BY:

/S/ - PHIL SCOTT
DISTRICT MANAGER

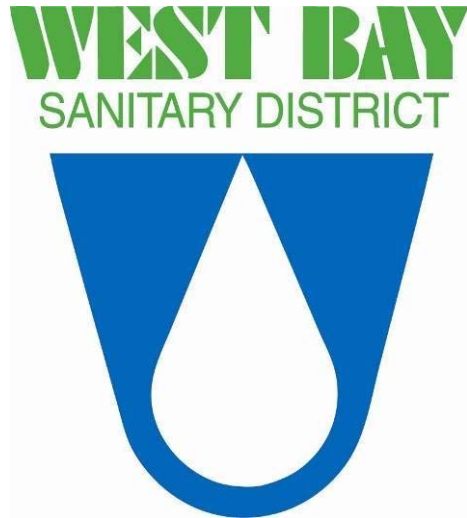
05-20-15
DATE:



Sewer System Management Plan

6A Overflow Emergency Response Plan (OERP)

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WEST BAY SANITARY DISTRICT

SEWER COLLECTION SYSTEM

OVERFLOW EMERGENCY RESPONSE PLAN (OERP)

June, 2021

**THE OERP IS A STANDALONE DOCUMENT AND IS ALSO INCLUDED AS APPENDIX-3A TO THE SEWER SYSTEM
MANAGEMENT PLAN**

June 30th, 2021

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LIST OF ABBREVIATIONS

WBSD	West Bay Sanitary District
SSO	Sanitary Sewer Overflow
SSMP	Sewer System Management Plan
OERP	Overflow Emergency Response Plan
RWQCB	Regional Water Quality Control Board, San Francisco Bay Region
SWRCB	State Water Resources Control Board
ABAG	Association of Bay Area Governments
CASA	California Association of Sanitation Agencies
BACWA	Bay Area Clean Water Agencies
SOP	Standard Operating Procedure
WWTP	Wastewater Treatment Plant
Cal-OES	California Office of Emergency Services
DFG	Department of Fish and Game
ERS	Electronic Reporting System
DHS	Department of Health Services
ISDHH	Imminent or Substantial Danger to Human Health
CCTV	Closed Circuit Television
WQM	Water Quality Manager
SMCEHD	San Mateo County Environmental Health Department
PLSD	Private Lateral Sewer Discharge
LRO	Legally Responsible Official

SECTION 1: INTRODUCTION AND PROJECT BACKGROUND

The West Bay Sanitary District (WBSD, District) is committed to the prevention of sanitary sewer overflows (SSOs). This commitment is reflected in WBSD's record of proactive sewer maintenance and rapid spill response.

In 2005 and 2006, respectively, the San Francisco Regional Water Quality Control Board (RWQCB) and State Water Resource Control Board (SWRCB) established mandatory guidelines for development of Sewer System Management Plans (SSMP). This Overflow Emergency Response Plan (OERP) has been developed as required by the SSMP guidelines, and augments and enhances the District's ongoing efforts regarding SSO prevention and response.

On July 30, 2013 the SWRCB modified the Monitoring and Reporting Program which directly affect the SSMP and became effective on September 9, 2013; those changes, and subsequent updates, have been approved and were incorporated into this OERP.

Related efforts from the following agencies were referenced during the development of this plan.

- Association of Bay Area Governments (ABAG)
- California Association of Sanitation Agencies (CASA)
- Bay Area Clean Water Agencies (BACWA)

1.1 Objectives

The primary objectives of the OERP are to protect public health and the environment, satisfy regulatory agency requirements and waste discharge permit conditions, and minimize the risk of enforcement actions against WBSD by preventing SSOs, where possible, and supporting an orderly and effective response to SSOs that occur notwithstanding the District's best efforts toward prevention. This plan provides guidelines for District staff and others working on behalf of the District, for responding to, cleaning up, and reporting SSOs that may occur in the District's wastewater collection system. Any comments from these entities or others should be considered in future updates to this plan.

This plan does not supersede existing emergency plans or standard operating procedures (SOPs) unless directed by the District Manager.

1.2 Organization of Plan

This OERP is organized as follows:

- Responsibilities
- Spill Detection
- Spill Response

- Mitigation
- Public Notification
- Water Quality Sampling and Testing
- Spill Investigation and Documentation
- Spill Reporting
- Emergency Response Equipment
- Training

SECTION 2: RESPONSIBILITIES

2.1 General

The District responds to all service calls, alarms, and SSO events that occur within the WBSD collection system, including all gravity sewers, force mains, pump stations, and siphons. The District also evaluates and responds to Private Lateral Sewer Discharges (PLSD's); however, maintenance and repair of the private lateral, from the building to the connection to the District mainline sewer, is the sole responsibility of the private property owner.

2.2 First Responder or Incident Lead

The First Responder is the person who responds to the site and is responsible for executing the required procedures of this OERP, except for specific notification and reporting that are handled by the District's (LRO) Legally Responsible Officials (Water Quality Manager, Operations Superintendent, the Assistant Operations Superintendent, or the District Manager.)

The First Responder is responsible for dispatching any necessary maintenance crews, and for ensuring safe work practices and operations at all events and responses.

The First Responder is "in command" until officially relieved by "senior personnel" (management or LRO)

Additional responsibilities of the First Responder are included in Section 4. All processes described in this OERP are also presented in Flowcharts located in Appendices A-1 through A-7

SECTION 3: SPILL DETECTION

This section describes ways that spills are detected, and how these spills are communicated to the First Responder, both during and outside of normal working hours. See Flowchart at Appendix A-1 for Initial Response and Spill Assessment.

3.1 Public Observation

Public observation is the most common way that WBSD is notified of blockages, spills, and sewage system failures. The District's contact information is included on the District website and on the District's vehicles. The District also distributes other public outreach and information materials that include District contact information such as: Business cards, Refrigerator magnets, Brochures, Door-hangers, Flyers, Pins, Balloons, Canvas grocery bags etc.... The District's website address is <http://www.westbaysanitary.org>.

3.1.1 Normal Working Hours

The regular hours of operation for the District are Monday through Friday from 8:00 a.m. to 4:30 p.m., except holidays.

During regular office hours, when the public calls the District's main office, the call is answered by Administrative Personnel. The recipient communicates the information to the primary customer service vehicle (Unit-208) who is the designated First Responder. As soon as the First Responder confirms this is an SSO event they will call out additional support staff as needed and notify the Water Quality Manager (WQM), in the event the WQM is unavailable they notify the Operations Superintendent. Average response time for responding to SSOs during normal working hours is usually between 5 and 30 minutes.

3.2 Emergency Response After hours

The District operates 24 hours a day, seven days a week. After hours, from 4:30 p.m. to 8:00 a.m., and on weekends and holidays, the District's answering service forwards calls to the assigned on-call maintenance staff, who is the First Responder. The First Responder and members of the maintenance field crew are assigned to on-call responsibilities on a rotating basis. If the First Responder does not answer within approximately two (2) minutes, the next call goes to the Operations Superintendent, if no response within two (2) minutes the Assistant Operations Superintendent is called. Finally, if no one answers a message is left by the callers which then is sent via email to each of the above mentioned responders. (Emergency Notification List is located in the OERP at Appendix-B-1).

It is the policy of the District to be on site within 45 minutes of being notified of a sanitary sewer overflow. The On-call person/First Responder may take the District's Service Vehicle home for after hour and weekend emergency services in order to minimize response time.

Employees that do not live within 35 miles or are unable to respond within the 45 minute window shall find an alternative means to meet this requirement. The District will provide lodging at the Vallombrosa Center, depending on availability, for those who wish to stay in the District while on call.

All sewer system calls, regardless of their nature of anticipated severity, require a response to the reported location of the event. These calls may be related to alarms, sewer overflows, sewer

blockages, residential backups, sewer odors, loose or noisy manhole covers and other related issues.

Once a request or call out for service is received by the on-call person that staff member will ask a series of questions of the caller to ascertain the correct level of response.

In the event the call out is believed to be an SSO, the on-call person shall proceed directly to the site while notifying other personnel to respond with additional supporting equipment to the overflow (Refer to the Order of contact list on the back of the WBSD Call Out Report form MD506 Listed as Appendix B-1).

There are three possible options of response:

- 1) The on-call person may go directly to the site and attempt to clear the mainline blockage with up to a minimum of 150 feet of hand-rods, in an effort to minimize the SSO,
- 2) Upon arrival, the First Responder should set up traffic control measures and contain the SSO to the maximum extent possible while additional resources are in transit to the site,
- 3) Alternatively, the on-call person may drive directly to the Corporation Yard and pick up the Jet/Vac Combo unit, the Hydro-Jet, or the Jetter Trailer, and respond to the site, set up, and prepare to clear the stoppage while the second responder is in transit to the site. The operator may proceed with clearing the stoppage once it's confirmed that the second responder is within the District limits (the second responder must notify the First Responder that they have entered the District, so that they know help is nearby and they can proceed with clearing the blockage).

The on-call person shall always be prepared to utilize option 3, particularly for larger spills that may require additional resources quickly. To assist with this option, the response vehicle can be signed out for after-hour use prior to the end of the normal work day.

3.3 Notification via Alarms

All of the District's pumping facilities are alarmed. Alarms from the pumping facilities are sent to the District's Telemetry System, which then forwards the alarm status to pump station personnel (24 hours a day/7 days a week/365 days a year). Also, the District currently has installed 37 High Water Level Monitors and has 50 Flow Metering devices to monitoring the Collection System. The smart cover Alarms are received by on-call personnel, Source Control Inspectors, the Operations Superintendent, and the Water Quality Manager. During normal working hours, the Operations Superintendent confirms that the primary customer service vehicle (First Responder) has received the alarm and is responding. Once the First Responder is on-site, they determine the cause and appropriate corrective measure to mitigate the alarm condition. Once the alarm condition has been mitigated, the WQM is notified and resets the smart cover alarm, rearming the SMART cover via the computer system. After hours, the WQDM (or his designated representative)

confirms the on-call person is responding to and mitigates the alarm condition prior to re-setting the alarm.

3.4 Staff Observations

District personnel conduct daily inspections of the District's sewer system facilities as part of the routine preventive maintenance program. Any problems noted with the sewer system facilities are reported to the Operations Superintendent. Issues related to FOG, odor complaints, and illicit or illegal discharges in the sewer system are communicated further to the Water Quality Department.

SECTION 4: SPILL RESPONSE

This section describes procedures to be followed when responding to and addressing spills, including priorities; initial response; containment or bypass; and special considerations in sensitive areas.

The goal of the District during normal working hours is to be on site in response to a report of an SSO in less than 30 minutes. After hours, the District's policy is to be on-site within 30-45 minutes and to mitigate the SSO within 1 hour. SSOs that require outside agency reporting protocols shall be handled and reported within 2 hours as required by the State.

4.1 Spill Response Priorities

All staff involved in spill response assumes the following responsibilities:

- To follow safe work practices
- To respond promptly with the appropriate equipment
- To relieve the blockage and restore the sewer pipe flow
- To contain the spill wherever feasible
- To minimize public access to and/or contact with the spilled sewage and protect public health
- To promptly notify District personnel of preliminary spill information, documentation of the event, provide field notes/logs, pictures, need for additional help, and potential impacts
- To ensure prompt notification of all appropriate District staff and other potentially affected entities. (RWQCB, County Health Departments, and City or Town Representatives, etc.)
- To provide traffic and crowd control where necessary
- To return the spilled sewage to the sewer system for safe conveyance to the POTW
- To restore the spill area to a pre-SSO condition

4.2 Safety

The most important item to remember during handling of an SSO is that safe operations always take precedence over expediency or short cuts. This would include Police Assistance (Drive-by) when working at night, also, staff may call a second person for assistance.

Depending on the nature or cause of the overflow/spill, staff may need to perform mechanical or electrical repairs at a pumping station (including but not limited to), remove a mainline blockage with a Vacuum/Jetter truck, Mechanical Rodding truck, perform hand rodding, or repair a damaged section of pipeline. All applicable safety rules and procedures are followed during this work to ensure worker safety.

If a spill appears to contain a hazardous material, call 9-1-1.

Typical responses may require staff to implement the following types of safety procedures:

- Lockout/Tagout of electrical or mechanical equipment for repairs
- Confined space entry procedures
- Trench safety and shoring procedures with supervisory overview of work by others
- Traffic control
- Equipment and/or vehicle operation
- Use of personal protective equipment

There may be times when it is necessary to utilize outside contractors or outside agency staff to restore flow during an overflow event. Although these responders are responsible for their own safety, it is appropriate to reinforce safety concerns, explain the order of work, and assist them with checking of safety equipment before starting the job.

4.3 SSO Response Procedures

All District staff must review and understand the following procedures in advance, and be prepared to implement necessary tasks as dictated by the nature and extent of an overflow. (Training is performed annually and responding to an overflow is considered part of that training). Response will vary depending on the cause of overflow, which could include one or more of the following: blockage of private lateral or sewers; mainline blockage; pump station failure; capacity issues.

The response crew should implement the following steps in a manner that will best prevent or minimize the volume of the overflow.

4.3.1 Initial Response

The First Responder must proceed directly to the site and visually check for potential sewer stoppages or overflows.

All sewer system calls, regardless of their nature or anticipated severity, require a response to the reported location of the event. These calls may be related to alarms, sewer overflows, sewer blockages, residential backups, sewer odors, loose or noisy manhole covers, and other issues.

The District's insurance carrier recommends that responders neither volunteer nor disown District liability. Therefore, responders inform the public and others that liability cannot be addressed until all relevant information has been evaluated by the District Manager, Water Quality Manager, Operations Superintendent, and/or Source Control Inspectors. Responders should be polite and sympathetic to property owners or tenant concerns. Responders should assure the public that District staff is present to assist in expediting the cleanup, regardless of the cause of overflow.

4.3.2 SSO Documentation

The First Responder documents the details on the District's "WBSD Call Out Report" form (MD506), included in Appendix B1, to gather necessary information and to indicate all actions implemented to assess and address the SSO, should the First Responder request the District's Source Control Inspector to be on-site, the Overflow Incident Report is passed on to him/her to track and or complete. Critical information includes the following:

- Obtain information from the On-Call Person including:
 - Name of the property owner or the person who reported the overflow, including address and phone number,
 - Location of the overflow (confirm that overflow is in the District's service area), and
 - Time overflow was detected and any possible exposure hazards.
- Record arrival time and cause.
- Record names of persons on site (and respective organizations, if applicable) at initial response and throughout incident response.
- Record final cleanup efforts and note overflow end time.
- Record time when leaving site.
- Record names and times of others contacted during response efforts.

Take necessary photographs during each phase of the mitigation process.

4.3.3 District SSO Response Actions

Critical activities to complete in response to an SSO include the following:

- Verify the existence of an SSO or backup, and determine the source of the overflow (i.e. mainline or private lateral).
- Notify the Water Quality Manager and/or the Source Control Inspectors immediately if any of the following occur (See Appendix B1- Notification List):
 - Any SSO flowing into the storm drain
 - SSO of 1,000 gallons or greater in the street
 - Identify if the spill is within close proximity to a sensitive area (i.e., surface water body or public area, such as a school).
- Call 9-1-1 if the spill appears to be a hazardous liquid. District responders should not participate in hazardous material spill cleanups.
- Call for District staff assistance, if required. Secure the area by placing cones or barricades around the site (Refer to the Employee Phone Roster for after-hour assistance).
- Block all openings to storm drains to prevent sewage entry or install plugs to contain the SSO within the drainage box. If flow threatens to enter receiving waters, follow requirements of Section 4.6.
- Perform a quick assessment of whether containment would be advantageous for the given spill. If it appears feasible to contain the spill without excessive delay in beginning steps to restore flow, the First Responder should take immediate action as described in Section 4.5.
- Work diligently to relieve the blockage. Record all work performed to mitigate the overflow or remove the source of overflow.
- Initiate bypass or “pump around” concurrently with continued work to remove blockage if, after 15 minutes, it appears that flow will not be quickly restored through cleaning or emergency pipe repair.
- After the blockage is removed and/or overflow otherwise resolved, make every attempt to recover the spilled and/or contained sewage.
- Select the estimation method for calculating the overflow volume by use of; the San Diego method, Surface Area Formula, # of homes upstream of the blockage, SSCSC Method, combined with knowledge of start and end times. Every effort must be documented to determine the start time of the SSO. This may be obtained by interviewing the person who

identified and reported the SSO, by interviewing the residents that live near the spill site, or by site conditions, i.e., visual observations, soil saturation depth vs. soil type, determination on estimated time upstream of the blockage for the system to reach overflow stage etc... Estimation methods are presented visually in Appendix C1-C3. If the start time cannot be established by one of the above methods, 15 minutes will be added to the time the call came in, and will be considered the start time of the SSO.

4.4 Private Lateral Sewer Discharges (PLSD's)

Although the District has a policy of responding to and assisting with the mitigation of every overflow, whether from a public or private system, the property owner is ultimately responsible for overflows that originate from a PLSD's.

- In the case of an overflow from a private lateral or sewer due to a blockage or failure in the private portion of the lateral or sewer, notify the owner or property manager of their responsibility for corrective action and consequences.
- Intervene with private efforts to mitigate only when there is immediate danger to public health or the environment. District response should sufficiently mitigate the danger to public health or to the environment.
- Log all hours worked for proper billing to the property owner.
- The Operations Superintendent or Water Quality Manager will contact the San Mateo County Department of Health Services and appropriate City/Town representative if chronic overflows from the same private lateral location occur.

4.5 Spill Containment or Bypass Measures

Spill containment or bypass measures may be appropriate as a first response, after it is apparent that the blockage cannot be easily or immediately cleared, and before a blockage is cleared and flow restored. Spill containment and bypass measures may involve the following:

- Determine the immediate destination of the overflowing sewage, using local jurisdictional storm drainage maps for isolating, containment, and recovery of spill prior to outfall to waterways.
- Review sewer maps for temporary upstream flow diversion bypassing.
- Plug storm drains where necessary using air plugs, sandbags, and/or plastic to contain the spill, whenever appropriate and feasible.
- Divert spill as required by building a small berm to change direction of flow back to sewer. Use portable spill boom(s) from responding vehicles, dirt and/or sandbags, then recover the overflow using a vacuum truck.

- If flow diversion can be achieved with bypass pumping, install and implement bypass pumping equipment.
- If overflow cannot be diverted or bypassed back into the sewer system, dam/dike or sandbag the spill to provide containment where feasible.

4.6 Response to Flows in Sensitive Areas or Near Receiving Waters

In the event of an overflow is located near a sensitive area or near receiving waters or storm drains that lead to these waters, or for a wet weather overflow caused by insufficient pipe capacity (rather than a blockage), the First Responder will take the following steps in the order shown. These steps should occur concurrently with any continued efforts to resolve the overflow:

- Secure the area by placing cones or barricades around the site.
- Contact the Source Control Inspector immediately as required by the process outlined in paragraph 4.3.1. Inform him/her of the situation; notify him/her of any property damage, public health concerns, and environmental concerns. The Source Control Inspector will notify the required agencies as applicable.
- For SSOs greater than 1,000 gallons, any flow resulting in fish kill, or any flow posing imminent or substantial danger to human health or entering receiving waters, the Source Control Inspector shall contact the California Emergency Management Agency (Cal-OES) SWQCB, SMCEHD, Town or City representative and post the required signage at all access points to the affected area.
- The posted signs may not be removed until cleared to do so by the SMCEHD and or the SWQCB. In addition, staff shall follow public notification guidelines provided in Section 6.
- Block all openings to storm drains to prevent further entry, and block appropriate downstream locations using drain blockers, sand bags, or other dams to minimize or stop flows from entering receiving waters. Make every effort to return the contained spill back to the sanitary sewer system.
- The Water Quality Manager, Source Control Inspector, or their designee will take the necessary Grab-Samples of receiving waters, complete the “Chain of Custody” (COC) Documentation and submit for laboratory analysis. See Section 7 for sampling requirements.

SECTION 5: MITIGATION

This section addresses recovery and clean up after flow has been restored.

5.1 District SSO Recovery and Clean Up Procedures

After addressing the cause of an SSO and restoring flow, complete the following:

- Post sign(s) warning the public, with the wording “Raw Sewage Spill” at all access points to the affected area and/or as directed by the San Mateo County Environmental Health Department policy for Warning Signage, included in Appendix D2 (Record the location of each posted sign by address or GPS coordinates, so that when approval is given for removal all of the signage is removed).
- Distribute “Residential Notification Form” to all affected properties. Form is contained in Appendix D1 (Record each address notified).
- Recover Spilled Sewage. Using proper containment, dilute, wash down with de-chlorinated water, pump, or vacuum spilled sewage and discharge back into the sanitary sewer system. If the spilled sewage cannot be immediately returned to the sanitary sewer system (i.e., it is trapped in a low area or storm drain), then vacuum spilled sewage into a combination unit or pump it back into a sanitary sewer manhole.
- Clean Up and Disinfect. Implement the clean-up and disinfection procedures outlined in Section 5.2 to reduce the potential for human health issues and adverse environmental impacts that may be associated with a SSO event. These procedures are most effective in dry weather conditions and should be modified as required for wet weather conditions.

5.2 Cleaning Hard Surface Areas (Exterior)

This section addresses clean-up activities for overflows caused by backups in the District mainline sewer that cause damage to hard exterior surfaces. Addressing damage caused by private lateral blockages is the responsibility of property owner.

- In exterior hard surface areas, collect all signs of sewage solids and sewage-related materials either by hand (using appropriate PPE) or with the use of rakes and brooms.
- Using proper containment and protection of storm drains, flush the area with de-chlorinated water in the amount of three times the overflow volume, and then use a vacuum truck to return the SSO and wash water flows to the sanitary sewer.
- Disinfect all surfaces that were contaminated by sewage using disinfectant solution. Document the product used and application method of disinfectant that was used.
- Allow area to dry. Inspect area for any remaining signs of sewage contamination. Repeat the process if an additional cleaning is warranted.

5.3 Cleaning Landscaped and Unimproved Natural Vegetation

Clean-up of landscaped and unimproved vegetated areas should follow the steps in Section 5.2, but does not require disinfection. Enzymes (sprayed) may be used to disinfect soil surfaces.

5.4 Cleaning Natural Waterways

Contact the SMCEHD and California Department of Fish and Wildlife to obtain requirements for clean-up of spills that occur in or near waterways. Clean up should proceed quickly in order to minimize any potential negative impact. Sewage may cause depletion of dissolved oxygen that can affect or even kill aquatic life.

5.5 Cleaning Private Property (Interior)

This section addresses clean-up activities for overflows caused by backups in the District mainline sewer that cause interior property damage. Addressing interior damage caused by private lateral blockages is the responsibility of private property owner.

- First notify the Source Control Inspector, and then the Water Quality Manager, who will contact the Districts Insurance Carrier who will send out a residential/commercial cleaning contractor.
- Take detailed photographs of affected areas, and uninfected areas.
- Communicate with the owner or tenant that they should avoid contact with the sewage and inform them that assistance has been arranged. Stay on site until cleaning service arrives.
- Advise owner or tenant to contact the Water Quality Manager for further assistance or to answer any questions regarding damage claims.
- When a resident needs alternative accommodation during cleaning operations, advise the resident to contact the Water Quality Manager, who will coordinate hotel or other accommodation through the District Manager and District's insurance carrier.

SECTION 6: PUBLIC NOTIFICATION

This section addresses communications with the public during and after a spill event.

- In addition to the postings described in prior sections, post signs and place barricades and caution tape as necessary to limit vehicle and pedestrian contact with spilled sewage, with emphasis on protection in public areas (i.e., schools, parks, etc.). Do not remove signs and barricades until directed to do so by the SMCEHD. (Sample results must be at normal background levels, reference baseline sample results, compare with post spill results for contamination assessment)

- In the event that an overflow occurs at night, perform the required duties and re-inspect the location the following day for signs of sewage solids and sewage-related materials, that may warrant additional clean-up activities, and post areas as needed.

SECTION 7: WATER QUALITY SAMPLING AND TESTING

Although sampling is not always required, West Bay Sanitary District performs water quality sampling and testing whenever spilled sewage enters a water body (if it is flowing). Testing will be used to determine the extent and impact of the SSO.

Contact the District’s Source Control Inspector for sampling. The Water Quality Manager or his designated representative is responsible for ensuring that receiving water samples are taken.

Confirm that the Source Control Inspector has completed the following:

- Visually monitor, when and where practical, any receiving waters near the location of the SSO for abnormal conditions, such as visible effects to aquatic life, abnormal coloring, etc.
- Obtain water quality samples as soon as possible after the discovery of the SSO event.
- Confirm safety of access location before taking samples.
- Take samples approximately 500-feet upstream of the outfall, at the outfall and 1000-feet downstream of spill, starting at the downstream location. Depending on the volume of the spill additional downstream samples may be required. (Refer to Appendix A8 of the OERP the Water Quality Monitoring Program (WQMP), Appendix A1 Sampling & Monitoring Protocols).
- Deliver samples to San Mateo County Health Department Laboratory for testing for Total Coliform, Fecal Coliform, and E-Coli. Additional sample parameters will be required for spills equal to or greater than 50,000 gallons and analytical parameters are dependent on the wastewater source, (i.e., residential and or industrial areas), and the visual condition of the impacted waterway. The SSO Water Quality Monitoring Program for Spills greater than 50K gallons is located at Appendix A8.
- Implement County Health Department protocols as the situation dictates.

For spills less than 50K gallons the sample results shall be reviewed by the San Mateo County Environmental Health Department, the Water Quality Manager, and the District Manager. Then the sample data must be compared to the most recent baseline sample results taken by the District’s Source Control Inspectors at specific locations throughout the year. On-going sampling will be required until the results are equal to the most recent baseline results or are at acceptable water quality standards. Upon review of the analytical results, the SMCEHD may request the removal of the posted signs, and declare closure for the spill event. Sampling and testing for spills greater than 50K gallons will require a “SSO Technical Report” as described in section C-5 of the MRP

(Additional sampling for Ammonia, Total Coliform, Fecal Coliform, Enterococcus & e-coli shall be required for these large volume spills. Refer to Appendix A8 (R1).

SECTION 8: SPILL REPORTING

Spill reporting requirements established by the San Francisco Bay Regional Water Quality Control Board became effective December 1, 2004. The requirements were updated on May 2, 2006 by the 2006-003 DWQ and again on July 26, 2013 with an effective date of September 9, 2013 (and all subsequent updates). These requirements are listed below and included in Flowchart 7 (Appendix A7). SWQCB reporting requirements are also shown in Flowchart 7.

There are three different categories of spills; Category-1 (any volume reaching a Surface water, drainage channel not fully captured and returned to the sanitary sewer). Category-2 (is greater than 1,000 gallons fully captured and recovered and returned to the sanitary sewer). Category-3 (is less than 1,000 gallons fully captured and returned to the sanitary sewer).

An overflow that has been fully captured and returned to the Sanitary Sewer must be reported within 30-days of the end of calendar month of the SSO.

All leaks, spills, and overflows that are not contained or fully captured must be reported to the CalOES, who will notify several additional agencies including the RWQCB and the SMCEHD. The District will notify the representative of the affected Town or City. The First Responder must ensure that the Source Control Inspector is notified of the spill. In the event that the Source Control Inspector cannot be contacted, the First Responder must ensure that the Water Quality Manager is apprised and submits the necessary reports in accordance with the following guidelines:

- Category-1 SSO resulting in discharge to surface water or drainage channel: Contact CalOES and obtain a Spill Control Number, Cal-OES will notify SMCEHD and RWQCB. Provide updates to the OES as needed. The District must notify the representative of the affected town or city.
- Within three (3) business days, staff must submit a Draft electronic report to the CIWQS. The draft report must be certified within fifteen (15) days of the SSO. Ensure all documentation is identical, field notes, logs, mathematical computations etc. to the information being submitted for the final certification of the report.
- SSO's greater than 50,000 gallons shall require a "SSO Technical Report" which must be submitted within 45 calendar days of the SSO end date. Refer to MRP order # WQ20130058-EXEC Section C-Reporting Requirements number 5-SSO Technical Report (Located at Appendix A8 subsection R1, once all of the information has been entered into the Lucity database a Technical report is available via Crystal reports.)

- All spills shall be included in the written annual SSO report and included in the revised version of the SSMP.
- All spills from the District's sewer system must be reported. The District does not own laterals, reporting of Private Lateral Sewage Discharges (PLSD's) is strongly encouraged when the volume is in excess of 1,000 gallons and or impacting a surface water & voluntary according to the RWQCB and Statewide MRP guidelines. However, Local Code Enforcement and the County Health Department may be notified.

In addition, for all overflows impacting City, other jurisdictional facilities, or private properties, staff should notify the impacted jurisdiction or property owner of the event. If the property owner is not home, then use the Residential Notification Form included in Appendix D.

SECTION 9: SPILL INVESTIGATION AND DOCUMENTATION

This section addresses post-spill assessment, with a focus on implementing processes and improvements that will prevent repeat SSOs and lead to decreased SSOs. The three key elements of the post-spill assessment are spill documentation, post-spill debriefing, and failure analysis investigation.

9.1 Spill Documentation

It is critical that the First Responder completes the internal Overflow Incident Report or passes it on to the Source Control Inspector during the spill event for completion. This form will be filed in the Water Quality Manager's Office, with any other reports and documentation related to the event. Records retention must be at least five (5) years to meet RWQCB requirements. The file should include:

- Initial service call information,
- Internal WBSD Call-Out Report, forms,
- Backup calculations for volume estimate, and SSO start time worksheet estimates
- Appropriate maps showing spill location,
- Photographs of the spill, location, and response activities,
- CIWQS, RWQCB and other related report form(s),
- Water quality sampling and test results, and
- Failure analysis investigation results Post Spill Assessment (PSA)

The WBSD Call Out Report is provided in Appendix B1. Methods for estimating spill volumes, SSO start time worksheet(s) including the San Diego Manhole Spill Rate Chart, are included in Appendices C1-C3.

9.2 Post Spill Event Debriefing

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

As soon as possible after each SSO event, all responders, which may include office staff, should meet to review the steps taken to report and address the spill. This process should be reviewed in reference to the procedures included in the OERP. Discussions focus on 1) any deviations from the OERP and reasons for such deviation; 2) what worked and where improvements could be made in responding to and mitigating future SSO events; 3) recommended changes to the OERP; and 4) future action items. The results of the debriefing should be documented and tracked to ensure that the proposed action items are completed.

9.3 Failure Analysis Investigation

For every overflow, it is important to understand the cause of the SSO and to identify corrective action(s) needed that will reduce or eliminate future SSOs at this location. The Post Spill Assessment (PSA at Appendix B2)/ investigation includes, at a minimum, the following steps:

Understanding any historical overflow information from the location and reviewing past maintenance records,

- Reviewing available photographs, CCTV footage
- Developing a plan to address or minimize future SSOs from this location. This plan should include the following considerations:
 - If the SSO location is an area that has experienced a problem due to grease or debris, the cleaning schedule may be adjusted and outreach materials may be distributed.
 - Review of grease trap cleaning manifests to confirm compliance with FOG ordinance if SSO is FOG related.
 - Conduct a CCTV inspection within two (2) days of an overflow to determine if a structural problem may have caused or worsened the SSO.
 - If structural damage or other obstruction exists that cannot be removed by District's cleaning crew, schedule for rehabilitation within seven (7) days.
 - If the spill resulted from pump station failure or deficiencies, and the Supervisor cannot immediately correct the problem within six (6) hours, formulate a plan of action after mitigation of the incident to prevent future occurrences.

The entire Post Spill Assessment must be completed within 7-days of the SSO event which includes the timeline for the prevention of a repeat SSO from the reported site.

SECTION 10: EMERGENCY RESPONSE EQUIPMENT

This section provides a list of specialized equipment that will support this OERP.

- **Source Control Inspector Vehicles (2):** Carry a variety of line plugs, booms, storm drain mats, pumps, generator, and discharge hose to every SSO.
- **Closed Circuit Television (CCTV) Inspection Unit:** The District's CCTV Inspection Unit is required to evaluate the cause of overflow in lines that have not had issues in the past or to confirm the cause of overflow in lines on accelerated maintenance schedules.
- **Digital Camera/Smart Phone:** A digital camera or Smart Phone is required to record the conditions upon arrival, during cleanup, and upon departure (All Activities).
- **Emergency Response Truck:** A District truck with emergency response equipment obtained from the corporation yard may be required for effective overflow response.

Necessary equipment may include barriers, delineators, warning tape and signboards; plugs and drain inlets mats; sandbags for containment or flow control; lights (for night work); small generator; and other small tools.

Portable Generators: A portable generator and spare pump are available to provide backup power and bypass for the District's constituents in the On-site Wastewater Disposal Zone, and each Raw Sewage lift & Pump stations have Stand-by Power.

- **Portable Pumps and Hoses:** Portable pumps and hoses are available to pump around line failures and lift station failures when required, and to pump spilled sewage and/or contaminated wash water back into the sewer system. For large pump-around requirements, outside contractor assistance may be required.
- **Spare Pipes and Clamps:** Spare pipe, clamps, and other repair equipment are available for emergency pipeline repairs. The District also maintains a list of emergency contractor contact numbers for larger or complex repairs.
- **Rodder Truck:** A truck-mounted power rodder is available to clear root blockages in gravity sewers.
- **Vacuum Truck:** A vacuum truck is available to clear blockages in gravity sewers and to vacuum up spilled sewage and wash-down water.
- **Communications:** District radios, cell phones, or pagers and this OERP are available to facilitate proper communication during emergency response activities.

SECTION 11: TRAINING

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

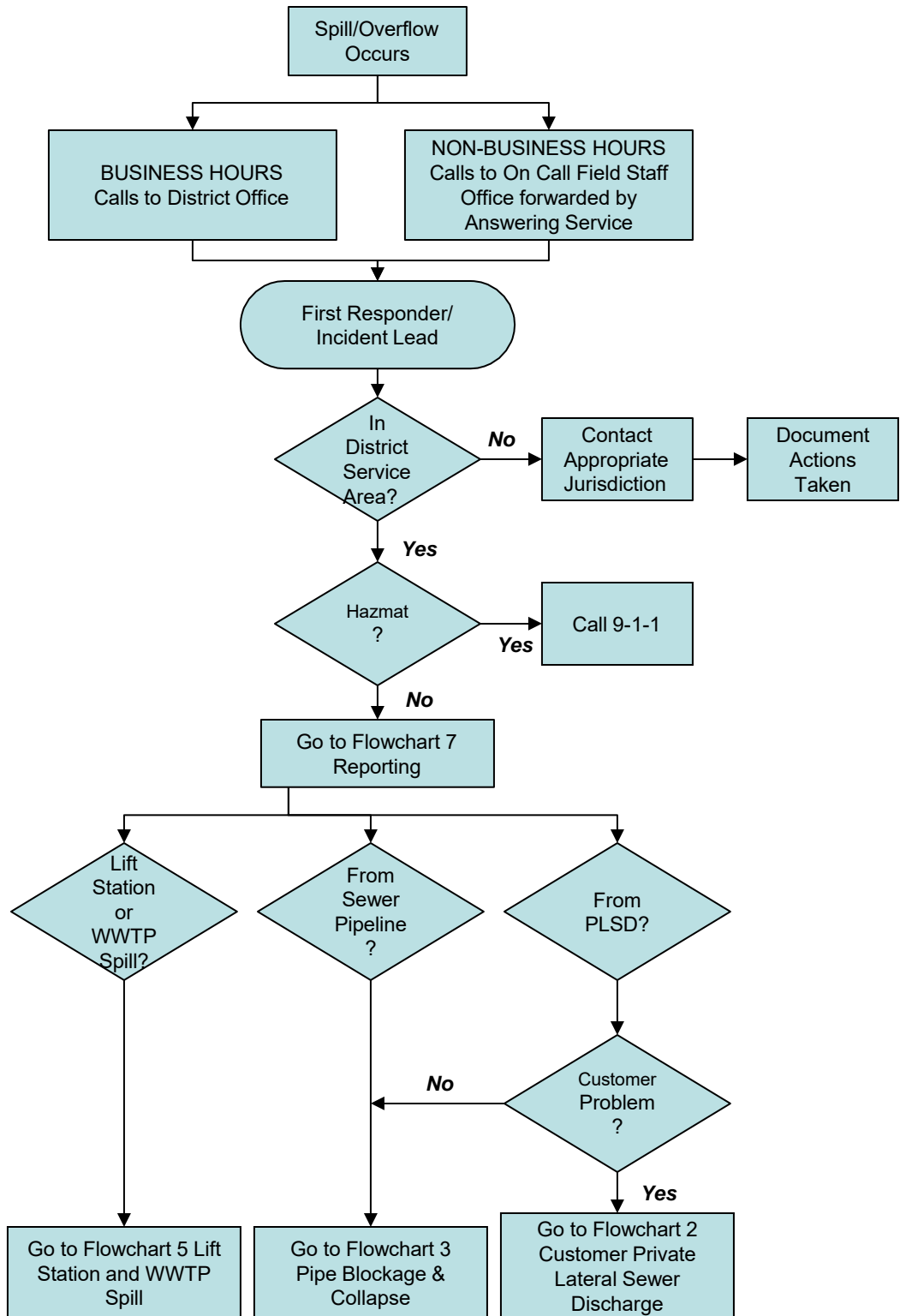
- **Who receives training:** All District personnel, with emphasis on those who are involved in responding to, reporting, or otherwise addressing SSOs and all new employees. District Contractors are advised on spill response activities and to notify WBSD personnel for assistance should it be required.
- **Updates:** Annually update the OERP. Conduct periodic drills that cover scenarios typically observed during sewer related emergencies (i.e., mainline blockage, mainline failure, lift station failure, by-pass operations, and lateral blockage). The results and the observations during the drills should be documented and action items should be tracked to ensure completion.
- **Record-keeping:** Maintain records 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 should include date, time, place, content, name of trainer(s) and names of attendees.

SECTION 12: SUPPORTING DOCUMENTS

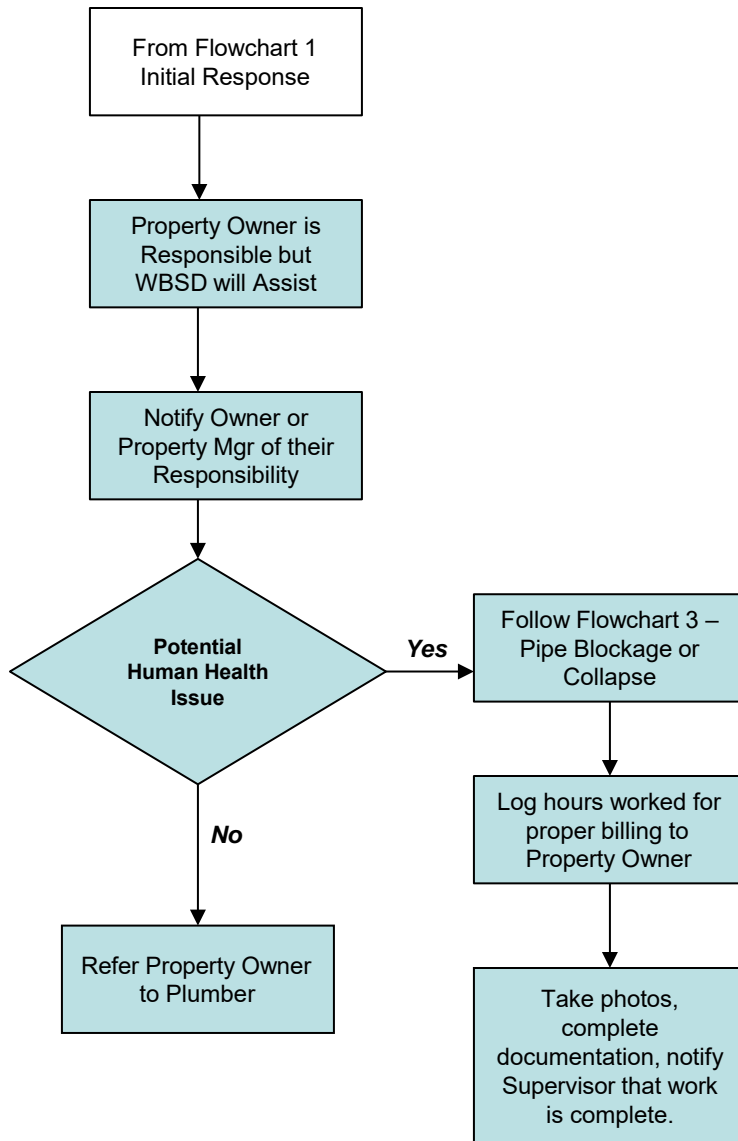
- Appendix A1: Flow Chart 1 Initial Response
- Appendix A2: Flowchart 2 Private Lateral Sewer Discharge(s)
- Appendix A3: Flowchart 3 Pipe Blockage or Collapse
- Appendix A4 Flowchart 4 Pump Around & Repair
- Appendix A5: Flowchart 5 Lift Station or WWTP Spill
- Appendix A6: Flowchart 6 Backup from Hydro Cleaning
- Appendix A7: Flowchart 7 Reporting Requirements
- Appendix A8: SSO Water Quality Monitoring Program
- Appendix B1: Overflow Incident Report Form
- Appendix B2: Post Spill Assessment & Follow UP
- Appendix B3: Compliance Checklist
- Appendix C1: Spill Calculation Methods
- Appendix C2: Collection System Maps (# of homes u/s of blockage)
- Appendix C3: San Diego Spill Rate Chart
- Appendix C4: SSO Start Time Estimation Form
- Appendix D1: Residential Notification Form
- Appendix D2: Contaminated Water Sign

Flowchart 1: Initial Response



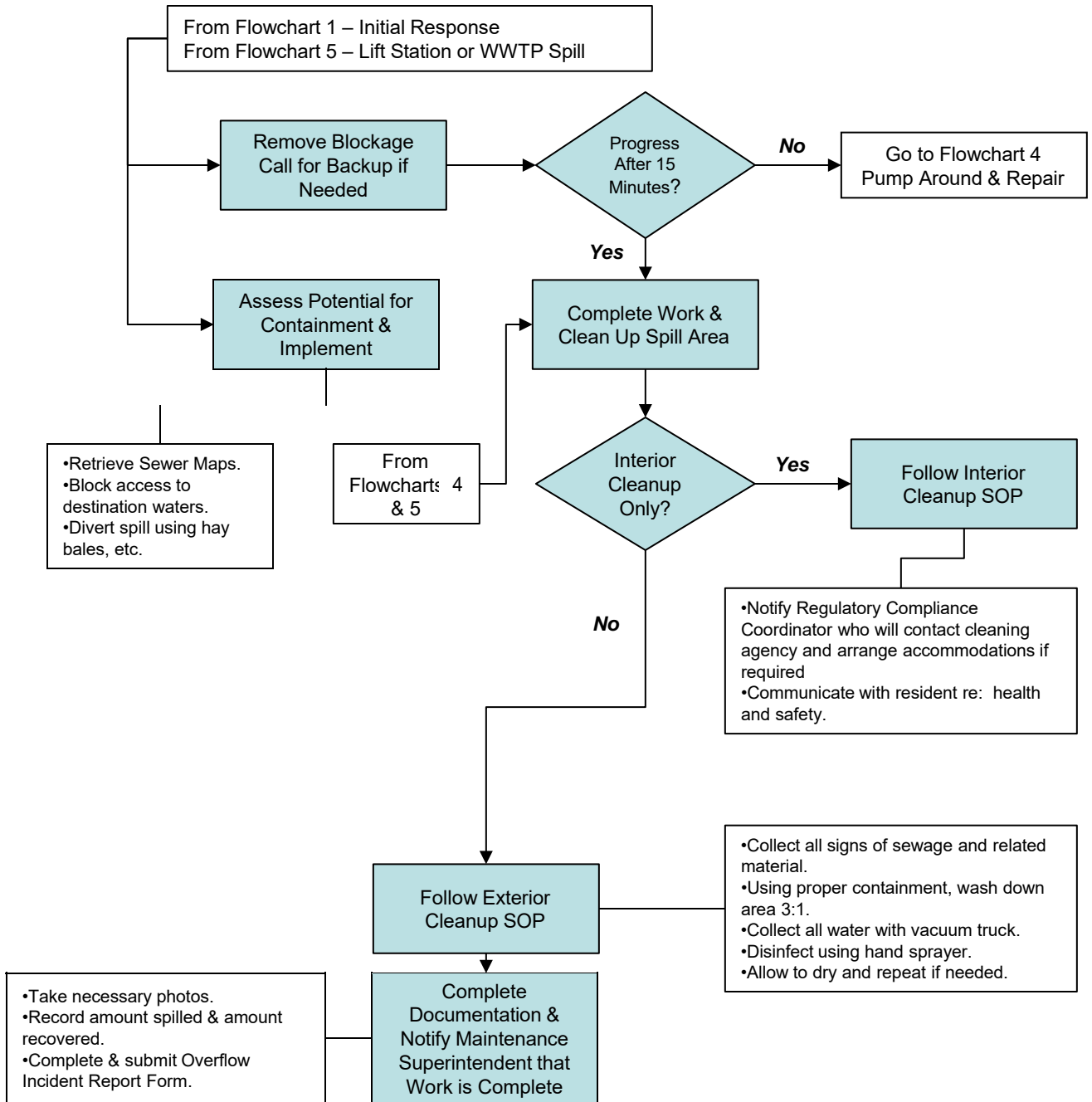
- The First Responder is the incident commander, until replaced by a higher-ranking staff member.
- Document overflow information on Overflow Incident Form.
- Notify Operations Superintendent, Regulatory Compliance Coordinator, and District Manager as needed.

Flowchart 2: Customer Private Lateral Sewer Discharge (PLSD)



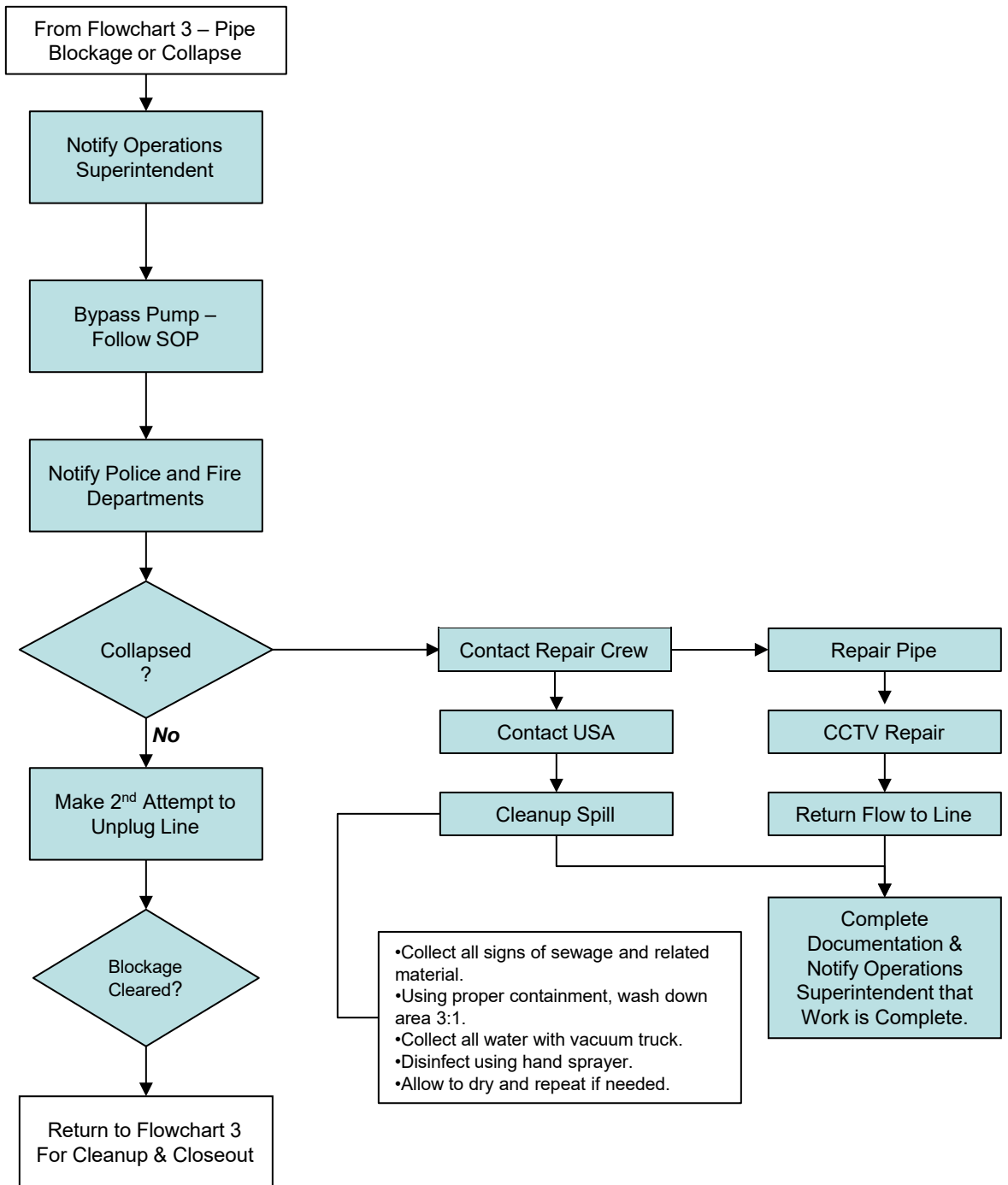
- The First Responder is the incident commander, until replaced by a higher-ranking staff member.
- Document overflow information on Overflow Incident Form.
- For Spills greater than 1,000 gallons or that reach surface waters, contact County Health Department & Code Enforcement
- Notify Operations Superintendent, Regulatory Compliance Coordinator, and District Manager as needed.

Flowchart 3: Pipe Blockage or Collapse



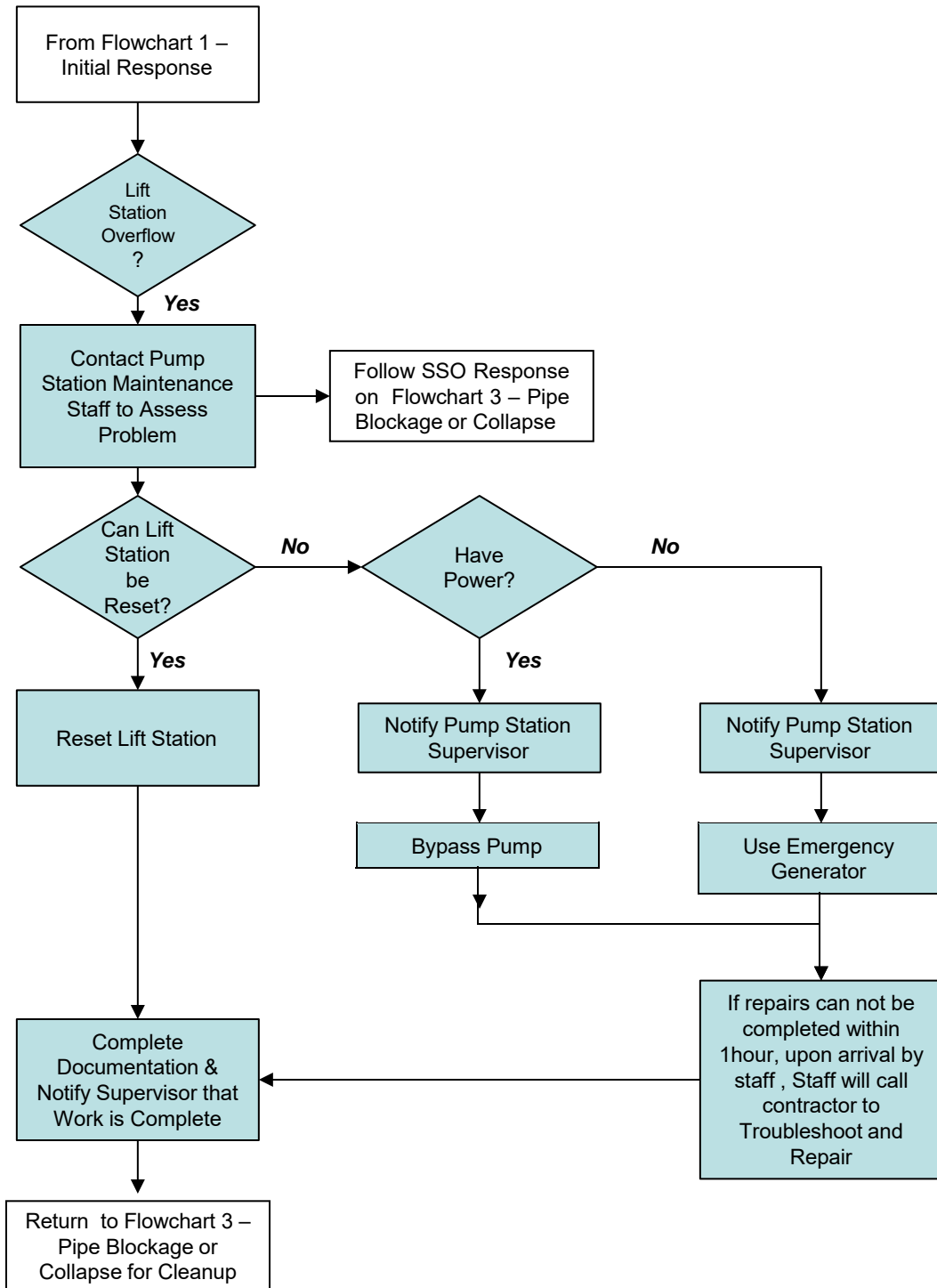
- The First Responder is the incident commander, until replaced by a higher-ranking staff member.
- Document overflow information on Overflow Incident Form.
- Notify Operations Superintendent, Regulatory Compliance Coordinator, and District Manager as needed.

Flowchart 4: Pump Around & Repair



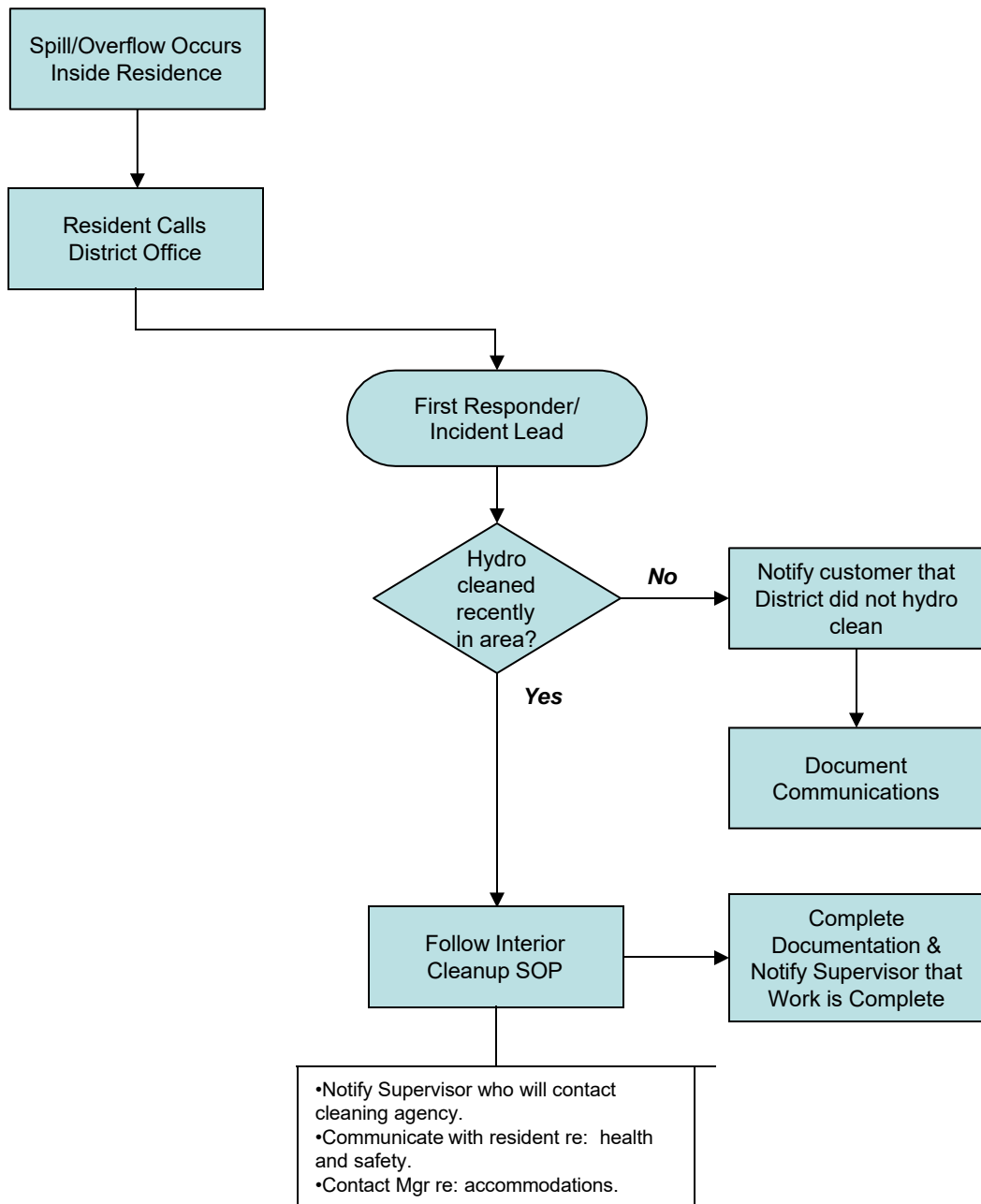
- The First Responder is the incident commander, until replaced by a higher-ranking staff member.
- Document overflow information on Overflow Incident Form.
- Notify Operations Superintendent, Regulatory Compliance Coordinator, and District Manager as needed.

Flowchart 5: Lift Station or WWTP Spill



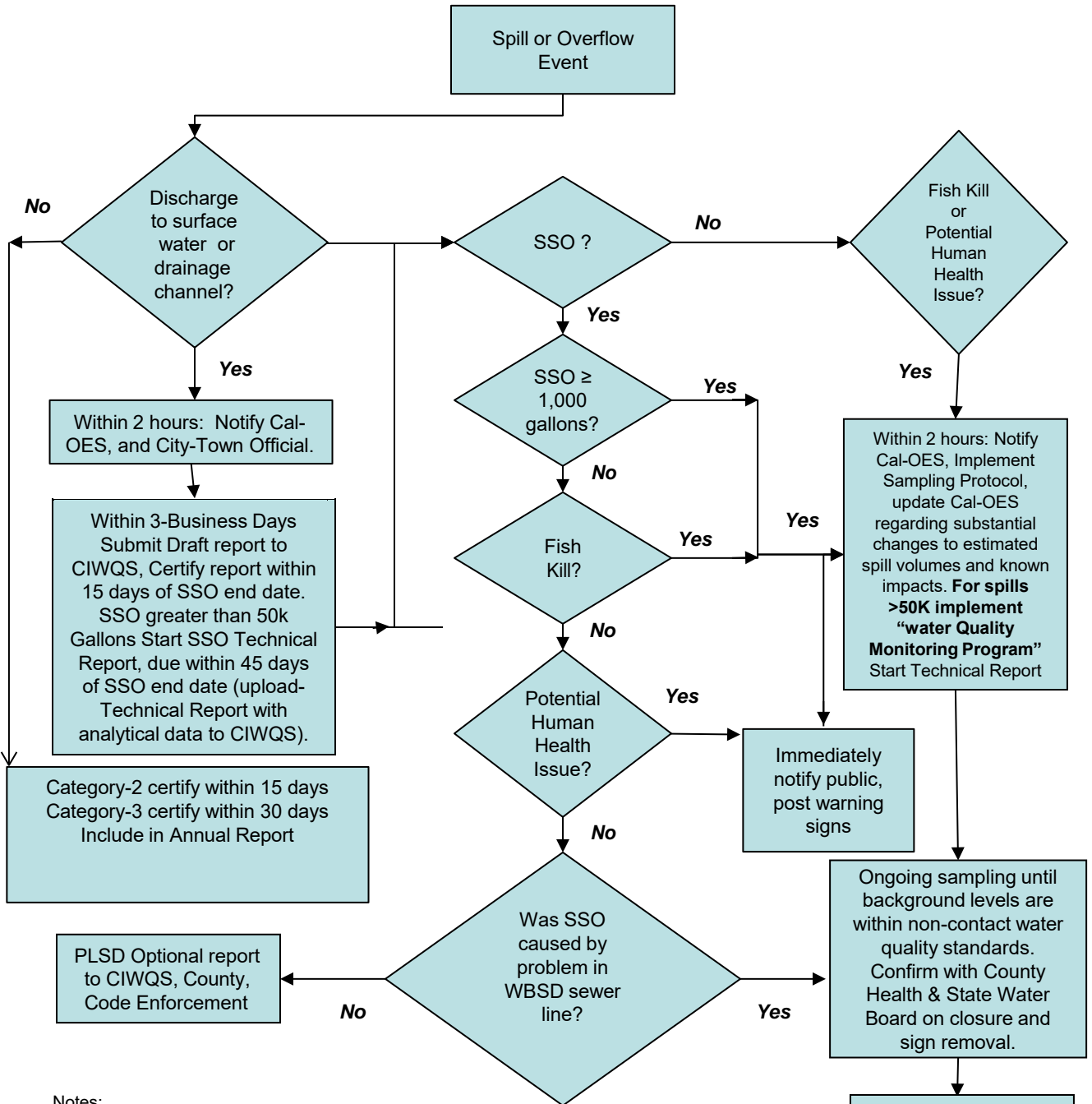
- The First Responder is the incident commander, until replaced by a higher-ranking staff member.
- Document overflow information on Overflow Incident Form.
- Notify Operations Superintendent, Regulatory Compliance Coordinator, and District Manager as needed.

Flowchart 6: Backup from Hydro Cleaning



- The First Responder is the incident commander, until replaced by a higher-ranking staff member.
- Document overflow information on Overflow Incident Form.
- Notify Operations Superintendent, Regulatory Compliance Coordinator, and District Manager as needed.

Flowchart 7: Reporting Requirements

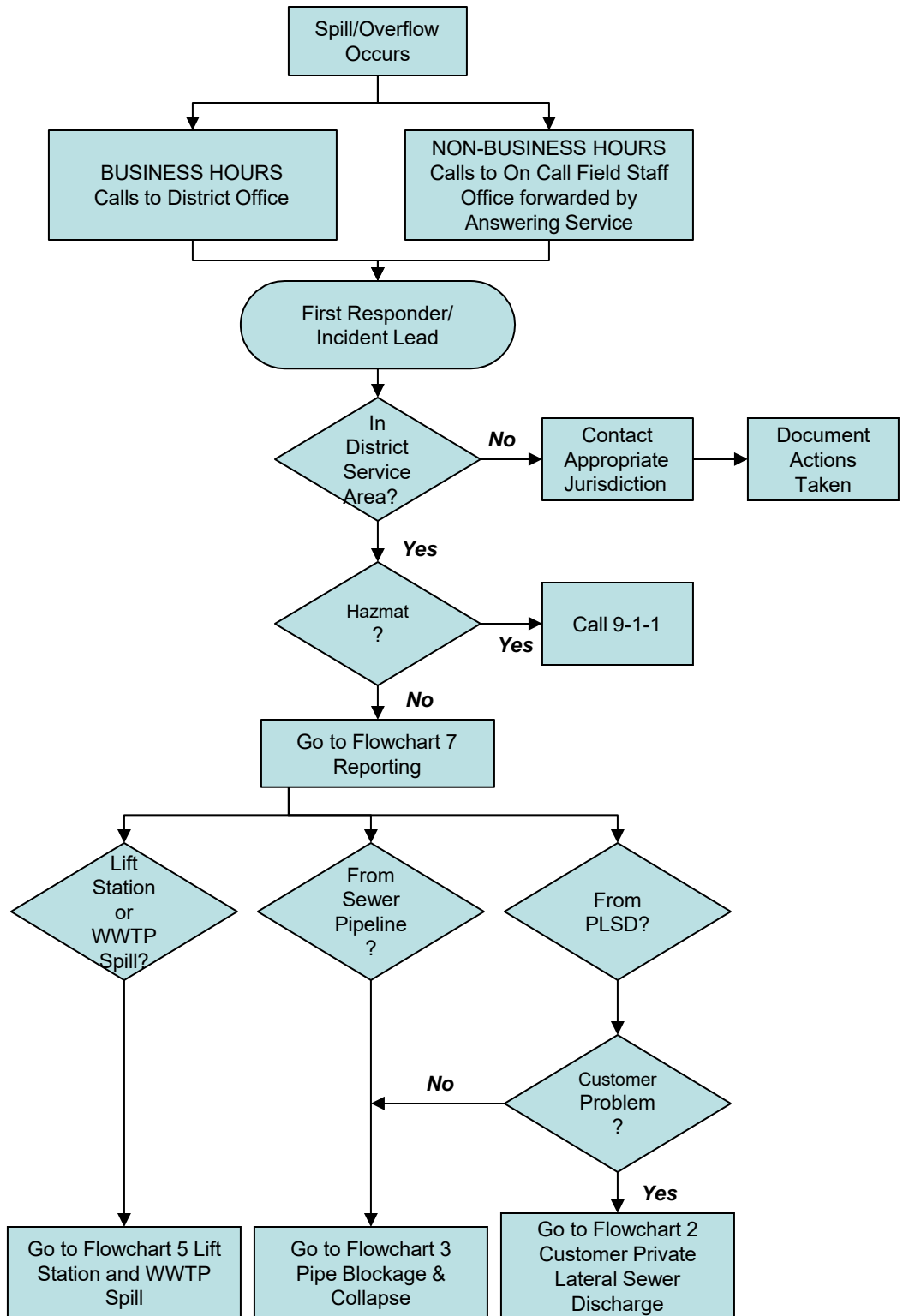


Notes:

1. Follow-up reporting should be updated as new information is available to Cal-OES
2. Category 1 Surface Water Impact: Initial reporting within 2-hours to Cal-OES. Draft report to CIWQS within 3-Days. Spills >50K gallons implement Water Quality Monitoring Program Protocols. Located in the OERP at Tab-A8. Start Technical Report
3. Category 2 (>1,000 gallons, no surface water impact): Draft report within 3 days , certify within 15 days of SSO end date.
4. Category 3 (<1,000 gallons, no surface water impact) Submit certified report within 30 calendar days of the end of the month the SSO occurred.
5. If there are no SSOs in a month, provide statement through online SSO reporting certifying that there were no SSOs for the designated month.
6. In the event that the CIWQS reporting system is not available, all required information must be faxed to the RWQCB, Region 2 (FX510-622-2460), and followed up with a phone call (510-622-2300).

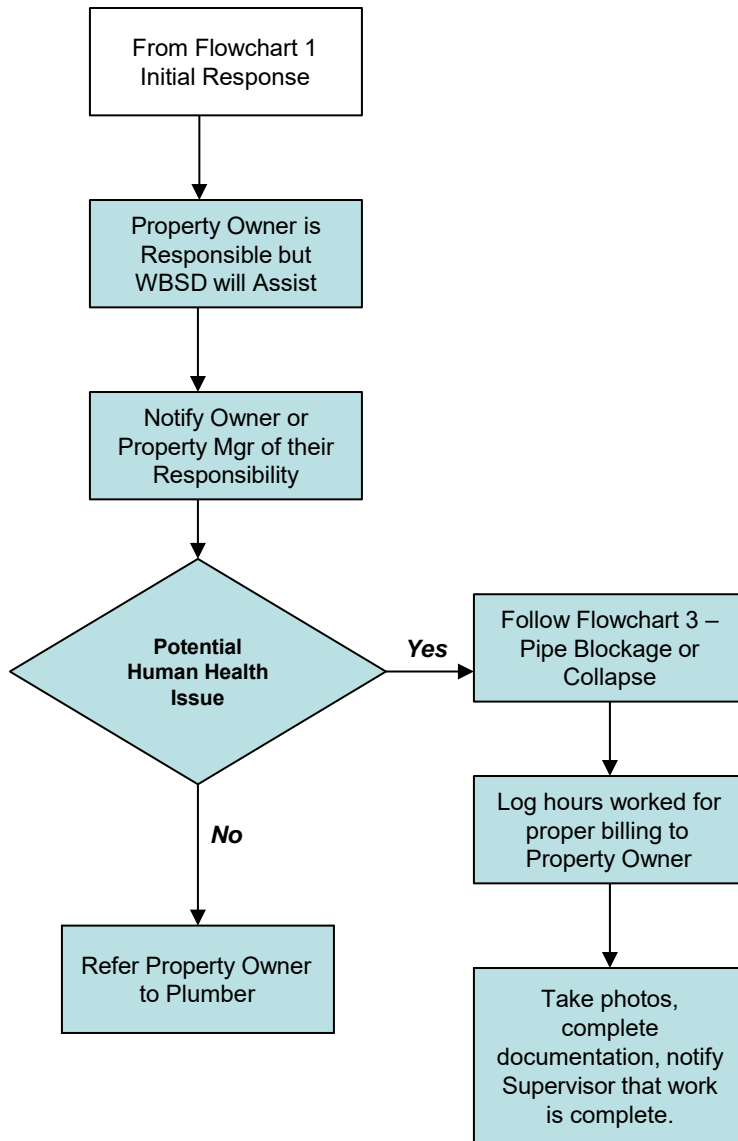
Include in Written Annual Report due to RWQCB each March 15th.
 Category-1 Certify within 15 days
 50K Gallons- Technical Report due in 45 days of SSO date

Flowchart 1: Initial Response



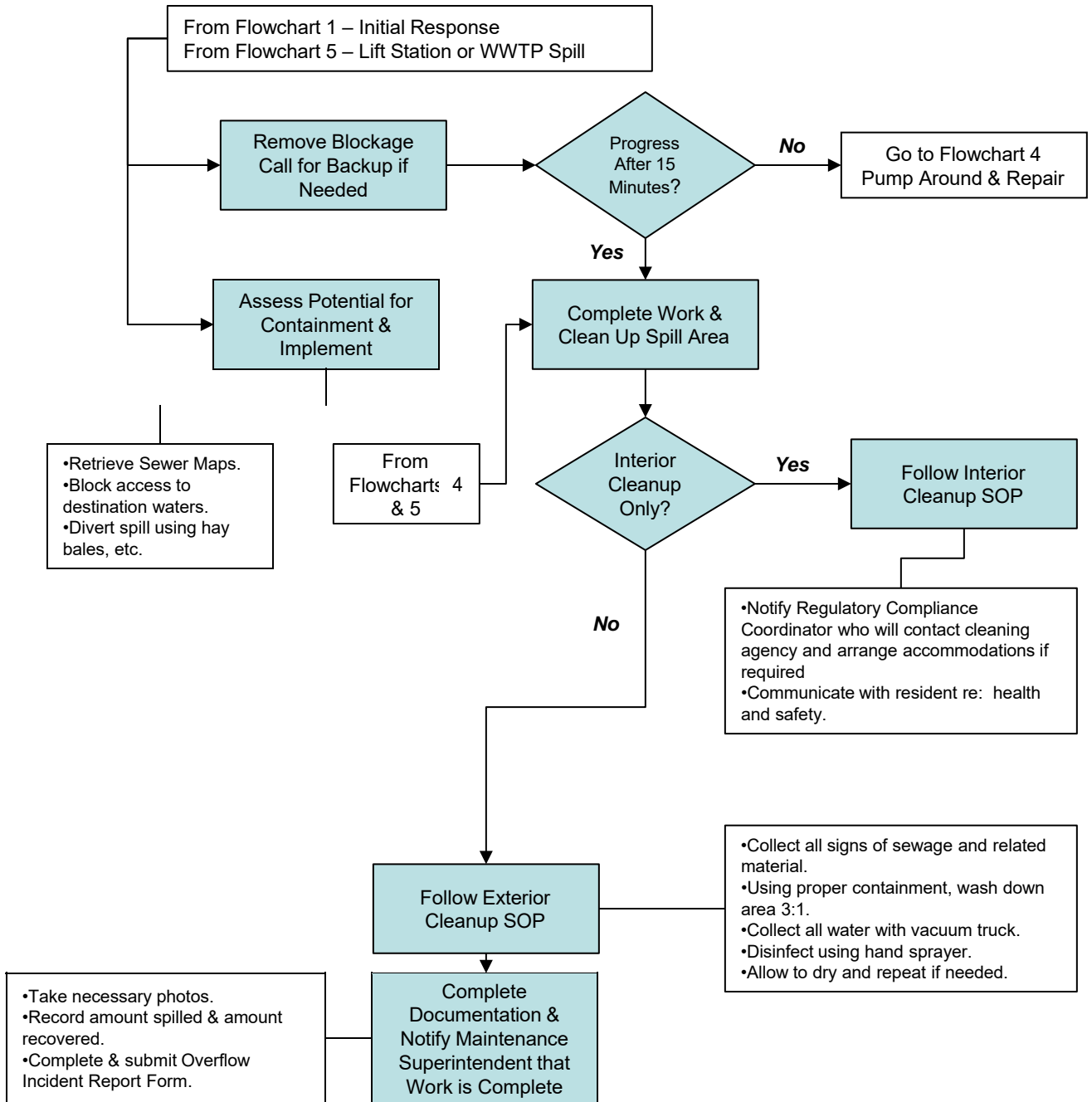
- The First Responder is the incident commander, until replaced by a higher-ranking staff member.
- Document overflow information on Overflow Incident Form.
- Notify Operations Superintendent, Regulatory Compliance Coordinator, and District Manager as needed.

Flowchart 2: Customer Private Lateral Sewer Discharge (PLSD)



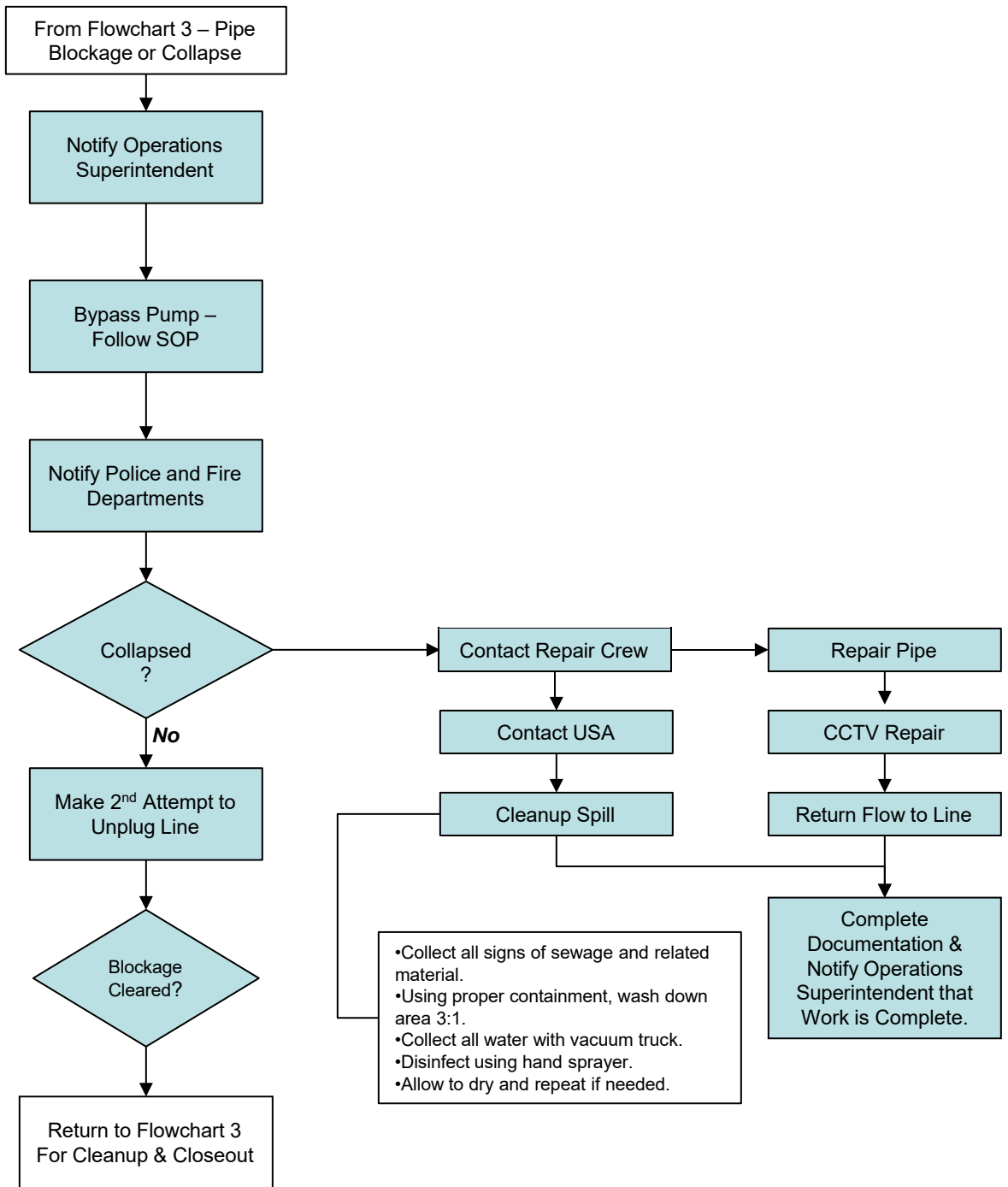
- The First Responder is the incident commander, until replaced by a higher-ranking staff member.
- Document overflow information on Overflow Incident Form.
- For Spills greater than 1,000 gallons or that reach surface waters, contact County Health Department & Code Enforcement
- Notify Operations Superintendent, Regulatory Compliance Coordinator, and District Manager as needed.

Flowchart 3: Pipe Blockage or Collapse



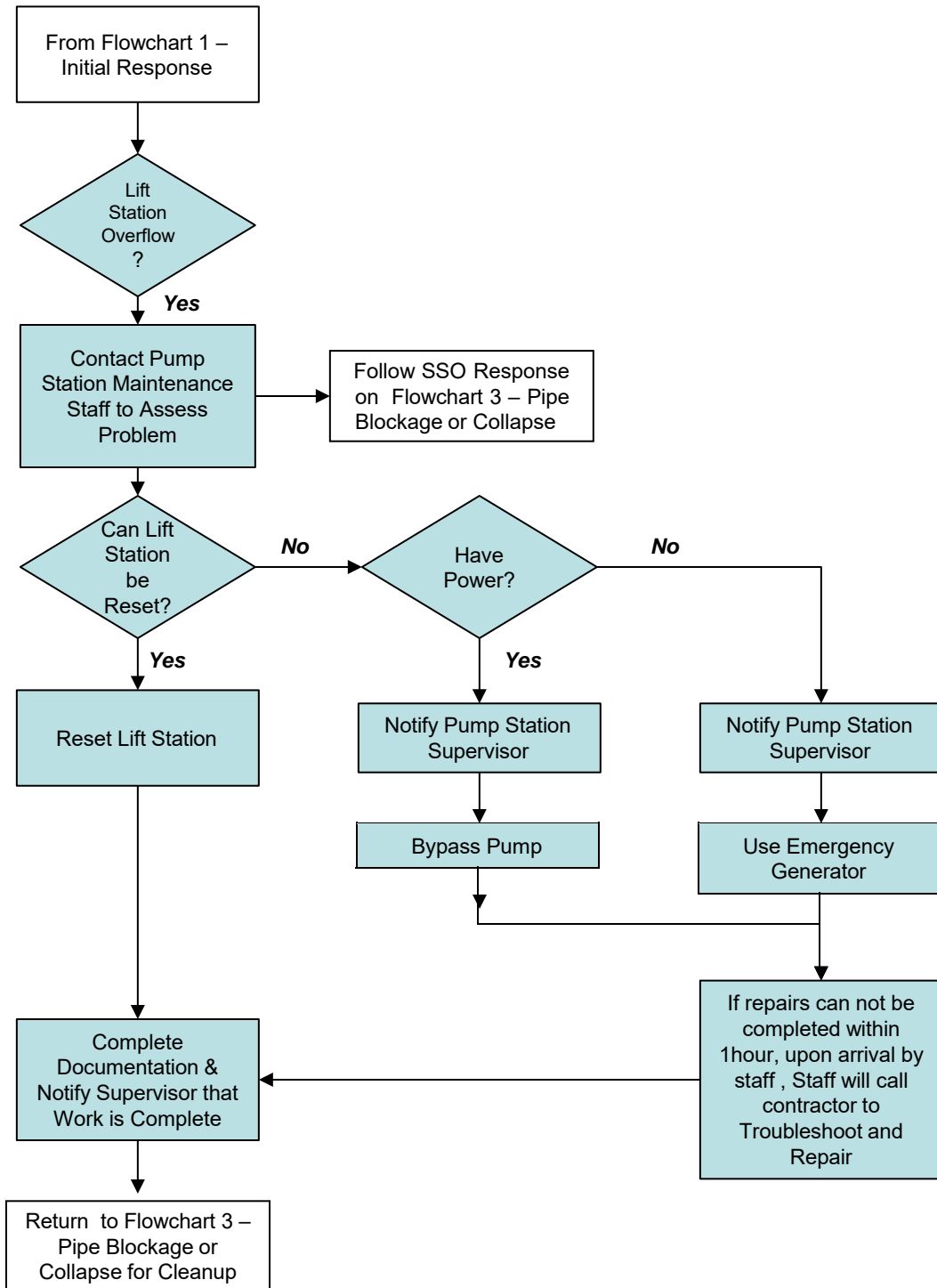
- The First Responder is the incident commander, until replaced by a higher-ranking staff member.
- Document overflow information on Overflow Incident Form.
- Notify Operations Superintendent, Regulatory Compliance Coordinator, and District Manager as needed.

Flowchart 4: Pump Around & Repair



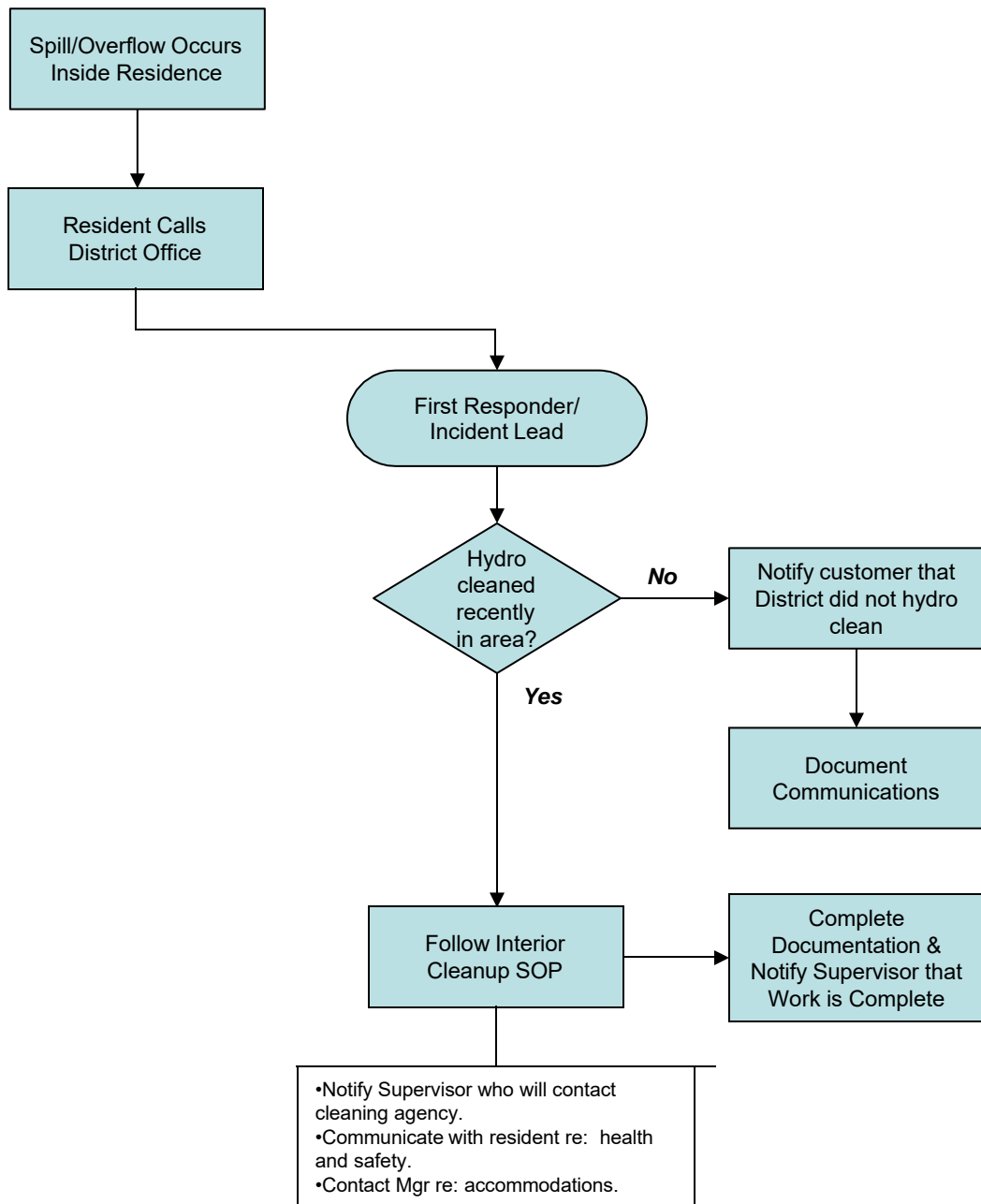
- The First Responder is the incident commander, until replaced by a higher-ranking staff member.
- Document overflow information on Overflow Incident Form.
- Notify Operations Superintendent, Regulatory Compliance Coordinator, and District Manager as needed.

Flowchart 5: Lift Station or WWTP Spill



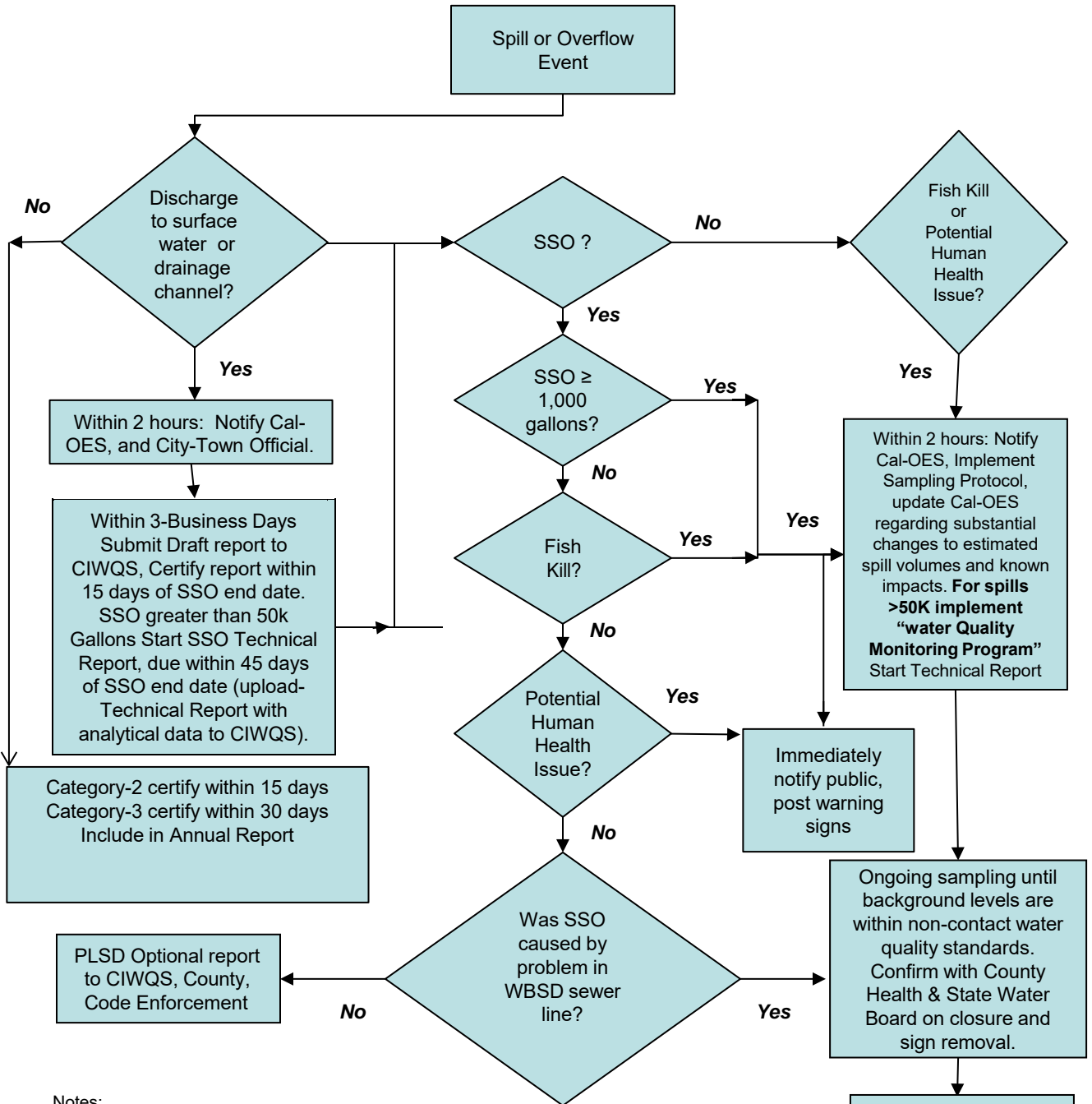
- The First Responder is the incident commander, until replaced by a higher-ranking staff member.
- Document overflow information on Overflow Incident Form.
- Notify Operations Superintendent, Regulatory Compliance Coordinator, and District Manager as needed.

Flowchart 6: Backup from Hydro Cleaning



- The First Responder is the incident commander, until replaced by a higher-ranking staff member.
- Document overflow information on Overflow Incident Form.
- Notify Operations Superintendent, Regulatory Compliance Coordinator, and District Manager as needed.

Flowchart 7: Reporting Requirements



Notes:

1. Follow-up reporting should be updated as new information is available to Cal-OES
2. Category 1 Surface Water Impact: Initial reporting within 2-hours to Cal-OES. Draft report to CIWQS within 3-Days. Spills >50K gallons implement Water Quality Monitoring Program Protocols. Located in the OERP at Tab-A8. Start Technical Report
3. Category 2 (>1,000 gallons, no surface water impact): Draft report within 3 days , certify within 15 days of SSO end date.
4. Category 3 (<1,000 gallons, no surface water impact) Submit certified report within 30 calendar days of the end of the month the SSO occurred.
5. If there are no SSOs in a month, provide statement through online SSO reporting certifying that there were no SSOs for the designated month.
6. In the event that the CIWQS reporting system is not available, all required information must be faxed to the RWQCB, Region 2 (FX510-622-2460), and followed up with a phone call (510-622-2300).

A8



WATER QUALITY MONITORING PROGRAM

Created: September 4, 2013

Updated June 30th, 2020

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APPENDICES

A1 Standard Operating Procedure – “SSO Sampling and Monitoring”

REFERENCES

- R1 Monitoring and Reporting Program Order NO. WQ 2013-0058-EXEC
- R2 Chapter 3 Water Quality Objectives (Basin Plan)
- R3 Water Quality Objectives for Bacteria Non-Contact Water Quality Objective
- R4 U.S. EPA Bacterological Criteria for Water Contact Recreation **Introductuion**

This section of the Water Quality Monitoring Program provides the District’s response activities and standard operating procedures utilized in the OERP. This program is reviewed on an annual basis and amended as necessary.

State Regulatory Requirements for the “Water Quality Monitoring Program”

To comply with sub-section *D.7(v) of the SSS WDR’s, the enrollee shall develop and implement an SSO Water Quality Monitoring Program to assess impacts from SSO’s to surface waters in which 50,000 gallons or greater are spilled to surface waters. The SSO Water Quality shall at a minimum:

1. Contain protocols for water quality monitoring.
2. Account for spill travel time in the surface waters and scenarios where monitoring may not be possible (e.g. safety, access restrictions, etc.)
3. Require water quality monitoring analyses for ammonia and bacterial indicators to be performed by an accredited or certified laboratory.
4. Require monitoring instruments and devices used to implement the SSO Water Quality Monitoring Program to be properly maintained and calibrated, including any records to document maintenance and calibration, as necessary, to ensure their continued accuracy.
5. Within 48 hours of the enrollee becoming aware of the SSO, require water quality sampling for, at a minimum, the following constituents:
 - i. Ammonia,
 - ii. Appropriate Bacterial indicator(s) per the applicable Basin Plan water quality objective or Regional Board direction which may include total and fecal coliform, enterococcus and e-coli.

***D.7 (v) “adequate sampling to determine the nature and impact of the release...”**

The above requirements are written as part of the Districts Standard Operating Procedures on Sampling and Monitoring which is located at Appendix A1 of this document.

Additionally, for spills greater than 50,000 gallons a SSO Technical Report is required and must be submitted within 45 calendar days of the SSO end date. The district shall provide all of the information requested in the Monitoring and Reporting Program (MRP) located at Section C- Reporting Requirements, Sub-section 5 SSO Technical Report items i- Causes and Circumstances of the SSO, ii-Enrollees response to the SSO and iii-Water Quality Monitoring.

A copy of the MRP is located at Appendix R1 of the Water Quality Monitoring Program. The Technical Report can be produced via a Crystal Report in the Lucity Database

Spill Travel Time:

Method-1; using a velocity probe (FH950, Meter Velocity Sensor) to determine the rate of flow in the surface water or

Method-2; a visual ft/sec measurement from above (floating debris) to estimate the number feet debris may travel seconds.

Either method will allow you to estimate the distance traveled and where the SSO may be headed and located within minor tributary (which may flow to a larger body of water) or the possible location within an underground storm drainage system which may allow for SSO recovery when compared to the storm drainage system and stream maps.

Safety

Scenarios where monitoring may not be possible may include (but not limited to), heavy rain/storm events where access points have been compromised, flooding around low level areas, raging water. The Buddy System may be used to ensure employee safety when sample collection is required.

Monitoring Equipment and Device Calibration

Quantity	Equipment	Calibration Frequency
1	Velocity Probe-FH950	Self-Calibrating (Adjustable)
1	YSI 30 Salinity/Conductivity/Temperature meter	Annually
5	Sigma 910 Flow Meter	Each Use
1	Sigma 930 Flow Meter	Each Use
4	Sigma 950 Ultra Sonic Flow Meters (4)	Annually
9	Marsh McBirney Flo-Meters	Each Use
13	Industrial Scientific Multi-Gas Meters	Monthly

The monitoring equipment listed above is maintained on a regular basis. These devices may be used and or deployed for monitoring purposes. All equipment is maintained per the

manufactures specifications and records of all maintenance data will be stored electronically or by written record.

STATE OF CALIFORNIA
WATER RESOURCES CONTROL BOARD
ORDER NO. WQ 2013-0058-EXEC

AMENDING MONITORING AND REPORTING PROGRAM
FOR
STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR
SANITARY SEWER SYSTEMS

The State of California, Water Resources Control Board (hereafter State Water Board) finds:

1. The State Water Board is authorized to prescribe statewide general Waste Discharge Requirements (WDRs) for categories of discharges that involve the same or similar operations and the same or similar types of waste pursuant to Water Code section 13263(i).
2. Water Code section 13193 *et seq.* requires the Regional Water Quality Control Boards (Regional Water Boards) and the State Water Board (collectively, the Water Boards) to gather Sanitary Sewer Overflow (SSO) information and make this information available to the public, including but not limited to, SSO cause, estimated volume, location, date, time, duration, whether or not the SSO reached or may have reached waters of the state, response and corrective action taken, and an enrollee's contact information for each SSO event. An enrollee is defined as the public entity having legal authority over the operation and maintenance of, or capital improvements to, a sanitary sewer system greater than one mile in length.
3. Water Code section 13271, *et seq.* requires notification to the California Office of Emergency Services (Cal OES), formerly the California Emergency Management Agency, for certain unauthorized discharges, including SSOs.
4. On May 2, 2006, the State Water Board adopted Order 2006-0003-DWQ, "Statewide Waste Discharge Requirements for Sanitary Sewer Systems"¹ (hereafter SSS WDRs) to comply with Water Code section 13193 and to establish the framework for the statewide SSO Reduction Program.
5. Subsection G.2 of the SSS WDRs and the Monitoring and Reporting Program (MRP) provide that the Executive Director may modify the terms of the MRP at any time.
6. On February 20, 2008, the State Water Board Executive Director adopted a revised MRP for the SSS WDRs to rectify early notification deficiencies and ensure that first responders are notified in a timely manner of SSOs discharged into waters of the state.
7. When notified of an SSO that reaches a drainage channel or surface water of the state, Cal OES, pursuant to Water Code section 13271(a)(3), forwards the SSO notification information² to local government agencies and first responders including local public health officials and the applicable Regional Water Board. Receipt of notifications for a single SSO event from both the SSO reporter

¹ Available for download at:

http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2006/wqo/wqo2006_0003.pdf

² Cal OES Hazardous Materials Spill Reports available Online at:

[http://w3.calema.ca.gov/operational/mal haz.nsf/\\$defaultview](http://w3.calema.ca.gov/operational/mal haz.nsf/$defaultview) and <http://w3.calema.ca.gov/operational/mal haz.nsf>

and Cal OES is duplicative. To address this, the SSO notification requirements added by the February 20, 2008 MRP revision are being removed in this MRP revision.

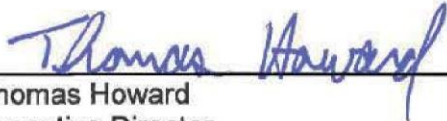
8. In the February 28, 2008 Memorandum of Agreement between the State Water Board and the California Water and Environment Association (CWEA), the State Water Board committed to re-designing the CIWQS³ Online SSO Database to allow "event" based SSO reporting versus the original "location" based reporting. Revisions to this MRP and accompanying changes to the CIWQS Online SSO Database will implement this change by allowing for multiple SSO appearance points to be associated with each SSO event caused by a single asset failure.
9. Based on stakeholder input and Water Board staff experience implementing the SSO Reduction Program, SSO categories have been revised in this MRP. In the prior version of the MRP, SSOs have been categorized as Category 1 or Category 2. This MRP implements changes to SSO categories by adding a Category 3 SSO type. This change will improve data management to further assist Water Board staff with evaluation of high threat and low threat SSOs by placing them in unique categories (i.e., Category 1 and Category 3, respectively). This change will also assist enrollees in identifying SSOs that require Cal OES notification.
10. Based on over six years of implementation of the SSS WDRs, the State Water Board concludes that the February 20, 2008 MRP must be updated to better advance the SSO Reduction Program⁴ objectives, assess compliance, and enforce the requirements of the SSS WDRs.

IT IS HEREBY ORDERED THAT:

Pursuant to the authority delegated by Water Code section 13267(f), Resolution 2002-0104, and Order 2006-0003-DWQ, the MRP for the SSS WDRs (Order 2006-0003-DWQ) is hereby amended as shown in Attachment A and shall be effective on 07/26/2013.

7/30/13

Date



Thomas Howard
Executive Director

³ California Integrated Water Quality System (CIWQS) publicly available at <http://www.waterboards.ca.gov/ciwqs/publicreports.shtml>

⁴ Statewide Sanitary Sewer Overflow Reduction Program information is available at: http://www.waterboards.ca.gov/water_issues/programs/ssso/

ATTACHMENT ASTATE WATER RESOURCES CONTROL BOARD
ORDER NO. WQ 2013-0058-EXECAMENDING MONITORING AND REPORTING PROGRAM
FOR
STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR
SANITARY SEWER SYSTEMS

This Monitoring and Reporting Program (MRP) establishes monitoring, record keeping, reporting and public notification requirements for Order 2006-0003-DWQ, "Statewide General Waste Discharge Requirements for Sanitary Sewer Systems" (SSS WDRs). This MRP shall be effective from September 9, 2013 until it is rescinded. The Executive Director may make revisions to this MRP at any time. These revisions may include a reduction or increase in the monitoring and reporting requirements. All site specific records and data developed pursuant to the SSS WDRs and this MRP shall be complete, accurate, and justified by evidence maintained by the enrollee. Failure to comply with this MRP may subject an enrollee to civil liabilities of up to \$5,000 a day per violation pursuant to Water Code section 13350; up to \$1,000 a day per violation pursuant to Water Code section 13268; or referral to the Attorney General for judicial civil enforcement. The State Water Resources Control Board (State Water Board) reserves the right to take any further enforcement action authorized by law.

A. SUMMARY OF MRP REQUIREMENTS**Table 1 – Spill Categories and Definitions**

CATEGORIES	DEFINITIONS [see Section A on page 5 of Order 2006-0003-DWQ, for Sanitary Sewer Overflow (SSO) definition]
CATEGORY 1	Discharges of untreated or partially treated wastewater of <u>any volume</u> resulting from an enrollee's sanitary sewer system failure or flow condition that: <ul style="list-style-type: none"> • Reach surface water and/or reach a drainage channel tributary to a surface water; or • Reach a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond).
CATEGORY 2	Discharges of untreated or partially treated wastewater of <u>1,000 gallons or greater</u> resulting from an enrollee's sanitary sewer system failure or flow condition that <u>do not</u> reach surface water, a drainage channel, or a MS4 unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.
CATEGORY 3	All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.
PRIVATE LATERAL SEWAGE DISCHARGE (PLSD)	Discharges of untreated or partially treated wastewater resulting from blockages or other problems <u>within a privately owned sewer lateral</u> connected to the enrollee's sanitary sewer system or from other private sewer assets. PLSDs that the enrollee becomes aware of may be <u>voluntarily</u> reported to the California Integrated Water Quality System (CIWQS) Online SSO Database.

Table 2 – Notification, Reporting, Monitoring, and Record Keeping Requirements

ELEMENT	REQUIREMENT	METHOD
NOTIFICATION (see section B of MRP)	<ul style="list-style-type: none"> • Within two hours of becoming aware of any Category 1 SSO greater than or equal to 1,000 gallons discharged to surface water or spilled in a location where it probably will be discharged to surface water, 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 C of MRP)	<ul style="list-style-type: none"> • Category 1 SSO: Submit draft report within three business days of becoming aware of the SSO and certify within 15 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 the SSO end date. • Category 3 SSO: Submit certified report within 30 calendar days of the end of month in which SSO the occurred. • SSO Technical Report: Submit within 45 calendar days after the end date of any Category 1 SSO in which 50,000 gallons or greater are spilled to surface waters. • "No Spill" Certification: Certify that no SSOs occurred within 30 calendar days of the end of the month or, if reporting quarterly, the quarter in which no SSOs occurred. • Collection System Questionnaire: Update and certify every 12 months. 	Enter data into the CIWQS Online SSO Database (http://ciwqs.waterboards.ca.gov/), certified by enrollee's Legally Responsible Official(s).
WATER QUALITY MONITORING (see section D of MRP)	<ul style="list-style-type: none"> • Conduct water quality sampling within 48 hours after initial SSO notification for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters. 	Water quality results are required to be uploaded into CIWQS for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.
RECORD KEEPING (see section E of MRP)	<ul style="list-style-type: none"> • SSO event records. • Records documenting Sanitary Sewer Management Plan (SSMP) implementation and changes/updates to the 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. 	Self-maintained records shall be available during inspections or upon request.

B. NOTIFICATION REQUIREMENTS

Although Regional Water Quality Control Boards (Regional Water Boards) and the State Water Board (collectively, the Water Boards) staff do not have duties as first responders, this MRP is an appropriate mechanism to ensure that the agencies that have first responder duties are notified in a timely manner in order to protect public health and beneficial uses.

1. For any Category 1 SSO greater than or equal to 1,000 gallons that results in a discharge to a surface water or spilled in a location where it probably will be discharged to surface water, either directly or by way of a drainage channel or MS4, the enrollee shall, as soon as possible, but not later than two (2) hours after (A) the enrollee has knowledge of the discharge, (B) notification is possible, and (C) notification can be provided without substantially impeding cleanup or other emergency measures, notify the Cal OES and obtain a notification control number.
2. To satisfy notification requirements for each applicable SSO, the enrollee shall provide the information requested by Cal OES before receiving a control number. Spill information requested by Cal OES may include:
 - i. Name of person notifying Cal OES and direct return phone number.
 - ii. Estimated SSO volume discharged (gallons).
 - iii. If ongoing, estimated SSO discharge rate (gallons per minute).
 - iv. SSO Incident Description:
 - a. Brief narrative.
 - b. On-scene point of contact for additional information (name and cell phone number).
 - c. Date and time enrollee became aware of the SSO.
 - d. Name of sanitary sewer system agency causing the SSO.
 - e. SSO cause (if known).
 - v. Indication of whether the SSO has been contained.
 - vi. Indication of whether surface water is impacted.
 - vii. Name of surface water impacted by the SSO, if applicable.
 - viii. Indication of whether a drinking water supply is or may be impacted by the SSO.
 - ix. Any other known SSO impacts.
 - x. SSO incident location (address, city, state, and zip code).
3. Following the initial notification to Cal OES and until such time that an enrollee certifies the SSO report in the CIWQS Online SSO Database, the enrollee shall provide updates to Cal OES regarding substantial changes to the estimated volume of untreated or partially treated sewage discharged and any substantial change(s) to known impact(s).
4. PLSDs: The enrollee is strongly encouraged to notify Cal OES of discharges greater than or equal to 1,000 gallons of untreated or partially treated wastewater that result or may result in a discharge to surface water resulting from failures or flow conditions within a privately owned sewer lateral or from other private sewer asset(s) if the enrollee becomes aware of the PLSD.

C. REPORTING REQUIREMENTS

1. **CIWQS Online SSO Database Account:** All enrollees shall obtain a CIWQS Online SSO Database account and receive a "Username" and "Password" by registering through CIWQS. These accounts allow controlled and secure entry into the CIWQS Online SSO Database.
2. **SSO Mandatory Reporting Information:** For reporting purposes, if one SSO event results in multiple appearance points in a sewer system asset, the enrollee shall complete one SSO report in the CIWQS Online SSO Database which includes the GPS coordinates for the location of the SSO appearance point closest to the failure point, blockage or location of the flow condition that caused the SSO, and provide descriptions of the locations of all other discharge points associated with the SSO event.
3. **SSO Categories**
 - i. **Category 1** – Discharges of untreated or partially treated wastewater of any volume resulting from an enrollee's sanitary sewer system failure or flow condition that:
 - a. Reach surface water and/or reach a drainage channel tributary to a surface water; or
 - b. Reach a MS4 and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond).
 - ii. **Category 2** – Discharges of untreated or partially treated wastewater greater than or equal to 1,000 gallons resulting from an enrollee's sanitary sewer system failure or flow condition that does not reach a surface water, a drainage channel, or the MS4 unless the entire SSO volume discharged to the storm drain system is fully recovered and disposed of properly.
 - iii. **Category 3** – All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.
4. **Sanitary Sewer Overflow Reporting to CIWQS - Timeframes**
 - i. **Category 1 and Category 2 SSOs** – All SSOs that meet the above criteria for Category 1 or Category 2 SSOs shall be reported to the CIWQS Online SSO Database:
 - a. Draft reports for Category 1 and Category 2 SSOs shall be submitted to the CIWQS Online SSO Database within three (3) business days of the enrollee becoming aware of the SSO. Minimum information that shall be reported in a draft Category 1 SSO report shall include all information identified in section 8.i.a. below. Minimum information that shall be reported in a Category 2 SSO draft report shall include all information identified in section 8.i.c below.
 - b. A final Category 1 or Category 2 SSO report shall be certified through the CIWQS Online SSO Database within 15 calendar days of the end date of the SSO. Minimum information that shall be certified in the final Category 1 SSO report shall include all information identified in section 8.i.b below. Minimum information that shall be certified in a final Category 2 SSO report shall include all information identified in section 8.i.d below.

- ii. **Category 3 SSOs** – All SSOs that meet the above criteria for Category 3 SSOs shall be reported to the CIWQS Online SSO Database and certified within 30 calendar days after the end of the calendar month in which the SSO occurs (e.g., all Category 3 SSOs occurring in the month of February shall be entered into the database and certified by March 30). Minimum information that shall be certified in a final Category 3 SSO report shall include all information identified in section 8.i.e below.
- iii. **“No Spill” Certification** – If there are no SSOs during the calendar month, the enrollee shall either 1) certify, within 30 calendar days after the end of each calendar month, a “No Spill” certification statement in the CIWQS Online SSO Database certifying that there were no SSOs for the designated month, or 2) certify, quarterly within 30 calendar days after the end of each quarter, “No Spill” certification statements in the CIWQS Online SSO Database certifying that there were no SSOs for each month in the quarter being reported on. For quarterly reporting, the quarters are Q1 - January/ February/ March, Q2 - April/May/June, Q3 - July/August/September, and Q4 - October/November/December.

If there are no SSOs during a calendar month but the enrollee reported a PLSD, the enrollee shall still certify a “No Spill” certification statement for that month.
- iv. **Amended SSO Reports** – The enrollee may update or add additional information to a certified SSO report within 120 calendar days after the SSO end date by amending the report or by adding an attachment to the SSO report in the CIWQS Online SSO Database. SSO reports certified in the CIWQS Online SSO Database prior to the adoption date of this MRP may only be amended up to 120 days after the effective date of this MRP. After 120 days, the enrollee may contact the SSO Program Manager to request to amend an SSO report if the enrollee also submits justification for why the additional information was not available prior to the end of the 120 days.

5. **SSO Technical Report**

The enrollee shall 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, which does not preclude the Water Boards from requiring more detailed analyses if requested, shall include at a minimum, the following:

- i. **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.
- ii. **Enrollee’s Response to SSO:**
 - a. Chronological narrative description of all actions taken by enrollee to terminate the spill.
 - b. Explanation of how the SSMP Overflow Emergency Response plan 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.

iii. **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.

6. **PLSDs**

Discharges of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned sewer lateral connected to the enrollee's sanitary sewer system or from other private sanitary sewer system assets may be voluntarily reported to the CIWQS Online SSO Database.

- i. The enrollee is also encouraged to provide notification to Cal OES per section B above when a PLSD greater than or equal to 1,000 gallons has or may result in a discharge to surface water. For any PLSD greater than or equal to 1,000 gallons regardless of the spill destination, the enrollee is also encouraged to file a spill report as required by Health and Safety Code section 5410 et. seq. and Water Code section 13271, or notify the responsible party that notification and reporting should be completed as specified above and required by State law.
- ii. If a PLSD is recorded in the CIWQS Online SSO Database, the enrollee must identify the sewage discharge as occurring and caused by a private sanitary sewer system asset and should identify a responsible party (other than the enrollee), if known. Certification of PLSD reports by enrollees is not required.

7. **CIWQS Online SSO Database Unavailability**

In the event that the CIWQS Online SSO Database is not available, the enrollee must fax or e-mail all required information to the appropriate Regional Water Board office in accordance with the time schedules identified herein. In such event, the enrollee must also enter all required information into the CIWQS Online SSO Database when the database becomes available.

8. **Mandatory Information to be Included in CIWQS Online SSO Reporting**

All enrollees shall obtain a CIWQS Online SSO Database account and receive a "Username" and "Password" by registering through CIWQS which can be reached at CIWQS@waterboards.ca.gov or by calling (866) 792-4977, M-F, 8 A.M. to 5 P.M. These accounts will allow controlled and secure entry into the CIWQS Online SSO Database. Additionally, within thirty (30) days of initial enrollment and prior to recording SSOs into the CIWQS Online SSO Database, all enrollees must complete a Collection System Questionnaire (Questionnaire). The Questionnaire shall be updated at least once every 12 months.

i. **SSO Reports**

At a minimum, the following mandatory information shall be reported prior to finalizing and certifying an SSO report for each category of SSO:

- a. **Draft Category 1 SSOs:** At a minimum, the following mandatory information shall be reported for a draft Category 1 SSO report:
1. SSO Contact Information: Name and telephone number of enrollee contact person who can answer specific questions about the SSO being reported.
 2. SSO Location Name.
 3. Location of the overflow event (SSO) by entering GPS coordinates. If a single overflow 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 SSO appearance point explanation field.
 4. Whether or not the SSO reached surface water, a drainage channel, or entered and was discharged from a drainage structure.
 5. Whether or not the SSO reached a municipal separate storm drain system.
 6. Whether or not the total SSO volume that reached a municipal separate storm drain system was fully recovered.
 7. Estimate of the SSO volume, inclusive of all discharge point(s).
 8. Estimate of the SSO volume that reached surface water, a drainage channel, or was not recovered from a storm drain.
 9. Estimate of the SSO volume recovered (if applicable).
 10. Number of SSO appearance point(s).
 11. Description and location of SSO appearance point(s). If a single sanitary sewer system failure results in multiple SSO appearance points, each appearance point must be described.
 12. SSO start date and time.
 13. Date and time the enrollee was notified of, or self-discovered, the SSO.
 14. Estimated operator arrival time.
 15. For spills greater than or equal to 1,000 gallons, the date and time Cal OES was called.
 16. For spills greater than or equal to 1,000 gallons, the Cal OES control number.
- b. **Certified Category 1 SSOs:** At a minimum, the following mandatory information shall be reported for a certified Category 1 SSO report, in addition to all fields in section 8.i.a :
1. Description of SSO destination(s).
 2. SSO end date and time.
 3. SSO causes (mainline blockage, roots, etc.).
 4. SSO failure point (main, lateral, etc.).
 5. Whether or not the spill was associated with a storm event.
 6. Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the overflow; and a schedule of major milestones for those steps.
 7. Description of spill response activities.
 8. Spill response completion date.
 9. Whether or not there is an ongoing investigation, the reasons for the investigation and the expected date of completion.

10. Whether or not a beach closure occurred or may have occurred as a result of the SSO.
 11. Whether or not health warnings were posted as a result of the SSO.
 12. Name of beach(es) closed and/or impacted. If no beach was impacted, NA shall be selected.
 13. Name of surface water(s) impacted.
 14. If water quality samples were collected, identify parameters the water quality samples were analyzed for. If no samples were taken, NA shall be selected.
 15. If water quality samples were taken, identify which regulatory agencies received sample results (if applicable). If no samples were taken, NA shall be selected.
 16. Description of methodology(ies) and type of data relied upon for estimations of the SSO volume discharged and recovered.
 17. SSO Certification: Upon SSO Certification, the CIWQS Online SSO Database will issue a final SSO identification (ID) number.
- c. **Draft Category 2 SSOs**: At a minimum, the following mandatory information shall be reported for a draft Category 2 SSO report:
1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO.
- d. **Certified Category 2 SSOs**: At a minimum, the following mandatory information shall be reported for a certified Category 2 SSO report:
1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO and Items 1-9, and 17 in section 8.i.b above for Certified Category 1 SSO.
- e. **Certified Category 3 SSOs**: At a minimum, the following mandatory information shall be reported for a certified Category 3 SSO report:
1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO and Items 1-6, and 17 in section 8.i.b above for Certified Category 1 SSO.
- ii. **Reporting SSOs to Other Regulatory Agencies**
- These reporting requirements do not preclude an enrollee from reporting SSOs to other regulatory agencies pursuant to state law. In addition, these reporting requirements do not replace other Regional Water Board notification and reporting requirements for SSOs.
- iii. **Collection System Questionnaire**
- The required Questionnaire (see subsection G of the SSS WDRs) provides the Water Boards with site-specific information related to the enrollee's sanitary sewer system. The enrollee shall complete and certify the Questionnaire at least every 12 months to facilitate program implementation, compliance assessment, and enforcement response.
- iv. **SSMP Availability**
- The enrollee shall provide the publicly available internet web site address to the CIWQS Online SSO Database where a downloadable copy of the enrollee's approved SSMP, critical supporting documents referenced in the SSMP, and proof of local governing board approval of the SSMP is posted. If all of the SSMP documentation listed in this subsection is not publicly available on the Internet, the enrollee shall comply with the following procedure:

- a. Submit an **electronic** copy of the enrollee's approved SSMP, critical supporting documents referenced in the SSMP, and proof of local governing board approval of the SSMP to the State Water Board, within 30 days of that approval and within 30 days of any subsequent SSMP re-certifications, to the following mailing address:

State Water Resources Control Board
Division of Water Quality
Attn: SSO Program Manager
1001 I Street, 15th Floor, Sacramento, CA 95814

D. WATER QUALITY MONITORING REQUIREMENTS:

To comply with subsection D.7(v) of the SSS WDRs, the enrollee shall develop and implement an SSO Water Quality Monitoring Program to assess impacts from SSOs to surface waters in which 50,000 gallons or greater are spilled to surface waters. The SSO Water Quality Monitoring Program, shall, at a minimum:

1. Contain protocols for water quality monitoring.
2. Account for spill travel time in the surface water and scenarios where monitoring may not be possible (e.g. safety, access restrictions, etc.).
3. Require water quality analyses for ammonia and bacterial indicators to be performed by an accredited or certified laboratory.
4. Require monitoring instruments and devices used to implement the SSO Water Quality Monitoring Program to be properly maintained and calibrated, including any records to document maintenance and calibration, as necessary, to ensure their continued accuracy.
5. Within 48 hours of the enrollee becoming aware of the SSO, require water quality sampling for, at a minimum, the following constituents:
 - i. Ammonia
 - ii. Appropriate Bacterial indicator(s) per the applicable Basin Plan water quality objective or Regional Board direction which may include total and fecal coliform, enterococcus, and e-coli.

E. RECORD KEEPING REQUIREMENTS:

The following records shall be maintained by the enrollee for a minimum of five (5) years and shall be made available for review by the Water Boards during an onsite inspection or through an information request:

1. General Records: The enrollee shall maintain records to document compliance with all provisions of the SSS WDRs and this MRP for each sanitary sewer system owned including any required records generated by an enrollee's sanitary sewer system contractor(s).
2. SSO Records: The enrollee shall maintain records for each SSO event, including but not limited to:
 - i. Complaint records documenting how the enrollee responded to all notifications of possible or actual SSOs, both during and after business hours, including complaints that do not

result in SSOs. Each complaint record shall, at a minimum, include the following information:

- a. Date, time, and method of notification.
 - b. Date and time the complainant or informant first noticed the SSO.
 - c. Narrative description of the complaint, including any information the caller can provide regarding whether or not the complainant or informant reporting the potential SSO knows if the SSO has reached surface waters, drainage channels or storm drains.
 - d. Follow-up return contact information for complainant or informant for each complaint received, if not reported anonymously.
 - e. Final resolution of the complaint.
- ii. Records documenting steps and/or remedial actions undertaken by enrollee, using all available information, to comply with section D.7 of the SSS WDRs.
 - iii. Records documenting how all estimate(s) of volume(s) discharged and, if applicable, volume(s) recovered were calculated.
3. Records documenting all changes made to the SSMP since its last certification indicating when a subsection(s) of the SSMP was changed and/or updated and who authorized the change or update. These records shall be attached to the SSMP.
 4. Electronic monitoring records relied upon for documenting SSO events and/or estimating the SSO volume discharged, including, but not limited to records from:
 - i. Supervisory Control and Data Acquisition (SCADA) systems
 - ii. Alarm system(s)
 - iii. Flow monitoring device(s) or other instrument(s) used to estimate wastewater levels, flow rates and/or volumes.

F. CERTIFICATION

1. All information required to be reported into the CIWQS Online SSO Database shall be certified by a person designated as described in subsection J of the SSS WDRs. This designated person is also known as a Legally Responsible Official (LRO). An enrollee may have more than one LRO.
2. Any designated person (i.e. an LRO) shall be registered with the State Water Board to certify reports in accordance with the CIWQS protocols for reporting.
3. Data Submitter (DS): Any enrollee employee or contractor may enter draft data into the CIWQS Online SSO Database on behalf of the enrollee if authorized by the LRO and registered with the State Water Board. However, only LROs may certify reports in CIWQS.
4. The enrollee shall maintain continuous coverage by an LRO. Any change of a registered LRO or DS (e.g., retired staff), including deactivation or a change to the LRO's or DS's contact information, shall be submitted by the enrollee to the State Water Board within 30 days of the change by calling (866) 792-4977 or e-mailing help@ciwqs.waterboards.ca.gov.

5. A registered designated person (i.e., an LRO) shall certify all required reports under penalty of perjury laws of the state as stated in the CIWQS Online SSO Database at the time of certification.

CERTIFICATION

The undersigned Clerk to the Board does hereby certify that the foregoing is a full, true, and correct copy of an order amended by the Executive Director of the State Water Resources Control Board.

7/30/13

Date



Jeanine Townsend
Clerk to the Board

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CHAPTER 3: WATER QUALITY OBJECTIVES

The overall goals of water quality regulation are to protect and maintain thriving aquatic ecosystems and the resources those systems provide to society and to accomplish these in an economically and socially sound manner. California's regulatory framework uses water quality objectives both to define appropriate levels of environmental quality and to control activities that can adversely affect aquatic systems.

3.1 WATER QUALITY OBJECTIVES

There are two types of objectives: narrative and numerical. Narrative objectives present general descriptions of water quality that must be attained through pollutant control measures and watershed management. They also serve as the basis for the development of detailed numerical objectives.

Historically, numerical objectives were developed primarily to limit the adverse effect of pollutants in the water column. Two decades of regulatory experience and extensive research in environmental science have demonstrated that beneficial uses are not fully protected unless pollutant levels in all parts of the aquatic system are also monitored and controlled. The Regional Board is actively working towards an integrated set of objectives, including numerical sediment objectives, that will ensure the protection of all current and potential beneficial uses.

Numerical objectives typically describe pollutant concentrations, physical/chemical conditions of the water itself, and the toxicity of the water to aquatic organisms. These objectives are designed to represent the maximum amount of pollutants that can remain in the water column without causing any adverse effect on organisms using the aquatic system as habitat, on people consuming those organisms or water, and on other current or potential beneficial uses (as described in [Chapter 2](#)).

The technical bases of the region's water quality objectives include extensive biological, chemical, and physical partitioning information reported in the scientific literature, national water quality criteria, studies conducted by other agencies, and information gained from local environmental and discharge monitoring (as described in [Chapter 6](#)). The Regional Board recognizes that limited information exists in some cases, making it difficult to establish definitive numerical objectives, but the Regional Board believes its

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conservative approach to setting objectives has been proper. In addition to the technical review, the overall feasibility of reaching objectives in terms of technological, institutional, economic, and administrative factors is considered at many different stages of objective derivation and implementation of the water quality control plan.

Together, the narrative and numerical objectives define the level of water quality that shall be maintained within the region. In instances where water quality is better than that prescribed by the objectives, the state Antidegradation Policy applies ([State Board Resolution 68-16: Statement of Policy With Respect to Maintaining High Quality of Waters in California](#)). This policy is aimed at protecting relatively uncontaminated aquatic systems where they exist and preventing further degradation. The state's Antidegradation Policy is consistent with the federal Antidegradation Policy, as interpreted by the State Water Resources Control Board in State Board Order No. 86-17.

When uncontrollable water quality factors result in the degradation of water quality beyond the levels or limits established herein as water quality objectives, the Regional Board will conduct a case-by-case analysis of the benefits and costs of preventing further degradation. In cases where this analysis indicates that beneficial uses will be adversely impacted by allowing further degradation, then the Regional Board will not allow controllable water quality factors to cause any further degradation of water quality. Controllable water quality factors are those actions, conditions, or circumstances resulting from human activities that may influence the quality of the waters of the state and that may be reasonably controlled.

The Regional Board establishes and enforces waste discharge requirements for point and nonpoint source of pollutants at levels necessary to meet numerical and narrative water quality objectives. In setting waste discharge requirements, the Regional Board will consider, among other things, the potential impact on beneficial uses within the area of influence of the discharge, the existing quality of receiving waters, and the appropriate water quality objectives.

In general, the objectives are intended to govern the concentration of pollutant constituents in the main water mass. The same objectives cannot be applied at or immediately adjacent to submerged effluent discharge structures. Zones of initial dilution within which higher concentrations can be tolerated will be allowed for such discharges.

For a submerged buoyant discharge, characteristic of most municipal and industrial wastes that are released from submerged outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

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For shallow water submerged discharges, surface discharges, and nonbuoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum-induced velocity of the discharge ceases to produce significant mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the Regional Board, whichever results in the lower estimate for initial dilution.

Compliance with water quality objectives may be prohibitively expensive or technically impossible in some cases. The Regional Board will consider modification of specific water quality objectives as long as the discharger can demonstrate that the alternate objective will protect existing beneficial uses, is scientifically defensible, and is consistent with the state [Antidegradation Policy](#). This exception clause properly indicates that the Regional Board will conservatively compare benefits and costs in these cases because of the difficulty in quantifying beneficial uses.

These water quality objectives are considered necessary to protect the present and potential beneficial uses described in [Chapter 2](#) of this Plan and to protect existing high quality waters of the state. These objectives will be achieved primarily through establishing and enforcing waste discharge requirements and by implementing this water quality control plan.

3.2 OBJECTIVES FOR OCEAN WATERS

The provisions of the State Board's ["Water Quality Control Plan for Ocean Waters of California" \(Ocean Plan\)](#) and ["Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California" \(Thermal Plan\)](#) and any revision to them will apply to ocean waters. These plans describe objectives and effluent limitations for ocean waters.

3.3 OBJECTIVES FOR SURFACE WATERS

The following objectives apply to all surface waters within the region, except the Pacific Ocean.

3.3.1 BACTERIA

[Table 3-1](#) provides a summary of the bacterial water quality objectives and identifies the sources of those objectives. [Table 3-2](#) summarizes U.S. EPA's water quality criteria for water contact recreation based on the frequency of use a particular area receives. These criteria will be used to differentiate between pollution sources or to supplement objectives for water contact recreation.

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3.3.3.1 Implementation Provisions for Water Contact Recreation Bacteria Objectives

Water quality objectives for bacteria in [Table 3-1](#) shall be strictly applied except when otherwise provided for in a TMDL. In the context of a TMDL, the Water Board may implement the objectives in fresh and marine waters by using a “reference system and antidegradation approach” as discussed below.

Implementation of water quality objectives for bacteria using a “reference system and antidegradation approach” requires control of bacteria from all anthropogenic sources so that bacteriological water quality is consistent with that of a reference system. A reference system is defined as an area (e.g., a subwatershed or catchment) and associated monitoring point(s) that is minimally impacted by human activities that potentially affect bacteria densities in the reference receiving water body.

This approach recognizes that there are natural sources of bacteria (defined as non-anthropogenic sources) that may cause or contribute to exceedances of the objectives for indicator bacteria. It also avoids requiring treatment or diversion of water bodies or treatment of natural sources of bacteria from undeveloped areas. Such requirements, if imposed by the Water Board, could have the potential to adversely affect valuable aquatic life and wildlife beneficial uses supported by water bodies in the region.

Under the reference system approach, a certain frequency of exceedance of the single-sample objectives shall be permitted. The permitted number of exceedances shall be based on the observed exceedance frequency in a selected reference system(s) or the targeted water body, whichever is less. The “reference system and antidegradation approach” ensures that bacteriological water quality is at least as good as that of a reference system and that no degradation of existing bacteriological water quality is permitted where existing bacteriological water quality is better than that of the selected reference system(s).

The appropriateness of this approach, the specific exceedance frequencies to be permitted under it, and the permittees to whom it would apply will be evaluated within the context of TMDL development for a specific water body, and decided by the Water Board when considering adoption of a TMDL. These implementation provisions may only be used within the context of a TMDL addressing municipal stormwater (including discharges regulated under statewide municipal NPDES waste discharge requirements), discharges from confined animal facilities, and discharges from nonpoint sources.

3.3.2 BIOACCUMULATION

Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall

http://www.waterboards.ca.gov/rwqcb2/water_issues/programs/planningtmdls/basinplan/w... 8/26/2

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not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

3.3.3 BIOSTIMULATORY SUBSTANCES

Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses. Changes in chlorophyll a and associated phytoplankton communities follow complex dynamics that are sometimes associated with a discharge of biostimulatory substances. Irregular and extreme levels of chlorophyll a or phytoplankton blooms may indicate exceedance of this objective and require investigation.

3.3.4 COLOR

Waters shall be free of coloration that causes nuisance or adversely affects beneficial uses.

3.3.5 DISSOLVED OXYGEN

For all tidal waters, the following objectives shall apply:

In the Bay:

Downstream of Carquinez Bridge	5.0 mg/l minimum
Upstream of Carquinez Bridge	7.0 mg/l minimum

For nontidal waters, the following objectives shall apply:

Waters designated as:

Cold water habitat	7.0 mg/l minimum
Warm water habitat	5.0 mg/l minimum

The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.

Dissolved oxygen is a general index of the state of the health of receiving waters. Although minimum concentrations of 5 mg/l and 7 mg/l are frequently used as objectives to protect fish life, higher concentrations are generally desirable to protect sensitive aquatic forms. In areas unaffected by waste discharges, a level of about 85 percent of oxygen saturation exists. A threemonth median objective of 80 percent of oxygen saturation allows for some degradation from this level, but still requires a consistently high oxygen content in the receiving water.

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3.3.6 FLOATING MATERIAL

Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

3.3.7 OIL AND GREASE

Waters shall not contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses.

3.3.8 POPULATION AND COMMUNITY ECOLOGY

All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota. In addition, the health and life history characteristics of aquatic organisms in waters affected by controllable water quality factors shall not differ significantly from those for the same waters in areas unaffected by controllable water quality factors.

3.3.9 pH

The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

3.3.10 RADIOACTIVITY

Radionuclides shall not be present in concentrations that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life. Waters designated for use as domestic or municipal supply shall not contain concentrations of radionuclides in excess of the limits specified in Table 4 of Section 64443 (Radioactivity) of Title 22 of the California Code of Regulations (CCR), which is incorporated by reference into this Plan. This incorporation is prospective, including future changes to the incorporated provisions as the changes take effect (see [Table 3-5](#)).

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3.3.11 SALINITY

Controllable water quality factors shall not increase the total dissolved solids or salinity of waters of the state so as to adversely affect beneficial uses, particularly fish migration and estuarine habitat.

3.3.12 SEDIMENT

The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

Controllable water quality factors shall not cause a detrimental increase in the concentrations of toxic pollutants in sediments or aquatic life.

3.3.13 SETTLEABLE MATERIAL

Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.

3.3.14 SUSPENDED MATERIAL

Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

3.3.15 SULFIDE

All water shall be free from dissolved sulfide concentrations above natural background levels. Sulfide occurs in Bay muds as a result of bacterial action on organic matter in an anaerobic environment.

Concentrations of only a few hundredths of a milligram per liter can cause a noticeable odor or be toxic to aquatic life. Violation of the sulfide objective will reflect violation of dissolved oxygen objectives as sulfides cannot exist to a significant degree in an oxygenated environment.

3.3.16 TASTES AND ODORS

Waters shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, that cause nuisance, or that adversely affect beneficial uses.

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3.3.17 TEMPERATURE

Temperature objectives for enclosed bays and estuaries are as specified in the

["Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California,"](#) including any revisions to the plan.

In addition, the following temperature objectives apply to surface waters:

- The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses.
- The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature

3.3.18 TOXICITY

All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species. There shall be no acute toxicity in ambient waters. Acute toxicity is defined as a median of less than 90 percent survival, or less than 70 percent survival, 10 percent of the time, of test organisms in a 96-hour static or continuous flow test.

There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Attainment of this objective will be determined by analyses of indicator organisms, species diversity, population density, growth anomalies, or toxicity tests (including those described in [Chapter 4](#)), or other methods selected by the Water Board. The Water Board will also consider other relevant information and numeric criteria and guidelines for toxic substances developed by other agencies as appropriate.

The health and life history characteristics of aquatic organisms in waters affected by controllable water quality factors shall not differ significantly

R2 Chapter 3 Water Quality Objectives (Basin Plan)

from those for the same waters in areas unaffected by controllable water quality factors.

3.3.19 TURBIDITY

Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases from normal background light penetration or turbidity relatable to waste discharge shall not be greater than 10 percent in areas where natural turbidity is greater than 50 NTU.

3.3.20 UN-IONIZED AMMONIA

The discharge of wastes shall not cause receiving waters to contain concentrations of un-ionized ammonia in excess of the following limits (in mg/l as N):

Annual Median	0.025
Maximum, Central Bay (as depicted in Figure 2-5) and upstream	0.16
Maximum, Lower Bay (as depicted in Figures 2-6 and 2-7):	0.4

The intent of this objective is to protect against the chronic toxic effects of ammonia in the receiving waters. An ammonia objective is needed for the following reasons:

- Ammonia (specifically un-ionized ammonia) is a demonstrated toxicant. Ammonia is generally accepted as one of the principle toxicants in municipal waste discharges. Some industries also discharge significant quantities of ammonia.
- Exceptions to the effluent toxicity limitations in [Chapter 4](#) of the Plan allow for the discharge of ammonia in toxic amounts. In most instances, ammonia will be diluted or degraded to a nontoxic state fairly rapidly. However, this does not occur in all cases, the South Bay being a notable example. The ammonia limit is recommended in order to preclude any build up of ammonia in the receiving water.
- A more stringent maximum objective is desirable for the northern reach of the Bay for the protection of the migratory corridor running through Central Bay, San Pablo Bay, and upstream reaches.

3.3.21 OBJECTIVES FOR SPECIFIC CHEMICAL CONSTITUENTS

Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use. Water quality objectives for selected toxic pollutants for surface waters are given in Tables [3-3](#), [3-3A](#), [3-3B](#), [3-3C](#), [3-4](#), and [3-4A](#).

R2 Chapter 3 Water Quality Objectives (Basin Plan)

The Water Board intends to work towards the derivation of site-specific objectives for the Bay-Delta estuarine system. Site-specific objectives to be considered by the Water Board shall be developed in accordance with the provisions of the federal Clean Water Act, the State Water Code, State Board water quality control plans, and this Plan. These site-specific objectives will take into consideration factors such as all available scientific information and monitoring data and the latest U.S. EPA guidance, and local environmental conditions and impacts caused by bioaccumulation. Pending the adoption of site-specific objectives, the objectives in [Tables 3-3](#) and [3-4](#) apply throughout the region except as otherwise indicated in the tables or when site-specific objectives for the pollutant parameter have been adopted. Site-specific objectives have been adopted for copper in segments of San Francisco Bay (see [Figure 7.2.1-01](#)), for nickel in South San Francisco Bay ([Table 3-3A](#)), and for cyanide in all San Francisco Bay segments ([Table 3-3C](#)). Objectives for mercury that apply to San Francisco Bay are listed in [Table 3-3B](#). Objectives for mercury that apply to Walker Creek, Soulajule Reservoir, and their tributaries, and to waters of the Guadalupe River watershed are listed in [Table 3-4A](#).

South San Francisco Bay south of the Dumbarton Bridge is a unique, waterquality-limited, hydrodynamic and biological environment that merits continued special attention by the Water Board. Controlling urban and upland runoff sources is critical to the success of maintaining water quality in this portion of the Bay. Site-specific water quality objectives have been adopted for dissolved copper and nickel in this Bay segment. Site-specific objectives may be appropriate for other pollutants of concern, but this determination will be made on a case-by-case basis, and after it has been demonstrated that all other reasonable treatment, source control and pollution prevention measures have been exhausted. The Water Board will determine whether revised water quality objectives and/or effluent limitations are appropriate based on sound technical information and scientific studies, stakeholder input, and the need for flexibility to address priority problems in the watershed.

3.3.22 CONSTITUENTS OF CONCERN FOR MUNICIPAL AND AGRICULTURAL WATER SUPPLIES

At a minimum, surface waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of constituents in excess of the maximum (MCLs) or secondary maximum contaminant levels (SMCLs) specified in the following provisions of Title 22, which are incorporated by reference into this plan: Table 64431-A (Inorganic Chemicals) of Section 64431, and Table 64433.2-A (Fluoride) of Section 64433.2, Table 64444-A (Organic Chemicals) of Section 64444, and Table 64449-A (SMCLsConsumer Acceptance Limits) and 64449-B (SMCLs-Ranges) of Section 64449. This incorporation-by-reference is prospective, including future changes to the

R2 Chapter 3 Water Quality Objectives (Basin Plan)

incorporated provisions as the changes take effect. [Table 3-5](#) contains water quality objectives for municipal supply, including the MCLs contained in various sections of Title 22 as of the adoption of this plan.

At a minimum, surface waters designated for use as [agricultural supply \(AGR\)](#) shall not contain concentrations of constituents in excess of the levels specified in [Table 3-6](#).

3.4 OBJECTIVES FOR GROUNDWATER

Groundwater objectives consist primarily of narrative objectives combined with a limited number of numerical objectives. Additionally, the Water Board will establish basin- and/or site-specific numerical groundwater objectives as necessary. For example, the Water Board has groundwater basin-specific objectives for the Alameda Creek watershed above Niles to include the Livermore-Amador Valley as shown in [Table 3-7](#).

The maintenance of existing high quality of groundwater (i.e., "background") is the primary groundwater objective.

In addition, at a minimum, groundwater shall not contain concentrations of bacteria, chemical constituents, radioactivity, or substances producing taste and odor in excess of the objectives described below unless naturally occurring background concentrations are greater. Under existing law, the Water Board regulates waste discharges to land that could affect water quality, including both groundwater and surface water quality. Waste discharges that reach groundwater are regulated to protect both groundwater and any surface water in continuity with groundwater. Waste discharges that affect groundwater that is in continuity with surface water cannot cause violations of any applicable surface water standards.

3.4.1 BACTERIA

In groundwater with a beneficial use of [municipal and domestic supply](#), the median of the most probable number of coliform organisms over any seven-day period shall be less than 1.1 most probable number per 100 milliliters (MPN/100 mL) (based on multiple tube fermentation technique; equivalent test results based on other analytical techniques as specified in the National Primary Drinking Water Regulation, 40 CFR, Part 141.21 (f), revised June 10, 1992, are acceptable).

3.4.2 ORGANIC AND INORGANIC CHEMICAL CONSTITUENTS

All groundwater shall be maintained free of organic and inorganic chemical constituents in concentrations that adversely affect beneficial uses. To evaluate compliance with water quality objectives, the Water Board will

R2 Chapter 3 Water Quality Objectives (Basin Plan)

consider all relevant and scientifically valid evidence, including relevant and scientifically valid numerical criteria and guidelines developed and/or published by other agencies and organizations (e.g., U.S. Environmental Protection Agency (U.S. EPA), the State Water Board, California Department of Health Services (DHS), U.S. Food and Drug Administration, National Academy of Sciences, California Environmental Protection Agency's (Cal/EPA) Office of Environmental Health Hazard Assessment (OEHHA), U.S. Agency for Toxic Substances and Disease Registry, Cal/EPA Department of Toxic Substances Control (DTSC), and other appropriate organizations.)

At a minimum, groundwater designated for use as [domestic or municipal supply \(MUN\)](#) shall not contain concentrations of constituents in excess of the maximum (MCLs) or secondary maximum contaminant levels (SMCLs) specified in the following provisions of Title 22, which are incorporated by reference into this plan: Tables 64431-A (Inorganic Chemicals) of Section 64431, Table 64433.2-A (Fluoride) of Section 64433.2, and Table 64444-A (Organic Chemicals) of Section 64444. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect. (See [Table 3-5](#).)

Groundwater with a beneficial use of agricultural supply shall not contain concentrations of chemical constituents in amounts that adversely affect such beneficial use. In determining compliance with this objective, the Water Board will consider as evidence relevant and scientifically valid water quality goals from sources such as the Food and Agricultural Organizations of the United Nations; University of California Cooperative Extension, Committee of Experts; and McKee and Wolf's "Water Quality Criteria," as well as other relevant and scientifically valid evidence. At a minimum, groundwater designated for use as agricultural supply (AGR) shall not contain concentrations of constituents in excess of the levels specified in [Table 3-6](#).

Groundwater with a beneficial use of freshwater replenishment shall not contain concentrations of chemicals in amounts that will adversely affect the beneficial use of the receiving surface water.

Groundwater with a beneficial use of industrial service supply or industrial process supply shall not contain pollutant levels that impair current or potential industrial uses.

3.4.3 RADIOACTIVITY

At a minimum, groundwater designated for use as [domestic or municipal supply \(MUN\)](#) shall not contain concentrations of radionuclides in excess of the MCLs specified in Table 4 (Radioactivity) of Section 64443 of Title 22, which is incorporated by reference into this plan. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect. (See [Table 3-5](#).)

3.4.4 TASTE AND ODOR

Groundwater designated for use as [domestic or municipal supply \(MUN\)](#) shall not contain taste- or odor-producing substances in concentrations that cause a nuisance or adversely affect beneficial uses. At a minimum, groundwater designated for use as [domestic or municipal supply](#) shall not contain concentrations in excess of the SMCLs specified in Tables 64449-A (Secondary MCLs-Consumer Acceptance Limits) and 64449-B (Secondary MCLs-Ranges) of Section 64449 of Title 22, which is incorporated by reference into this plan. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect. (See [Table 3-5](#).)

3.5 OBJECTIVES FOR THE DELTA

The objectives contained in the State Water Board's 1995 "[Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary](#)" and any revisions thereto shall apply to the waters of the Sacramento-San Joaquin Delta and adjacent waters as specified in that plan.

3.6 OBJECTIVES FOR ALAMEDA CREEK WATERSHED

The water quality objectives contained in [Table 3-7](#) apply to the surface and groundwaters of the Alameda Creek watershed above Niles.

R2 Chapter 3 Water Quality Objectives (Basin Plan)

Wastewater discharges that cause the surface water limits in [Table 3-7](#) to be exceeded may be allowed if they are part of an overall waterwastewater resource operational program developed by those agencies affected and approved by the Water Board.

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TABLES

[Table 3-1: Water Quality Objectives for Coliform Bacteria](#)

[Table 3-2: U.S. EPA Bacteriological Criteria for Water Contact Recreation](#)

[Table 3-3: Marine Water Quality Objectives for Toxic Pollutants for Surface Waters](#)

[Table 3-3A: Water Quality Objectives for Copper and Nickel in San Francisco Bay Segments](#)

[Table 3-3B: Marine Water Quality Objectives for Mercury in San Francisco Bay](#)

[Table 3-3C: Marine Water Quality Objectives for Cyanide in San Francisco Bay](#)

[Table 3-4: Freshwater Water Quality Objectives for Toxic Pollutants for Surface Waters](#)

[Table 3-4A: Freshwater Water Quality Objectives for Mercury in Table 3-4A: Freshwater Water Quality Objectives for Mercury in Walker Creek, SoulaJule Reservoir, and All Tributary Waters](#)

[Table 3-5: Water Quality Objectives for Municipal Supply](#)

[Table 3-6: Water Quality Objectives for Agricultural Supply](#)

[Table 3-7: Water Quality Objectives for the Alameda Creek Watershed above Niles](#)

[<<< Previous - Ch.2: Beneficial Uses](#)

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[Next - Ch.4:
Implementation
Plan >>>](#)

R3 Water Quality Objectives for Bacteria

Table 3-1: Water Quality Objectives for Bacteria^a

Beneficial Use	Fecal Coliform (MPN/100ml)	Total Coliform (MPN/100ml)	Enterococcus (MPN/100ml) ^g
Water Contact Recreation	geometric mean < 200 90th percentile < 400	median < 240 no sample > 10,000	geometric mean < 35 no sample > 104
Shellfish Harvesting ^b	median < 14 90th percentile < 43	median < 70 90th percentile < 230 ^c	
Non-contact Water Recreation ^d	mean < 2000 90th percentile < 4000		
Municipal Supply: - Surface Water ^e - Groundwater	geometric mean < 20	geometric mean < 100 < 1.1 ^f	

Notes:

- a. Based on a minimum of five consecutive samples equally spaced over a 30-day period.
- b. Source: National Shellfish Sanitation Program.
- c. Based on a five-tube decimal dilution test or 300 MPN/100 ml when a three-tube decimal dilution test is used.
- d. Source: Report of the Committee on Water Quality Criteria, National Technical Advisory Committee, 1968.
- e. Source: California Department of Public Health recommendation.
- f. Based on multiple tube fermentation technique; equivalent test results based on other analytical techniques, as specified in the National Primary Drinking Water Regulation, 40 CFR, Part 141.21(f), revised June 10, 1992, are acceptable.
- g. Applicable to marine and estuarine waters only. Numeric values are based on Section 7958 of Title 17 of the California Code of Regulations, 69FR 67217 et seq., and 40 CFR Part 131.41 (effective date December 16, 2004).

R4 Water Quality Objectives for Bacteria Non-Contact Water Quality Objective (Basin Plan)

Table 3-2: U.S. EPA Bacteriological Criteria for Water Contact Recreation^{1,2}
(in colonies per 100 ML)

Fresh	Salt Water			Water
	Enterococci	E. Coli	Enterococci	
Steady State (all areas)	33	126	35	
Maximum at:				
- designated beach	61	235	104	
- moderately used area	89	298	124	
- lightly used area	108	406	276	
- infrequently used area	151	576	500	

NOTES:

- The criteria were published in the Federal Register, Vol. 51, No. 45 / Friday, March 7, 1986 / 8012-8016. The Criteria are based on:
 - Cabelli, V.J. 1983. Health Effects Criteria for Marine Recreational Waters. U.S. EPA, EPA 600/1-80031, Cincinnati, Ohio, and
 - Dufour, A.P. 1984. Health Effects Criteria for Fresh Recreational Waters. U.S. EPA, EPA 600/1-84004, Cincinnati Ohio.
- The U.S. EPA criteria apply to water contact recreation only. The criteria provide for a level of production based on the frequency of usage of a given water contact recreation area. The criteria may be employed in special studies within this region to differentiate between pollution sources or to supplement the current coliform objectives for water contact recreation.

WBSD CALL-OUT REPORT Appendix B1 Weather: Day of the Week: S-M-T-W-TH-F-S

Take Picture(s)

1. Name of caller: Phone Number:

2. Address : Cross Street:

3. Called out by : at : a.m. / p.m. Date:
a.m./p.m. Date:

Source Control called out at: a.m. / p.m. Date:

Arrival Time at site

4. Reported as: private c/o overflowing Overflowing manhole Back up in home 4A. Is there a mainline stoppage: YES NO

5. Estimated GPM: Flow Height in Inches:

6. Were you able to retrieve the entire overflow? Yes No

7. Was the overflow returned to sanitary sewer? Yes No Partial N/A

8. Overflow saturated into soil? Yes (Est'd Volume) No N/A If yes to 6, 7 or 8 above did we clean up affected area? Yes No N/A

9. Overflow to: Est. volume of SSO:

Direct Inlet Est. volume Recovered:

Section of Storm Drain line Est. volume Not Recovered:

Drainage Ditch Lined Unlined

Channel Lined Unlined

Paved Surface Curb Gutter

Ultimate Destination Est'd Volume:

Line cleared at: a.m. / p.m. Duration of overflow:

Blockage caused by Op(s). Performed 10. Is the overflow contained YES NO If yes, How & Where,

Clean up methods used: Vacuum/pump Hosed down & street swept Enzymes

11. Mainline: u/s to d/s

Overflowing manhole ID # at

Method(s) used to estimate SSO Volume: San Diego Method Surface Area

SFR's U/S of Blockage SSCSC Method Soil Saturation

Table with 5 columns: Staff, Unit, Time Called, T/A, Time Completed. Contains 4 rows of blank lines for data entry.

Reported

by: Date:

(Print Name)

13. Affected Agency: Town of Atherton Town of Portola Valley
Menlo Park East Palo Alto Unincorporated San Mateo County
Unincorporated Santa Clara County

GBA# Res. Com. Event I.D. # Cert. # Time:

Category: 1 (Surface Water Impact-Drainage Channel- MS4 not recovered) Implement Sampling Protocol

Category: 2 (>1K gallons, fully recovered) Category: 3 (<1K gallons fully recovered) Method used to determine start time of SSO? Reported time:

Interview with Customer Complete Form C4-Start Time Determination

Estimated Cost incurred: \$ _____

MD-506 (Rev.08/03/17)

Emergency Contact Phone List
FOR WBSD EMPLOYEES REFER TO PHONE LIST

<u>Time</u>	<u>Contact</u>	<u>Business #</u>	<u>Fax #</u>	<u>Pager-Cell</u>	<u>Home #</u>
1)	Jed Beyer	650-321-0384	650-321-4265	650-477-6428	
2)	Rupert Sandoval " "			650-477-6427	
3)	Heath Cortez " "			650-477-6386	
4)	Bob Scheidt " "			650-477-6416	
5)	Sergio Ramirez " "			650-477-9885	
6)	Albert Patino	"	"	650-477-6426	
7)	Phil Scott	"	"	650-477-6470	

Category-1 Reporting Requirements Within 2-HOURS:

_____ Cal-OES, (Name) 1-800-852-7550
 _____ Cal-OES Control # _____

Affected _____ **Town or City:** _____ **Representative Name:** _____

_____ Town of Atherton 650-752-0532

Howard _____ Young, Town of Portola Valley 650-851-1700

City of _____ Menlo Park Engineering 650-330-6740

Submit Draft Report to CIWQS within 3 Business days of SSO for Category 1 & 2 SSO Events, Certify report within 15 days of SSO end date.

For spills greater than 50,000 gallons, implement Sampling Protocol, Start SSO technical Report. Refer to Reference R1 page 5 located in OERP at Appendix A8. Update Cal-OES if the spill estimate and known impacts have substantially changed.

Category 3 spills certify report within 30 calendar days of the end of the month in which SSO occurred

Residential Back Ups & Claims

_____ Carl Warren & Co. (Alan Dialon) M725-502-6701 Emergency 855-763-5898

_____ RMC 1-800-400-5058 PM-Rich 1-510-856-7137

_____ Outside Agency Contact

_____ June Wong, Public Health Lab. Ofc.650-573-2500 Cell 650-339-2322

_____ Menlo Park Police Dept. 650-330-6300

Menlo _____ Park Code Enforcement 650-330-6377 PGR 650-496-8562

Phelepe _____ Cohen, Searsville Lake 650-851-6814 C 650-274-3782

_____ SM Haz-Mat 911

_____ MP Public Works (Call MPPD Dispatch) 650-330-6317 _____

_____ Greg Smith, SMCEHD **W**650-599-1679 **C**650-867-9434

_____ Attach Completed Post Spill Assessment Form & Documents

_____ Reports to O/S Agencies _____ Picture(s) Taken _____ Public Notification _____ On-going investigation

_____ SSO Technical Report Completed on _____

_____ Signs Posted, Locations: _____

_____ Sampling Protocol Implemented: _____

Comments: _____

**ALL WORK ORDERS, REPORTS, PICTURES & FIELD NOTES MUST BE STORED ELECTRONICALLY AND
FIELD IN THE SITE SPECIFIC SSO FOLDER**

MD-506 (Rev.04/19/19)

SANITARY SEWER OVERFLOW PREVENTION ASSESSMENT

First Responder	<input type="checkbox"/> SC ALARM I.D <input type="checkbox"/> FM ALARM <input type="checkbox"/> M/L Stoppage Response Location: _____		
	_____ DATE TIME	_____ MAINLINE DESIGNATION U/S TO D/S ADDRESS	
	_____ CAUSE OF BLOCKAGE / OPERATION PERFORMED	Notification: <input type="checkbox"/> Callout <input type="checkbox"/> Routine Maintenance <input type="checkbox"/> RCC	
	Blockage approximately @ _____ feet u/s of manhole # _____ Partial Stoppage: Y / N Responding Crew : _____ , _____ , _____ , _____ Vehicle / Equipment: _____ , _____ , _____ , _____ Time Completed: _____ Tools Used To Clear Blockage : _____		

GBA	<input type="checkbox"/> LINE LAST CLEANED ON: _____ S/R _____ OP. PERFORMED BY: _____ W/O# _____		
	_____ Tools Used To Clear Blockage	_____ TYPE OF MATERIAL- SIZE-AGE	<input type="checkbox"/> 36 <input type="checkbox"/> 12 <input type="checkbox"/> 6 <input type="checkbox"/> 3 CURRENT CLEANING SCHEDULE

CCTV	CCTV—DATE: _____ START TIME: _____ COMPLETION TIME: _____ LENTGH OF RUN IN FEET: _____ Crew Members: _____ , _____ , _____ Vehicle / Equipment: _____ , _____ , _____ , _____ OBSERVATION AND ASSESSMENT: _____ _____ _____		
	RECOMMENDED MITIGATION: <input type="checkbox"/> Reclean line <input type="checkbox"/> Pipe Patch <input type="checkbox"/> Dig Up <input type="checkbox"/> RECOMMENDED MONTHLY SCHEDULE CHANGE: <input type="checkbox"/> 36 <input type="checkbox"/> 12 <input type="checkbox"/> 6 <input type="checkbox"/> 3 <input type="checkbox"/> NOTE SPECIAL CLEANING REQUIREMENTS: _____		

MTC. SUPT.	<input type="checkbox"/> MEETING ON ASSESSMENT /MITIGATION : _____ OUTCOME: _____ _____ _____ _____		
-------------------	--	--	--

RE-HAB	RE-HAB- START DATE : _____ COMPLETION DATE & TIME: _____ W/O # _____ Crew Members: _____ , _____ , _____ , _____ , _____ EQUIPMENT: _____ , _____ , _____ , _____ , _____		
---------------	---	--	--

RCC	<input type="checkbox"/> MAP CHANGE / UPDATE REQUEST: Performed by: _____ Date: _____ <input type="checkbox"/> LETTER/FLYER TO PROPERTY OWNER(S) SENT OUT ON : _____ <input type="checkbox"/> TYPE OF OUT-REACH MATERIAL SENT OUT: _____		
	STAFF EQUIPMENT TIME ESTIMATED COST TO MITIGATE	GBA # _____	
	_____ _____ _____	TOTAL PROJECT COST \$ _____ \$ _____ \$ _____	

**REPORT ON CONDITIONS REQUIRING
FOLLOW-UP WORK**

DATE: _____

MAIN LINE DESIGNATION / ADDRESS / MANHOLE/
SUBASIN #(IF CCTV NEEDED): _____

REASON SUBMITTED (CIRCL): (Follow-up, needs repair work, mainline only, CCTV)

REPORTED BY: _____

SUPERINTENDENT DISPOSITION: RCC Disposition DATE: _____

Signature

EVALUATION/ACTION INITIATED: DATE: _____

Signature/Position

DATE OF SSO: _____

- 1 **SSO Pictures** (Same Day of SSO)
- 2 **SSO Report Form** (Completed the day of the SSO)
- 3 **PSA Form** (Started the day of the SSO)
- 4 **SSO Start Time Estimation Form** (Completed the day of the SSO)
- 5 **CCTV Video & Report** (Within 2-days of the SSO)
- 6 ***Mitigation Assessment** (Within 7-Days of the SSO)

Completion Date: _____

- 7 **Rehabilitation Report** (When the job is completed)
- 8 **Cal-OES Report** (If required, Cat-1's only)
- 9 **Review all required reports, field notes, sampling reports, ensure volumes, start times & locations are current/accurate prior to submitting Draft or Certifying CIWQS report** (Within 2-days of the SSO) Cat-1 Draft due within 3-business days of SSO, finalized within 15-days of SSO, 50K SSO Technical Report due within 45 days of SSO)
- 10 **Print CIWQS Pdf Report** (Place in SO Event Folder)
- 11 **GBA-Lucity Final Report:** _____

*This is the required information for each SSO for internal reporting purposes. Item 6-Mitigation Assessment must be completed within 7-days of the SSO.

SPILL CALCULATION METHODS

Appendix C1

To calculate the amount of gallons in a sewage spill, determine the area of the spill (Length, Width & Depth).

Depth/inches to Depth/feet		Depth/inches to Depth/feet	
1/16"	0.0052'	1/8"	0.0104'
3/16"	0.0156'	1/4"	0.0208'
5/16"	0.0260'	3/8"	0.0312'
7/16"	0.0364'	1/2"	0.0417'
9/16"	0.0468'	5/8"	0.0521'
11/16"	0.0573'	3/4"	0.0625'

Concrete permeation depth = 0.0026'

Asphalt permeation depth = 0.0013'

$$V = L \times W \times D \times 7.48 = \text{GALLONS}$$

EXAMPLE: A spill 15' L x 15' W x 0.0052' (1/16") D
 $15' \times 15' \times .0052' \times 7.48 = 8.7516$ gallons

If you are dealing with a spill that has been running into a storm drain, you must estimate the gallons by determining the following criteria:

Time of reported overflow _____, **overflow cleared at** _____ (time)

Length of Time for overflow _____ in minutes.

Calculating an overflow from a manhole cover "hook-hole"

Overflow in gallons = 19.191 Constant x (Sq. root / Head in feet) x (Time)

Example: Overflow reported at 14:00 hours and was cleared at 14:15 hours.

Overflow through manhole hook hole (std. 1") has a Head of 1.5 inches.

Head in feet = $1.5"/12 = .3535'$

The square root of $.3535 = 0.5945$

$19.191 \text{ C} \times 15 \text{ minutes T} \times 0.5945 \text{ SQ.ROOT} = 101.76 \text{ GALS}$ or
6.78 gpm.

The constant consists of; radius of manhole hook hole, area, coefficient of nozzle, the square of 2 for gravity, conversion from secs/min and cu.ft./gallons.

Initial Spill Calculation Worksheet

SSO Site:



Depth / Inches	Depth / Feet
1/16	0.0052
1/8	0.0104
3/16	0.0156
1/4	0.0208
5/16	0.0260
3/8	0.0312
7/16	0.0364
1/2	0.0416
9/16	0.0468
5/8	0.0520
11/16	0.0572
3/4	0.0625
13/16	0.0677
7/8	0.0729
15/16	0.0781
1	0.083
2	0.166
3	0.250
4	0.333
5	0.416
6	0.500
7	0.583
8	0.666
9	0.750
10	0.833
11	0.916

FORMULA FOR SURFACE AREA IN CUBIC FEET (cf)
(FOR A SQUARE OR RECTANGLE);

L_(ft.) x W_(ft.) x D_(ft.) = cf
 cf x 7.48 = Gallons

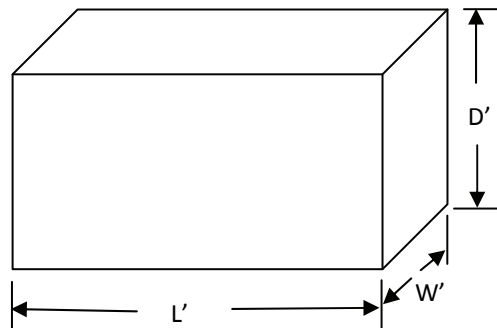
Site 1

L_(ft.) x W_(ft.) x D_(ft.) = cf
 cf x 7.48 = Gallons

Site 2

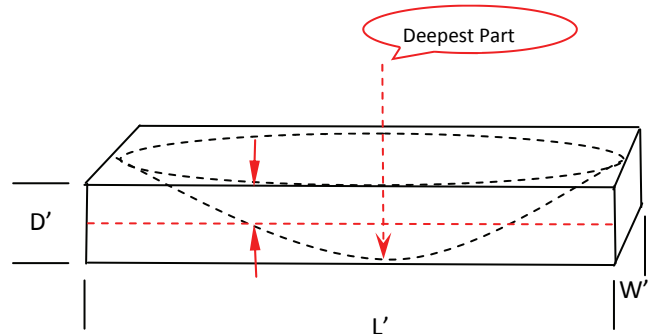
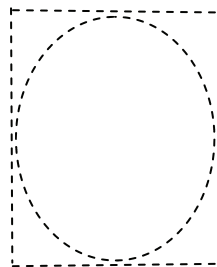
L_(ft.) x W_(ft.) x D_(ft.) = cf
 cf x 7.48 = Gallons

Site 3



Total Estimated Spill Volume
Sites 1-2-3

Wet Area Depth :
Asphalt: 0.0026'
Concrete: 0.0013'



Math work must be reviewed, accepted & signed off by one Legally Responsible Official (LRO):

Date _____ Initial _____

- Jed Beyer _____
- Sergio Ramirez _____

When measuring ponding and puddles, measure and record the deepest part, divide that number by 2. That will be considered the average depth of the pond or puddle. *Example: The deepest part of the ponding is 10" deep (10" ÷ 2 = 5"), 5' in length and 3' in width. 1) Determine the Surface area in cubic Feet. L 5' x W 3' x 0.416 = 6.24 cf, 2) Multiply the cubic footage by 7.48, 6.24 x 7.48 = 46.67 gallons.*



City of San Diego
Metropolitan Wastewater Department



5 gpm



100 gpm



225 gpm

**Reference Sheet for Estimating Sewer Spills
from Overflowing Sewer Manholes**
All estimates are calculated in gallons per minute (gpm)



25 gpm



150 gpm



250 gpm

Wastewater Collection Division
(619) 654-4160



50 gpm



200 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. 4/95

WBSD SSO start Time Estimation Form

Appendix C4

Name: _____ Weather: _____ Day of the Week: S-M-T-W-TH-F-S

1. Name of caller: _____ Phone Number: _____

2. Address: _____ Cross Street: _____

3. Called out by: _____ at : _____ a.m. / p.m. Date: _____

Arrival Time at site _____ a.m./p.m. Date: _____

Source Control called out at: _____ a.m. / p.m. Date: _____

Estimated volume of SSO: _____ Estimated GPM: _____

Interview with customer notes: _____

4. Reported as: private c/o overflowing Overflowing manhole Back up in home

5. Mainline: u/s _____ to d/s _____

Overflowing manhole ID # _____ at _____

6. Number of residences upstream of overflowing manhole? _____

Average GPD? _____ Average GPM? _____

(Use SFR vs. MFR Flow data from previous years study to obtain GPD and GPM)

7. Number of manholes upstream of overflowing manhole? _____

Average Depth of manholes? _____ Average Diameter of manhole? _____

8. Length of pipeline upstream of blockage? _____ Pipe Diameter? _____

9. Calculate capacity of system prior to overflow? _____ (#7-8)

10. SCENARIOS:

A) The overflow was reported at _____ ; the estimated volume that spilled was _____ gallons. The manhole was not overflowing upon arrival. Based on the small surface area of the SSO, it is presumed the SSO started within minutes of being reported.

B) The overflow was reported at _____, The estimated was volume was _____ gallons. Based on the volume of the overflow, staff conducted a capacity analysis prior to overflow conditions. The system contained _____ gallons prior to overflowing at manhole _____. There are _____ residences upstream of the overflow, the average gpd per residence is _____, and the average gpm at this site is estimated at _____gpm (based on the number of residences upstream of the blockage). Therefore, the SSO volume is based on _____ gpm flow rate divided by the number of gallons that overflowed. This equals the number of minutes of the SSO, minus the reported time the SSO was called in equates to the estimated start time of the SSO.



Date: ____-____-____

Dear Homeowner:

Please be advised that a raw sewage spill has occurred, which may have flowed into the creek / channel (near/at the rear of) your property.

The spill was approximately _____ gallons over a _____-hour period and has been reported to the San Mateo County Department of Health, the Regional Water Quality Control Board for the San Francisco Bay Region and the California Emergency Management Agency (CALEMA) formerly Office of Emergency Services.

For your protection, we are asking that you do not allow children or pets in the creek/channel area near your property until further notice.

We wish to assure you that the District is taking every measure to ensure the protection of our customers and the environment and will keep you advised of the situation.

If you have any questions or concerns regarding this matter please contact the District Manager at (650) 321-0384.

Hand Delivered Residential Notification Form

WEST BAY SANITARY DISTRICT

RAW SEWAGE SPILL

AREA CLOSED NO ENTRY

- Do not ingest, wade or swim.
- Please keep children and pets out of the area.
- Questions concerning exposure, posting and clean up should be directed to:

WEST BAY SANITARY DISTRICT
(650) 321-0384
500 LAUREL STREET
MENLO PARK

(This document must be printed on red paper then laminated)

D2 Contaminated Water Sign



Sewer System Management Plan

8A Project Replacement Schedule for Recommended Sewer Improvements



WEST BAY SANITARY DISTRICT

10 YEAR CIP PLAN

R&R Priority	Project Name	Polygon	Length (miles)	Estimated Cost	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Future TBD
	0 Bayfront Park Entry			1,000,000		1,000,000										
	1 CY Maint Bldg			3,350,000	350,000			1,500,000	500,000							
	2 Metal Storage Building			745,550	745,550											
	3 FERRF			15,000,000	1,000,000	6,000,000	6,000,000	2,000,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	
	4 FEF			5,500,000	500,000	500,000	200,000									
	5 PS Misc			800,000												
	6 Bay Road North	1B	1.62	3,000,000	3,000,000			1,500,000								
	7 Gilbert	3A	1.08	2,000,000	500,000											
	8 Atherton Civic Center	2A	0.30	800,000	800,000											
	9 Isabella	2B	0.27	500,000	500,000											
	10 Willow Road PS - Piping		-	200,000	200,000											
	11 Santa Margarita	3B	0.38	700,000		200,000		700,000								
	12 Camino al Lago	4	0.63	1,155,000			1,155,000									
	13 Santa Cruz	5B	0.38	700,000					700,000							
	14 Avy	5C	0.09	175,000				175,000								
	15 Vine	5D	0.42	770,000				770,000								
	16 Marsh Road CIPP (Remaining)	6	0.61	1,125,000			1,125,000									
	17 Westminster		2.71	5,000,000					5,000,000							
	18 Stowe Lane Pump Station		-	1,300,000												
	19 Stowe Lane PS xcrossing SFPUC sag		0.16	297,500					297,500							
	20 ECR @ Glenwood		0.27	500,000					500,000							
	21 University	8A	4.55	8,400,000					1,800,000	4,600,000	2,000,000					
	22 MacBain	2	0.22	400,000				400,000								
	23 See 23 - 2 Below (Capacity Priority)															
	30 Alameda Campo Bello to Harrison (Bad Soil)		0.15	900,000							900,000					
	31 Hermosa	8B	0.76	1,400,000							1,400,000					
	32 Santa Cruz	5	0.54	1,004,000							1,004,000					
	33 College Park	9	0.57	1,050,000								1,050,000				
	34 Downtown	10	0.19	350,000								350,000				
	35 Flood Park	11B	0.38	700,000								700,000				
	36 East Palo Alto	12	0.95	1,750,000								1,750,000				
	37 Menalto Easements	3	0.43	788,000								788,000				
	38 Lorelei	11A	0.08	140,000								140,000				
	39 Sharon Heights (Basin 60)	13	0.38	700,000								700,000				
	40 Walsh (Basin 50)	14	0.38	700,000								700,000				
	41 Weekend Acres/SLAC (Basin 40)	15	0.38	700,000								700,000				
	42 Encinal A	2	1.24	2,289,000								2,289,000				
	43 Ladera (Basin 30)	16	1.52	2,800,000								2,800,000				
	44 Portola Valley (Basin 10)	17	0.38	700,000								700,000				
	45 Los Trancos (Basin 20)	18	0.38	700,000								700,000				
	46 101 Crossing (SD xcrossing)	19	0.43	2,000,000								2,000,000				
	47 Stevenson	2	0.63	1,155,000								1,155,000				
	48 Elena	5	0.88	1,621,800								1,621,800				
	49 Fair Oaks	2	1.08	2,000,000								2,000,000				
	50 Encinal B	2	1.17	2,170,000								2,170,000				
	51 Berkeley	1 & 7	0.66	1,213,000							1,213,000					
	52 Large Diameter Trunkline Cleaning & CCTV															
	Subtotal R&R		27.25	55,353,300	7,395,550	7,700,000	7,700,000	9,825,000	8,000,000	7,897,500	7,217,000	6,638,000	5,229,000	5,155,000	8,991,800	-
Capacity Priority																
	1 James Avenue Diversion															
	23 - 2 Lower Ringwood	1 & 7	0.81	1,500,000												
	3 Valparaiso	5	0.24	450,000	1,500,000								450,000			200,000
	4 Willow Gravity Main		0.11	200,000												
	5 Upper Ringwood	1 & 7	0.89	1,640,000								1,640,000				
	6 Atherton-East		-													
	7 Santa Cruz Avy	5	1.19	2,200,000										1,100,000		1,100,000
	8 Cambridge Laurel	6 & 8	1.79	3,300,000												3,300,000
	9 Middlefield at Fair Oaks	2	0.27	502,000									502,000			
	Subtotal Capacity		5.30	9,792,000	1,500,000	-	-	-	-	-	-	1,640,000	952,000	1,100,000	1,100,000	3,500,000
Total CIP			32.55	65,145,300.00	8,895,550.00	7,700,000.00	7,700,000.00	9,825,000.00	8,000,000.00	7,897,500.00	7,217,000.00	8,278,000.00	6,181,000.00	6,255,000.00	10,091,800.00	3,500,000.00

* Reviewed & Revised Annually
Each FY CIP Approved Individually



Sewer System Management Plan

10A SSMP Annual 2022 Update Log



Sewer System Management Plan

10B SSO Report

WBSD CALL-OUT REPORT

Appendix B1

Weather: _____ Day of the Week: S-M-T-W-TH-F-S Take Picture(s)

1. Name of caller: _____ Phone Number: _____

2. Address: _____ Cross Street: _____

3. Called out by: _____ at : _____ a.m. / p.m. Date: _____

Arrival Time at site _____ a.m./p.m. Date: _____

Source Control called out at: _____ a.m. / p.m. Date: _____

4. Reported as: private c/o overflowing Overflowing manhole Back up in home

4A. Is there a mainline stoppage: YES NO

5. Estimated GPM: _____ Flow Height in Inches: _____

6. Were you able to retrieve the entire overflow? Yes No

7. Was the overflow returned to sanitary sewer? Yes No Partial N/A

8. Overflow saturated into soil? Yes (Est'd Volume _____) No N/A

If yes to 6, 7 or 8 above did we clean up affected area? Yes No N/A

9. Overflow to: _____ Est. volume of SSO: _____

Direct Inlet Est. volume Recovered: _____

Section of Storm Drain line Est. volume Not Recovered: _____

Drainage Ditch Lined Unlined

Channel Lined Unlined

Paved Surface Curb Gutter Lined Unlined

Ultimate Destination _____ Est'd Volume: _____

Line cleared at: _____ a.m. / p.m. Duration of overflow: _____

Blockage caused by _____ Op(s). Performed _____

10. Is the overflow contained YES NO If yes, How & Where, _____

Clean up methods used: Vacuum/pump Hosed down & street swept Enzymes

11. Mainline: u/s _____ to d/s _____

Overflowing manhole ID # _____ at _____

Method(s) used to estimate SSO Volume: San Diego Method Surface Area

SFR's U/S of Blockage SSCSC Method Soil Saturation _____

12. Staff	Unit	Time Called	T/A	Time Completed
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Reported by: _____ Date: _____

(Print Name)

13. Affected Agency: Town of Atherton Town of Portola Valley

Menlo Park East Palo Alto Unincorporated San Mateo County

Unincorporated Santa Clara County

Lucity# _____ Res. Com. Event I.D. # _____ Cert. # _____ Time: _____

Category: 1 (Surface Water Impact-Drainage Channel- MS4 not recovered) Implement Sampling Protocol

Category: 2 (>1K gallons, fully recovered) Category: 3 (<1K gallons fully recovered)

Method used to determine start time of SSO? Reported time: _____

Interview with Customer Complete Form C4-Start Time Determination

Estimated Cost incurred: \$ _____

Emergency Contact Phone List
FOR WBSD EMPLOYEES REFER TO PHONE LIST

<u>Time</u>	<u>Contact</u>	<u>Business #</u>	<u>Fax #</u>	<u>Pager-Cell</u>	<u>Home #</u>
1)	Jed Beyer	650-321-0384	650-321-4265	650-477-6428	
2)	Rupert Sandoval	"	"	650-477-6427	
3)	Albert Patino	"	"	650-477-6426	
4)	Quinten Green	"	"	650-422-0293	
5)	Sergio Ramirez	"	"	650-477-9885	
6)	Bobby Hulsmann	"	"	650-477-6413	
7)	Bob Scheidt	"	"	650-477-6416	
8)	Heath Cortez	"	"	650-477-6386	

Category-1 Reporting Requirements Within 2-HOURS:

_____ Cal-OES, (Name) _____ 1-800-852-7550
 _____ Cal-OES Control # _____
 _____ Affected Town or City: _____ Representative Name: _____
 _____ Town of Atherton 650-752-0532
 _____ Howard Young, Town of Portola Valley 650-851-1700
 _____ City of Menlo Park Engineering 650-330-6740

Submit Draft Report to CIWQS within 3 Business days of SSO for Category 1 & 2 SSO Events, Certify report within 15 days of SSO end date.

For spills greater than 50,000 gallons, implement Sampling Protocol, Start SSO technical Report. Refer to Reference R1 page 5 located in OERP at Appendix A8. Update Cal-OES if the spill estimate and known impacts have substantially changed.

Category 3 spills certify report within 30 calendar days of the end of the month in which SSO occurred

Residential Back Ups & Claims

_____ Carl Warren & Co. (Alan Dialon) M725-502-6701 Emergency 855-763-5898
 _____ RMC 1-800-400-5058 PM-Rich 1-510-856-7137

Outside Agency Contact

_____ June Wong, Public Health Lab. Ofc.650-573-2500 Cell 650-339-2322
 _____ Menlo Park Police Dept. 650-330-6300
 _____ Menlo Park Code Enforcement 650-330-6377 PGR 650-496-8562
 _____ Phelepe Cohen, Searsville Lake 650-851-6814 C 650-274-3782
 _____ SM Haz-Mat 911
 _____ MP Public Works (Call MPPD Dispatch) 650-330-6317 _____
 _____ Greg Smith, SMCEHD W650-599-1679C650-867-9434

_____ Attach Completed Post Spill Assessment Form & Documents
 _____ Reports to O/S Agencies _____ Picture(s) Taken _____ Public Notification _____ On-going investigation
 _____ SSO Technical Report Completed on _____
 _____ Signs Posted, Locations: _____
 _____ Sampling Protocol Implemented: _____

Comments: _____

