Sewer System Management Plan

Rancho Murieta Community Services District

California Integrated Water Quality System Project (CIWQS) Place ID: 647697

SEPTEMBER 2009

2365 Iron Point Road, Suite 300
Folsom, CA 95630

No.	Elements of SSMP	Description	Due Date	Status
	Application for Permit Coverage	Public agencies (Enrollees) that own or operate sanitary sewer systems within the State of California were required to apply for coverage under the general Waste Discharge Requirements (WDRs). A legally authorized representative must complete and submit an application package provided by the State Water Board.	November 2nd, 2006	Complete
	Reporting Program Registration	Enrollees must obtain a CIWQS SSO Database account, with Username and Password, complete the "Collection System Questionnaire," and begin reporting of all sanitary sewer system overflows complying with Order No. WQ-2008-0002, Amended Monitoring and Reporting Requirements	November 2nd, 2007	Complete
	Development Plan and Schedule	Indicates the responsible City Staff and provides a schedule for meeting the deadlines of eleven elements of SSMP. Requires a public hearing and formal adoption by the Enrollee's governing board. After adoption, Enrollee's authorized representative must complete the certification portion in the Online SSO Database Questionnaire by checking the appropriate milestone box, printing and signing the automated form, and sending the signed form to the State Water Board.	November 2nd, 2007	Complete
1.0	**Goals**	**Identifies the City's goal for SSMP and summarizes City's action plan in meeting this goal.**	**November 2nd, 2007**	**Complete**
2.0	**Organization**	**Identifies responsible City staff within the Public Works organization.**	**November 2nd, 2007**	**Complete**
(a)	Identify the Enrollee's responsible principal executive officer, ranking elected official, or authorized representative (either by name or by position). This individual shall represent the Enrollee in all pertinent matters and shall sign and certify all applications, reports, and other information provided to the State Water Board, either in written or electronic format.			Complete
(b)	Names and telephone numbers of management, administrative, and maintenance staff responsible for implementing specific measures of the SSMP. Identify lines of authority using and Organization Chart or similar document with a narrative explanation.			
(c)	Listing of the chain of communication for SSO reporting, from initial receipt of a complaint to electronic reporting in the CIWQS Online SSO Database to notification of appropriate health and regulatory agencies			
3.0	**Legal Authority**	**Provides legal authority to the City staff in managing, operating, and maintaining the sewer collection system.**	**November 2nd, 2009**	**Draft Review**
(a)	Prohibition of illicit discharges such as infiltration/inflow, chemical dumping, debris, etc. into the sanitary sewer system			Draft Review
(b)	Requirement that all sewers and connections be properly designed and constructed (such as in accordance with established design criteria, standard plans, and standard specifications).			Draft Review

No.	Elements of SSMP	Description	Due Date	Status
(c)	Requirement that the public agency be granted access to any lateral owned or maintained by the public agency for maintenance, inspection, or repairs, whether the lateral is located on private or public property.			Draft Review
(d)	Limitations on the discharge of fats, oil, grease (FOG) or other debris that may cause blockages in the sanitary sewer system leading to SSOs.			Draft Review
(e)	Ability to enforce any violation of the sewer ordinances.			Draft Review
4.0	**Operation and Maintenance Program**	**Provide detail procedures and implementation plan in effectively operating and maintaining the sewer collection system**	**November 2nd, 2009**	**Draft Review**
(a)	Maintain up-to-date sanitary sewer system map.			Incomlete
(b)	Describe routine O&M activities performed by public agency staff and by contractors. Include a system to prioritize cleaning frequency of known problem areas and a system to compare scheduled vs. actual cleaning activities.			Draft Review
(c)	Develop rehabilitation/replacement plan to identify and prioritize system deficiencies. Identify short-term and long-term actions required to correct each deficiency. Include appropriate condition assessment program with tasks such as regular manhole inspection and CCTV inspection to identify and rank system deficiencies. The R/R plan should focus on sewer reaches most at risk of collapse or blockage. Develop a CIP that includes projected costs and an implementation schedule. Evaluate available funding mechanisms to evaluate financial resources.			Incomplete
(d)	Describe available staff training resources and identify additional needs. Require proper training of contractors.			Draft Review
(e)	Develop equipment inventory and prepare list of critical replacement parts.			Draft Review
5.0	**Design and Performance Provisions**	**Provides design and construction standards and specifications for the new and rehabilitation of the sewer collection system**	**May 2nd, 2010**	**Draft Review**
(a)	Reference design and construction standards for new and/or rehabilitated sanitary sewers, pump stations, and appurtenances.			Draft Review
(b)	Develop procedures for inspecting and testing new and/or rehabilitated sanitary sewers, pump stations, and appurtenances.			Draft Review
6.0	**Overflow Emergency Response Program**	**Provides a detail cleanup and notification procedures to take during an SSO event.**	**November 2nd, 2009**	**Draft Review**
(a)	Notification procedures allowing primary responders and regulatory agencies to be alerted of SSOs in a timely manner.			Draft Review
(b)	Describe the Enrollee's overflow response program.			Draft Review
(c)	Procedures for notifying regulatory agencies and other potentially impacted agencies in the event of an SSO that could affect public health or reach the waters of the State. List specific names and phone numbers of individuals who will make the contacts and the agency individuals to be contacted. Include procedures for reporting the SSO through the CIQWS Online SSO Database, and identify the individual responsible for entering the data.			Draft Review

No.	Elements of SSMP	Description	Due Date	Status
(d)	Training procedures for staff and contractor personnel regarding use of the Overflow Emergency Response Plan.			Draft Review
(e)	Procedures to address emergency conditions as necessary to safely respond to and clean an overflow. Examples of emergency conditions include traffic control and crowd control.			Draft Review
(f)	Steps to contain overflows, prevent discharge to waters of the U.S., and mitigate potential environmental damage.			Draft Review
7.0	**Fats, Oils and Grease Control Program**	**Provides a detail procedure to monitor, inspect and enforce the FOG ordinance on food generating facilities**	**November 2nd, 2009**	**Draft Review**
(a)	Public education outreach program implementation plan and schedule.			Draft Review
(b)	List of acceptable FOG disposal facilities. Identify additional facilities needed if current facilities are inadequate.			Draft Review
(c)	Legal authority to prohibit discharge of FOG to the sanitary sewer system.			Draft Review
(d)	Installation requirements for grease removal device, design standards, maintenance requirements, BMP requirements, record keeping and reporting procedures.			Draft Review
(e)	Authority to inspect grease producing facilities and enforce FOG ordinance. Address adequacy of staff to inspect and enforce.			Draft Review
(f)	Identify sewer system reaches most susceptible to FOG-related blockages. Establish appropriate cleaning schedule for each susceptible reach.			Draft Review
(g)	Source control measures for each source (typically Food Handling Facilities) that could discharge FOG to the sanitary sewer reaches identified as susceptible to FOG-related blockages.			Draft Review
8.0	**System Evaluation and Capacity Assurance Plan**	**Provides detail analysis and generates a CIP list for the sewer collection system during the dry and wet weather flow conditions. It provides various capacity enhancement measures establishing the short- and long-term CIP list, schedule and budgetary information.**	**May 2nd, 2010**	**Draft Review**
(a)	Estimate peak flows of key sewer system components and identify reaches with insufficient hydraulic capacity.			Draft Review
(b)	Establish appropriate design criteria.			Draft Review
(c)	Develop short-term and long-term CIP to address identified hydraulic deficiencies. Prioritize correction of identified deficiencies, analyze alternatives for correcting, establish an implementation schedule, and verify that adequate funds are/will be available.			Draft Review
(d)	Develop schedule of completion dates for the CIP.			Incomplete

No.	Elements of SSMP	Description	Due Date	Status
9.0	**Monitoring, Measurements, and Program Modifications**	**Provides detail information on how the City tracks the performance of various SSMP programs. It outlines the performance indicators in monitoring these programs. It will provide various suggestions to further refine the SSMP programs.**	**May 2nd, 2010**	**Complete**
(a)	Maintain relevant data used to establish and prioritize appropriate SSMP activities.			Complete
(b)	Monitor implementation of SSMP vs. schedule. Measure effectiveness of SSMP elements where quantifiable.			Complete
(c)	Assess preventative maintenance program.			Complete
(d)	Update SSMP program elements as necessary based on monitoring or performance evaluations.			Complete
(e)	Identify and illustrate SSO trends, including location, frequency, and volume.			Complete
10.0	**Program Audits**	**Provides detail information and summarizes the findings from auditing the SSMP once every two years.**	**May 2nd, 2010**	**Complete**
11.0	**Communication Program**	**Provides a detail communication program informing the citizens of Reedley on the development, implementation, and performance of the SSMP.**	**May 2nd, 2010**	**Draft Review**
	Final SSMP and Implementation Program Certification	The Final SSMP and the Enrollee's implementation program for the SSMP must be adopted by the Enrollee's governing board at a public meeting following a public hearing. After adoption, Enrollee's authorized representative must complete the certification portion in the Online SSO Database Questionnaire by checking the appropriate milestone box, printing and signing the automated form, and sending the signed form to the State Water Board.	May 2nd, 2010	Draft Review
	Quint-Annual Update	The SSMP must be updated every five years. If significant program changes occur, the SSMP must be re-adopted by the Enrollee's governing board. Enrollee shall re-certify the SSMP in the Online SSO Database, and print, sign, and mail the appropriate form to the State Water Board.	May 2nd, 2015 and thereafter	Draft Review

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Element 1 – SSMP Goals

Sewer System Management Plan

The Rancho Murieta Community Services District (District) is required to comply with the State Water Resources Control Board (SWRCB), Order No. 2006-0003 DWQ, entitled "General Waste Discharge Requirements for Sanitary Sewer Systems" (WDR). This chapter describes the goals of the Sewer System Management Plan (SSMP) in light of this regulation.

Purpose

The purpose of the WDR is to:

- Provide a consistent and unified statewide approach for the reporting and tracking of SSOs.
- Establish consistent and uniform requirements for SSMP development and implementation.
- Facilitate consistent enforcement of the WDR regulation and violations.
- The District shall properly fund, manage, and operate and maintain all parts of the sewage collection system owned and/or operated by the District. Staff and/or contractors responsible for the operation and maintenance of the sewage collection system shall possess the appropriate level of knowledge, skills, and abilities, verifiable through participation in a validated program at all times.

Goals

The District's goals for the SSMP are:

- To properly manage, operate, and maintain all portions of the District's wastewater collection system;
- To provide adequate capacity to convey peak wastewater flows;
- To minimize the frequency of sanitary sewer overflows (SSOs);
- To mitigate the impacts that are associated with any SSO that may occur; and
- To comply with all applicable regulatory requirements for SSO notification and reporting.

Element 2 – SSMP Organization

Sewer System Management Plan

Requirements

The SWRCB requires that each sewer agency designate an authorized representative to be responsible for the agency's Sewer System Management Plan (SSMP) related activities. It also requires having the names and telephone numbers for the management and administrative positions responsible for implementing specific measures of the SSMP. An organization chart, applicable to the SSMP, is also required.

Authorized Representative

Edward Crouse represents the District as its General Manager/Engineer. The District General Manager/Engineer is authorized to submit SSO reports to the appropriate government agencies and is responsible for implementing and maintaining all elements of this SSMP.

Figure 2-1 shows the authoritative lines of the District. Table 2-1 contains the names, positions, and telephone numbers of key District staff.

Table 2-1. RMCSD Contact Information

Name	Alternative City Title	Telephone Number
Edward Crouse	General Manager/Engineer	916-354-3700
Paul Siebensohn	Director of Field Operations	916-870-6024
Rob McLeod	Utilities Supervisor	916-870-6613
Dave Herrmann	Chief Plant Operator	916-870-5368
Jason Dill	Equipment Mechanic	916-870-6403
Sean Montgomery	Operator 3	916-870-6612
Damodar Devine	Operator 2	916-870-4011
Michael Boerger	Operator 1	916-870-5828
Jeff Whitehead	Utility Worker 1	916-870-6625
Floyd McLaughlin	Utility Worker 3	916-870-5914
James Colas	Utility Worker 1	916-870-1785

Position Descriptions

General Manager – Enforces policy, plans strategy; leads staff; allocates resources, delegates responsibilities; authorizes outside contracts to perform services; serves as a departmental public information officer. The District has designated its General Manager as its WDR authorized representative.

Engineer – Prepares wastewater collection system planning documents; manages the Capital Improvement Program (CIP); documents new and rehabilitated assets; coordinates development and implementation of SSMP.

Director of Field Operations – Manages field operations and maintenance activities; provides relevant information to agency management; prepares and implements contingency plans; leads emergency response; investigates and reports SSOs to the General Manager; trains field crews.

Utility Workers – Staff that conduct preventive and corrective maintenance activities; mobilize and respond to notification of stoppages and SSOs.

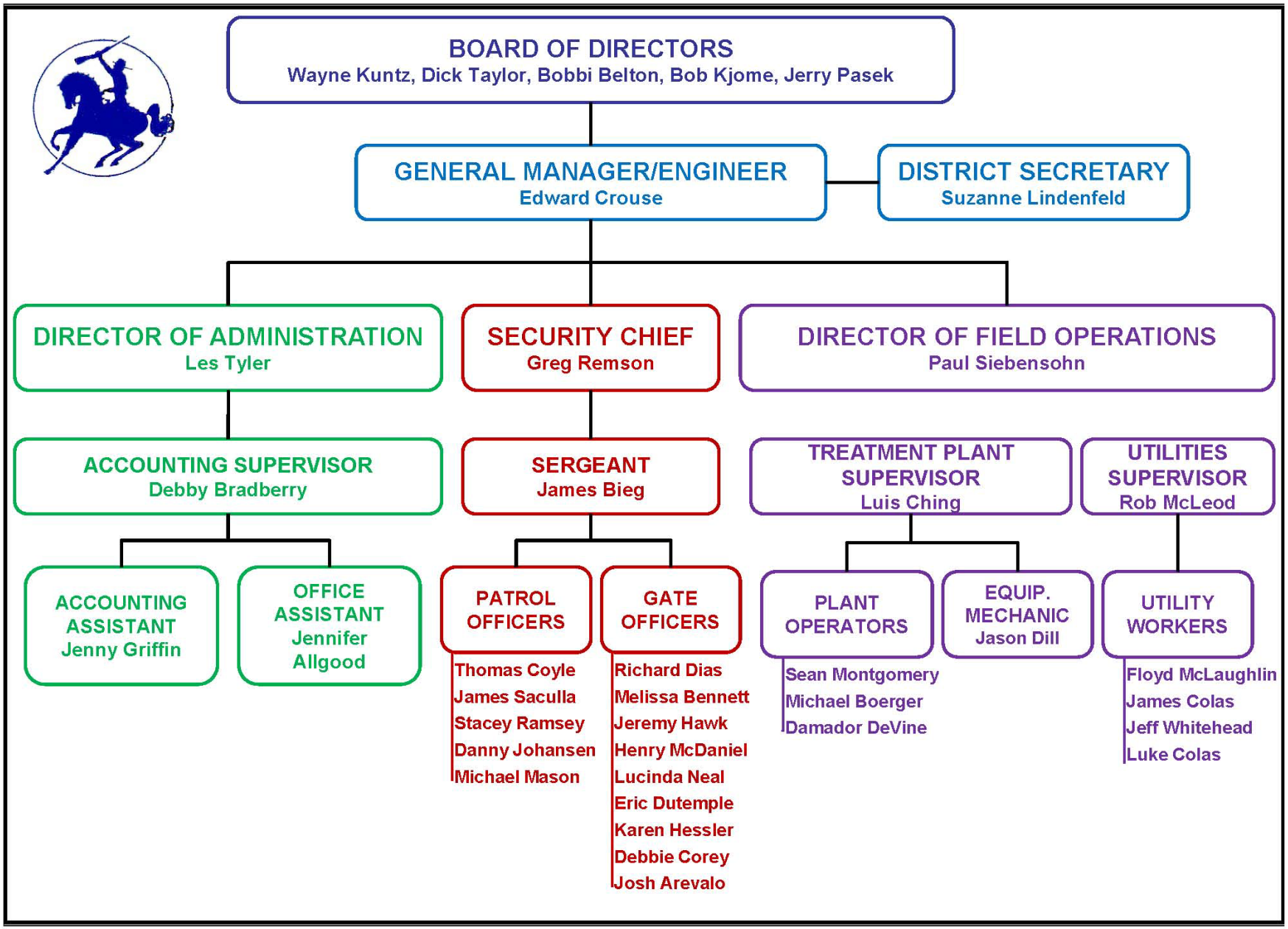


Figure 2-0-1. Rancho Murieta CSD - Organization Chart

Element 3 - Legal Authority

Sewer System Management Plan

Requirements

This element describes the legal authority of the District, through sewer use ordinances, to implement the provisions of the Sewer System Management Plan (SSMP) to:

- Prevent illicit discharges into the sanitary sewer system;
- Require proper design and construction of new and rehabilitated sewers and connections;
- Ensure access for maintenance, inspection, or repairs for all portions of lateral connections owned by the District;
- Limit the discharge of fats, oils, and grease and other debris that may cause blockages in the sanitary sewer system; and
- Enforce any violation of the District's sewer ordinances.

Legal authority is one of the most important elements of an SSMP. Without adequate legal authority to own and operate a public sewer system, an agency will not be able to effectively manage the sewer collection system, insure adequate construction of new sewers, solve operation and maintenance problems, interact with the public, regulate the developers, and ultimately reduce SSOs. The District's sewer ordinance (Sewer Code) granting these powers was updated in June of 2008. Chapter 15 of the Sewer Code outlines how the District has the legal authority to own, operate, and maintain the WWRP and sanitary sewer system. The Sewer Code addresses illicit discharges, including fats, oils, and grease (FOG) and illegal connections to the sanitary sewer collection system. Violation of the Sewer Code is a punishable offense.

Provisions

The following sections of Chapter 15 of the Sewer Code specifically relate to the requirements of the SSMP:

Section 1.00 – General Provisions

1.02 Scope of Service. The provisions of this Chapter shall apply to sanitary sewer facilities and service in, upon or affecting the territory of the Rancho Murieta Community Services District, and the design, construction, alteration, use, and maintenance of public sanitary sewers, pumping equipment and facilities, treatment plants and facilities, connections and services and all

system appurtenances; the disposal of sewage and drainage of buildings; the issuance of permits and the collection of fees therefore; fees to pay for the costs of checking plans, inspecting construction, and making record plans of the facilities permitted hereunder; providing penalties for violation of any of the provisions hereof, and all other necessary or related matters.

Section 3.00 – General Policies

3.05 Access to and Inspection of the Collection System:

a. The District shall have access at all reasonable times to the collection system, whether located on or off the customer's premises, for the purpose of inspecting, installing, maintaining, operating, removing, or taking other necessary actions relating to the collection system.

c. No person shall be allowed to interfere or otherwise hinder the District's inspection, installation, maintenance, operation, removal, or other lawful or necessary District activity regarding the collection system.

d. No person shall place on any sewer easement any obstruction, such as wires, fences, trees, or buildings, which may impeded or other-wise interfere with the collection system owned by the District. Upon the District's written request, such obstruction shall be immediately removed by the violator at no cost to the District or at the Districts' option, shall be removed by the District at the violator's expense.

3.06 Unsafe Apparatus or Damaging Conditions: If an unsafe or hazardous condition is found to exist on the customer's premises, or if the customer's use of sewer service is found to be detrimental or damaging to the District or its customers, the District may discontinue sewer service without notice, provided that the District shall notify the customer immediately of the reasons for the discontinuance and the corrective action to be taken by the customer before service can be restored.

3.07 Fraudulent Use of Service: When the District has discovered that a customer has obtained sewer service by fraudulent means, or has diverted the sewer service for unauthorized use; the service to that customer may be discontinued in the manner set forth in Section 10.00 herein. The District shall not be required to restore service until the customer has complied with all rules and requirements of the District and the District has been reimbursed for the full amount of the service rendered and the actual or estimated costs to the District incurred by reason of the fraudulent use.

Section 4.00 – District Construction Requirements

4.06 District Construction Standards: All work performed on installing any portion of the collection system and all acts, including design and construction, relating thereto shall comply

with the District standard specifications. Copies of the standards are on file with the District office.

4.13 Inspection of Construction:

a. The General Manager shall have the right to inspect all work on the collection system during and subsequent to its construction. When construction is completed; the work must be inspected and approved in writing by the Manger before the newly constructed facilities may be connected to the District's collection system. No construction shall be covered at any time unless it has been inspected and approved b the District. No facilities shall be connected to the District's lateral or main line unless the District has performed testes indicating the new construction is satisfactory and the facilities have been cleaned of all debris accumulated from construction operations.

b. The applicant shall give the District at least forty-eight (48) hours advance notice, Saturdays, Sundays and holidays excluded, of when it wishes the District to perform an inspection. If work is inspected and deemed inadequate, the District shall so notify the applicant in writing and identify the deficiencies in the project.

4.14 Final Approval of Construction: When the District determines that all work done under the permit and the main line extension agreement, if any, has been constructed according to and meets the requirements of all applicable provisions of this Code, the agreement, and any other District rules and regulations, and subsequent to the payment of all fees, the Manager shall authorize the issuance of a certificate of final inspection and completion.

Section 8.00 – Prohibited Use of Collection System

8.01 Drainage into Sanitary Sewers Prohibited: No leaders from roofs, surface drains for rain water or storm sewers shall be connected to any sanitary sewer. No surface, storm water, artesian well flows, cooling water or unpolluted industrial process waters shall be permitted to enter any sanitary sewer by any device or method whatsoever.

8.02 Wastes Prohibited in Public Sewer. No person shall discharge or cause to be discharged any of the following wastes to any part of the collection system.

a. Any gasoline, benzene, naphtha, fuel oil, or other flammable or explosive solid, liquid or gas.

b. Any waste containing toxic or poisonous solids, liquids, or gases in sufficient quantity either singly or by interaction with other wastes, to injure or interfere with any sewage treatment process, constitute a hazard to humans, or create a public nuisance.

c. Any waste having a pH lower than 5.5 or having any other corrosive property capable of causing damage or hazard to structures, equipment or personnel of the District.

d. Solid or viscous substances in quantities or of such size capable of causing obstruction to the flow in sewers, or other interference with the proper operation of the collection system, such as, but not limited to ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, disposable diapers, feathers, tar, plastics, wood, un-ground garbage, paper dishes, cups, containers, etc. either whole or ground by garbage grinders.

8.03 Types of Waste Which May be Prohibited. No person shall discharge or cause to be discharged the following described substances, materials, or wastes if it appears likely in the opinion of the General Manager that such wastes may harm the collection system, sewage treatment process or equipment, or can endanger personnel or property or create a public nuisance. In forming an opinion as the acceptability of these wastes, the General Manager shall give consideration to such factors as the quantities of subject wastes in relation to flows and velocities in the sewers to which they discharge, sewer material, treatment process, treatment plant capacity and other pertinent factors. The substances so subject to prohibition include, but are not limited to:

a. Any liquid or vapor having a temperature higher than 150 F.

b. Any water or waste which may contain more than 100 milligrams per liter of fat, oil, or grease.

c. Any garbage that has not been shredded to such a degree that all particles will be carried freely under the flow conditions normally prevailing in the collection system, with no particle greater than one-half inch in any dimension.

d. Any waters or wastes having a pH higher than 9.0 or having any other corrosive property capable of causing damage or hazard to structure, equipment and personnel of the District.

e. Any waters or wastes containing suspended solids of such character and quantity that unusual attention or expense is required to handle such materials in the sewerage works.

f. Any septic tank sludge or other digested sludge.

g. Any wastes containing phenols or other taste or odor producing substances, in concentrations exceeding limits which may be established by the Board.

h. Any radioactive wastes or isotopes of such half-life or concentration as may exceed limits set by the Board in compliance with State or Federal regulations.

i. Materials which exert or cause:

1. Unusual concentrations of inert suspended solid.

2. Excessive discoloration.

3. Unusual BOD, chemical oxygen demand, or chlorine requirements in such quantities as to constitute a significant load on the sewage treatment plant.

4. Unusual volume of flow or slugs. As used herein, slug shall mean any discharge of water, sewage or waste which in concentration of any given constituent or in quantity of flow exceeds for any period of duration longer than fifteen (15) minutes or more than five (5) times the average twenty-four (24) hours concentration or flow during normal operation.

j. Wastes containing substances which are not amenable to treatment by the sewage treatment process employed, or are amenable to treatment only to such degree that the sewage treatment plant effluent cannot meet the requirements of the Regional Water Quality Control Board, Central Valley Region.

8.04 Acceptance of Deleterious Wastes. If any wastes containing the characteristics listed in Section 8.03 which in the judgment of the General Manager may have a deleterious effective upon the sewerage works, process, equipment, or receiving water, is to be discharged to the collection system, the General Manager may do one or more of the following:

a. Require pretreatment to an acceptable condition prior to discharging to the collection system.

b. Require control over the quantities and rates of discharge.

c. Require payment, in an amount established by the Board to cover the added cost of handling and treating the wastes.

8.05 Pretreatment or Equalization of Flow. If the General Manager recommends pretreatment or equalization of flow, the design and installation of the plants and equipment shall be subject to the review and approval of the District and no construction of such facilities shall commence until District approval is obtained in writing.

8.06 Maintenance of Pretreatment Facilities. Where pretreatment facilities are provided for any waters or wastes, unless otherwise provided, they shall be maintained continuously in satisfactory and effective operation by the owner at the owner's expense and to the satisfaction of the District.

8.07 Interceptors Required.

a. (1) Grease, oil and sand interceptors shall be required, installed and maintained at the customer's expense when in the opinion of the General Manager, they are necessary for the proper handling of liquid wastes, grease, or any objectionable waste, sand and other harmful ingredients; except that such interceptors shall not be required for buildings used exclusively for residential purposes. All interceptors shall be of a type and capacity approved by the Manager, and shall be so located as to be readily and easily accessible for cleaning and inspection.

(2) Monthly Fees: For those existing food preparation and cooking facilities where the costs of installation of a grease interceptor would be prohibitive, a charge to cover the costs for the District to handle grease from these facilities [shall be assessed]. Fees will be charged with the regular billing cycle as follows:

Rancho Murieta Country Club	4.03
Rancho Murieta Lodge	0.86
Rancho Murieta Country Store	2.30
Rancho Murieta Plaza	2.59
Rancho Murieta Village Clubhouse	1.73
Rancho Murieta Training Center	3.16

b. (1) Notwithstanding Section 8.07(a), every restaurant, the Training Center, and every other District customer, excluding residential customers, whose premises are used for food preparation and cooking, shall have a sand, oil and grease interceptor installed in the manner and time specified herein.

(2) A District customer, who is required to have an installed sand, oil and grease interceptor pursuant to Section 8.07(b) and who obtains a sewer permit from the District on or after this Ordinance's effective date, shall have an installed and operational interceptor approved by the District prior to connecting with the District's water or sewer system.

(3) A District customer, who is required to have a sand, oil and grease interceptor pursuant to Section 8.07(b) and who had a sewer permit prior to this Ordinance's effective date, shall have an installed operational interceptor approved by the District within one hundred twenty (120) days of this Ordinance's effective date.

c. All sand, oil and grease interceptors shall be designed and constructed according to the following specifications:

(1) Interceptors shall conform to the requirements of the Uniform Plumbing Code and this Ordinance.

(2) Interceptors shall be designed and constructed in accordance with District's standards and shall be approved by the District Engineer prior to connection with the District's sewer system.

(3) Interceptors shall be designed in accordance with the following criteria:

A. Size: Interceptor detention time shall be the greater of (1) total number of fixture units x 7.5 gpm/fixture unit; or (2) dishwasher rated flow rate (gpm x 30 minutes). Interceptors shall be at least 4'0" high and have a minimum freeboard of 12-inches below the soffit of the roof Interior dimensions of the first compartment of an interceptor shall be a minimum of 2'6" wide and 4'0" long. Interior dimensions of the last compartment shall be TO" long by a minimum of 2'6" wide. Compartment walls shall be the same height as the design water surface of the interceptor.

B. Type: Exterior type interceptors shall be required. "Under-the ink" models are not acceptable. All fixture drains, except floor drains from the kitchen area, shall be connected to the interceptor. All restrooms shall be plumbed separately and connected to the building sewer downstream of the interceptor.

C. Location: Interceptors shall be located outside of the structure and as close as possible to the source of sand, oil or grease. Interceptors shall be located to facilitate the ease of maintenance and inspection. Interceptors placed in areas subject to vehicular traffic shall be designed for H20 loadings. Interceptors shall be located near a hose bib. The final location shall be approved by the District prior to installation.

D. Construction: Interceptors shall be constructed with reinforced concrete and shall contain at least two compartments. Each compartment shall have a 24-inch diameter gasketed airtight standard manhole frame and cover. Each manhole shall have a pre-cast concentric cone and pre-cast 30-inch diameter extension rings. Interceptors shall have a minimum cover of 24-inches below finish Grade. Manholes shall be located directly above inlet piping and interior compartment walls. Scum boards shall extend from the top of compartment walls to the base of the manhole extension rings.

All interceptor piping and fittings shall be of ductile iron material. Piping and fittings shall be the same diameter as the building sewer line (4-inch diameter minimum). A two-way cleanout shall be provided on the interceptor outlet pipe. The outlet shall be at least 4-inches below the inlet elevation.

E. The use of pre-approved precast interceptors or automatic mechanical grease removal systems may be allowed with the prior written approval of the District Engineer.

d. No interceptor shall be approved by the District unless its design either conforms to the specifications herein or is, prior to installation, approved in writing by the District Manager or District Engineer.

e. Failure to install and adequately maintain a sand, oil and grease interceptor in the time and manner specified in this Section shall be grounds for termination of District water and/or sewer service according to applicable law.

f. All customers with installed interceptors shall provide the District with an annual report of monthly interceptor and cleaning activity.

g. The District has the right to periodically test and inspect any interceptor.

h. All customers with installed interceptors shall add District-furnished bacteria to the interceptor as may be required by the District.

i. Any person who improperly disposes sand, oil, grease or other objectionable waste into the District sewer system shall be liable for the cost of any damage caused thereby to the District system, including the costs of cleaning out the deposited material.

8.08 Maintenance of Interceptors. Unless otherwise provided, all grease, oil and sand interceptors shall be maintained by the owner, at the owner's expense, in continuously efficient operation at all times.

8.09 Control Manholes. When required by the General Manager, the owner of any property served by the District and carrying industrial wastes shall install a suitable control manhole in the private sewer line to facilitate observation, sampling and measurement of wastes. Such manholes, when required, shall be accessibly and safely located, and shall be constructed in accordance with plans approved by the General Manager. The manhole shall be installed by the owner at the owner's expense, and shall be maintained by the owner so as to be safe and accessible at all times.

8.10 Measurements and Tests. All measurements, tests and analyses of the characteristics of waters and wastes to which reference is made in this Chapter shall be

determined in accordance with the latest edition of "Standard Methods of the Examination of Water and Wastewater", and shall be determined at the control manhole. In the event that no special manhole has been required, the control manhole shall be considered to be the nearest downstream manhole in the main line to the point at which the lateral is connected.

Section 10.00 Enforcement Disconnection and Restoration of Service

10.01 Enforcement. The General Manager shall enforce the provisions of this Chapter and, for such purpose, shall have the powers of the peace officer, if deputized or if authorized by law. Such power shall not be regarded as limitations on or otherwise affecting the powers and duties of the County Health Officer.

10.02 Violation of Chapter. In the event of a violation of any laws, ordinances, rules or regulations of the State of California, the County of Sacramento or the District, respecting the subject matter contained herein, the District shall notify in writing the person or persons causing, allowing, or committing such violation within five (5) days after receipt of such notice, and the General Manager shall have the authority to disconnect the property served from the District Sewer System, in the manner set forth herein.

10.03 Public Nuisance. Continued habitation of any building or continued operation of any commercial or industrial facility in violation of the provisions of this or any other Chapter, rule or regulation of the District is hereby declared to be a public nuisance. The District may cause proceedings to be brought for the abatement of the occupancy of the residence, building, industrial, or commercial facility during the period of such violation.

10.04 Disconnection. As an alternative method of enforcing the provisions of this or any other Chapter, rule or regulation of the District, the General Manager shall have the authority to disconnect the customer from the District's collection system, without liability to the District in the following manner:

a. At least ten (10) days before the proposed disconnection of any service, a customer shall be provided with written notice of the procedure for and the availability of an opportunity to discuss the reasons for the proposed disconnection of service.

b. After notice has been given as specified in subparagraph (a) and prior to disconnection of service, a customer shall have the opportunity to discuss the reason for the disconnection with- an employee designated by the District who shall be empowered to review disputed bills, rectify errors, and settle controversies pertaining to disconnection of service.

c. No service shall be disconnected by reason of delinquency in payment of bills on any Saturday, Sunday, legal holiday, or any time during which the District's office is not open to the public.

10.05 Settling Disputes. The General Manager is hereby authorized to review disputes pertaining to any matters for which service may be disconnected and to adjust errors and settle disputes pertaining to such matters.

10.06 Public Nuisance and Abatement. During the period of any disconnection, the habitation of such disconnected premises by human beings shall constitute a public nuisance, which shall authorize the District to bring proceedings for the abatement of the occupancy of the premises during the period of the disconnection. In such event, and as a condition of restoring service, the District shall be paid reasonable attorney's fees and costs of suit arising from such action, plus any other necessary charges for or incurred in the restoration of service.

10.07 Restoration of Service. When service under this Chapter has-been disconnected for any reason, the service shall not be restored until all unpaid sums are paid in full, plus all District expenses for disconnection and restoring the service, plus a twenty five-dollar ($25) restoration fee.

10.08 Recovery of Costs. In the event that the District is required to bring legal action to enforce any provision of this Chapter, including but not limited to the collection of delinquent fees and charges, the District shall be entitled to recover its reasonable attorney's fees, interest and other costs of suit.

10.09 Means of Enforcement Only. The District hereby declares that the foregoing procedures are established as a means of enforcement of the terms and conditions of its ordinances, rules and regulations, and not as a penalty.

10.10 Cumulative Remedies. All remedies set forth herein for the collection and enforcement of rates charges, and penalties are cumulative and may be pursued alternatively, concurrently, or consecutively.

10.11 Misdemeanor. A violation of any provision of this Chapter is a misdemeanor, punishable by a fine not to exceed five hundred dollars ($500) or by imprisonment in the County Jail not to exceed six (6) months, or both. Each and every day, or part of a day that a violation of the Chapter continues, shall be deemed as separate offense hereunder and shall be punishable as such.

Element 4 – Operations and Maintenance

Sewer System Management Plan

Requirements

This Element of the SSMP discusses the District's documented performance measures and activities associated with the preventative maintenance performed on its sanitary sewer system. This Element of the SSMP fulfills the following requirements of both the Regional Water Quality Control Board and State Water Board:

- Each wastewater collection system agency shall maintain up-to-date maps of its wastewater collection system facilities, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater pumping and piping facilities.
- Each wastewater collection system agency shall allocate adequate resources for the operation, maintenance, and repair of its collection system.
- Each wastewater collection system shall prioritize its preventative maintenance activities and establish a routine preventative operation and maintenance schedule. Describe routine preventative maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The preventative maintenance program should have a system to document scheduled and conducted activities, such as work orders.
- Each wastewater collection system agency shall identify and prioritize structural deficiencies and implement a program of prioritized short-term and long-term actions to address them. The program should include regular visual and TV inspections of manholes and sewer pipes, and system for ranking the conditions 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.

- Each wastewater collection system agency shall provide contingency equipment to handle emergencies and spare/replacement parts intended to minimize equipment/facility downtime.
- Each wastewater collection system agency shall provide training on a regular basis for its staff in collection system operation, maintenance, and monitoring.
- 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.

Collection System Description

The Rancho Murieta Community Services District is located along the eastern border of Sacramento County. The community encompasses 3,500 acres, of which approximately 1,920 acres are used for residential development. Estimates from the District's 2003 Infrastructure Master Plan (Master Plan) indicate that the community has over 2,000 households with a population of approximately 4,500 people.

The District's sewer system includes approximately 175,556 linear feet of gravity pipeline and 13,238 linear feet of sewer forcemain, which were all constructed since the mid-1970s. The hilly terrain in Rancho Murieta requires that several pump stations be used to convey wastewater to the treatment plant. There are two categories of sewer pump stations: local and regional. Local pump stations are much smaller than regional pump stations. Local pump stations have a capacity of less than 50 gallons per minute (gpm) and are typically used to convey a small number of residents' wastewater over a ridge to a nearby gravity collection system. Regional pump stations have a minimum capacity of 100 gpm. Five pump stations were proposed in the Master Plan, with characteristics outlined in Table 4-1.

Table 4-1. Rancho Murieta Regional Pump Stations

Pump #	Minimum Operating Capacity (gpm)	Location
2	84	The Estates at Lake Chesbro
3	363	River Canyon Estates
4	443	River Canyon Estates
5	647	Unit 6, Increase Existing Pump System
6	388	The Residence at Murieta Hills

Exhibit 4-1 is a general map of the Rancho Murieta sewer service areas.

Collection System Maps

The District is divided into six Units, according to the various residential developments. Record drawings of each Unit are maintained in the District office. The record drawings show the details of the existing sewer system including gravity sewers, forcemains, manholes, pump stations, and valves.

In addition to the Unit record drawings, the District maintains a log with sketches of each manhole and sewer pipeline configuration around the manhole to help with routine maintenance and trouble shooting in the field.

Preventative Operations and Maintenance

Cleaning and preventative maintenance measures are typically completed by an outside contractor. Approximately one third of the District's collection system is cleaned annually. Known problematic areas are cleaned by District staff on an as-needed basis. The District uses a hydro jetting unit, capable of cleaning lines from approximately 8 to 24 inches, for scheduled cleanings. The District also has an inspection camera that is used to inspect the sewer system for damage, infiltration, roots, and cleanliness, which helps identify problematic areas that should be added to the routine cleaning schedule.

Pump stations are equipped with automated alarm systems which will notify the appropriate personnel when a problem occurs. Also, emergency generators and pump station equipment are inspected monthly and daily, respectively, as a further preventative measure.

Collection system maintenance and inspections logs are tracked by the utilities staff members and are kept at the District office. A sample inspection work order is included in Exhibit 4-2.

Rehabilitation and Replacement Plan

The District does not maintain a formal Rehabilitation and Replacement Plan for their sewer system. Repairs to the sewer system are completed on an as-needed basis and are paid for by the District's General Fund.

The 2003 Master Plan outlined several recommended improvements to the sewer system that would be needed to accommodate the remaining planned developments within the Rancho Murieta community. The recommended improvements included new gravity sewers, new force mains, 30 new manholes, and new pump stations.

Staff Training

All staff responsible for maintaining the wastewater system are required to be trained in the following areas:

- Confined space

- Fall protection
- Respiratory protection
- CCTV inspection

The sewer system staff are committed to remaining current with efficient and safe practices of operating wastewater systems and will undergo further training opportunities as necessary.

Equipment

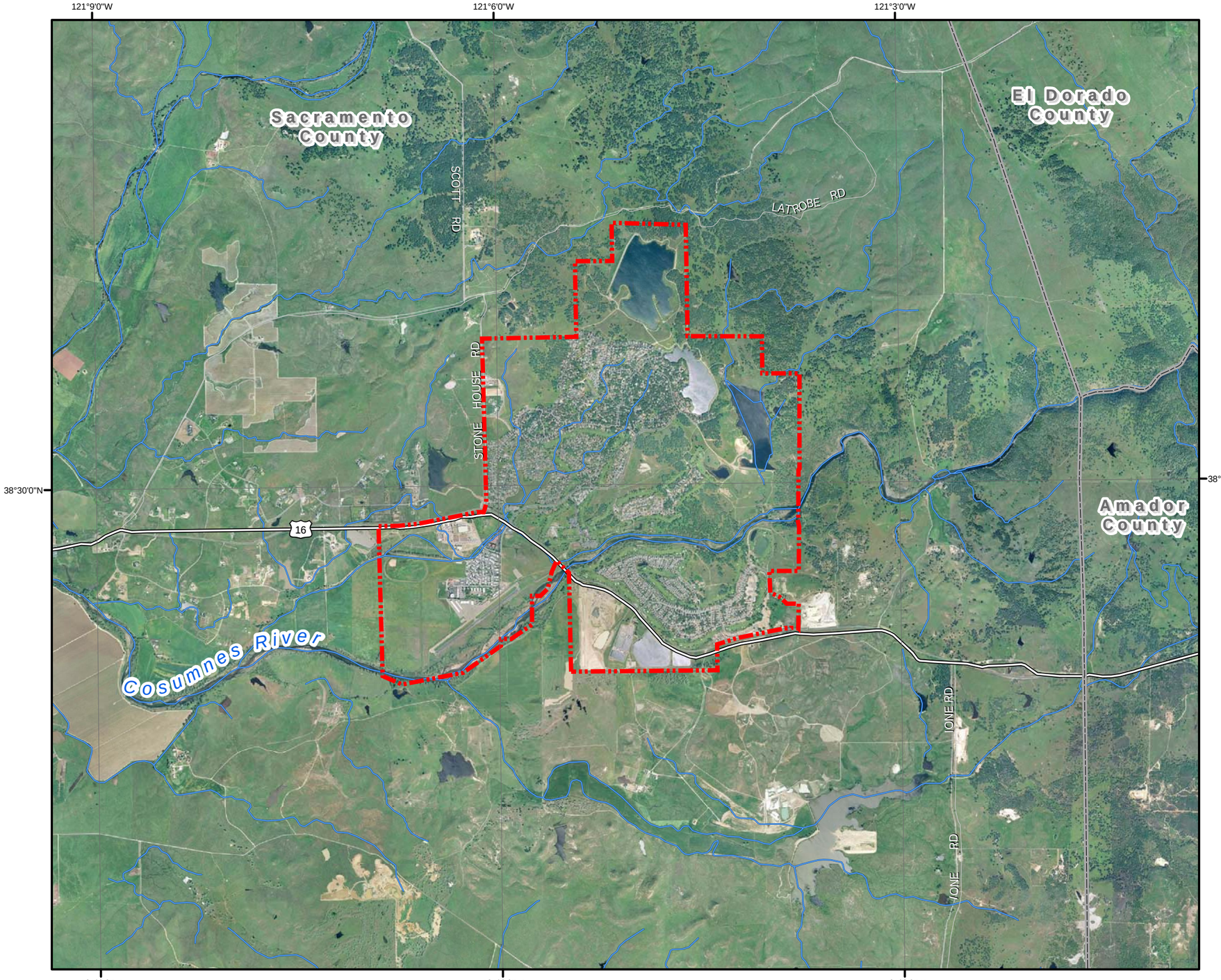
The following is a list of the equipment the District has available for maintaining the collection system:

- US Jetter trailer capable of cleaning lines or removing blockages
- Spill Response Kit:
  - 3" trash pump and discharge hose
  - Sand bags and sand
  - Utility trailer capable of hauling all item sin the spill response kit, including other utility equipment.
- Ditch Witch FX30 vacuum trailer with a 500 gallon tank.
- Portable generator
- Jackhammer
- Air compressor
- Locator
- Metal Detector
- Common pipes, fittings and repair bands

The District has the ability to rent a backhoe and all necessary personal protective equipment. For excavations that require a backhoe, the District has a local contractor on call. The District also uses the services of an outside contractor for sewer blockage cleaning. Inventory is checked monthly and restocked when used or as needed.

EXHIBIT 4-1

Map of Sewer Service Areas

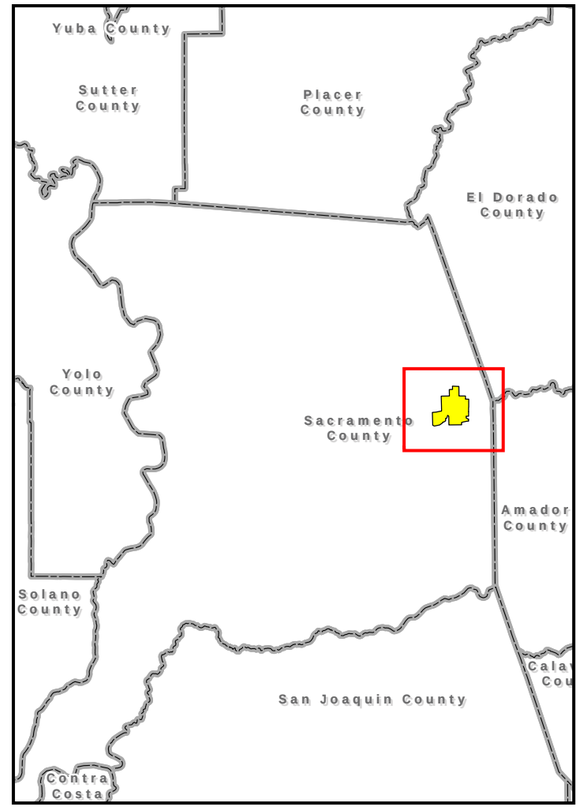


File Location: J:\GIS_Maps\2005-223_Ranch_Muretta_CSD\Area_Map.mxd

Map Projection: California StatePlane Zone II
Datum: North American Datum 1983 (NAD83)
Gradicules: World Geodesic Survey 1984 (WGS84)
3° 00" Lat/Long

1:45,000

0 0.25 0.5 1 1.5 2 Miles



Map Features

Administrative Boundaries

- RMCSD Boundary
- County Boundary

Water Features

- River / Stream

Transportation Network

- State Highway
- Roads
- Railroads

FIGURE 1. Rancho Murieta CSD Site and Vicinity

2005-223 Rancho Murieta CSD

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

EXHIBIT 4-2

Sample Inspection Work Order

RANCHO MURIETA COMMUNITY SERVICES DISTRICT

№ 27220

☐ Complaint
☐ Inquiry
☐ Security ☐ Water ☐ Wastewater ☐ Storm Drain ☐ Roads ☐ Levees ☐ Other _____

Priority
☐ 1 ☐ 2 ☐ 3

Date _____ Time _____ By _____ Account # _____

Name _____ Lot# _____

Address _____

Home Phone _____ Work Phone _____ Employee to: _____

Meter # _____ Size _____ Location _____

I.D.# _____ Previous Read: _____ Current Read: _____

Location of Work: _____

Description: _____

_____

_____

Corrective of Action: _____

_____

_____

_____

_____

_____

_____

Action by: _____ Date: _____ Supervisor _____ Date: _____

Invoice to: Name _____ Escrow # _____

Address _____

_____ Zip Code _____ Phone # _____

_____

Service Supervisor _____ Date _____

Accounting ☐ Invoice # _____ Date _____

By: _____

Filing Date _____ By: _____

MATERIALS & EQUIP.			
NO	ITEM	EA.	TOT.

OUTSIDE CONTRACTOR			
HR	CONTRACTOR	$	TOT.

CSD LABOR			
HRS	EMPLOYER	$	TOT.

Subtotal Materials _____
Subtotal O.S. CONST. _____
Total _____

Plus % ___ O.H. _____
Subtotal Labor _____
TOTAL INVOICE _____

Element 5 - Design and Performance Provisions

Sewer System Management Plan

Requirements

Proper design and installation of sewer system pipelines and appurtenances is one of the most important aspects in maintaining a functioning, problem-free sewer system. A properly designed and installed sewer system can minimize system deficiencies that could create or contribute to future overflows and reduce operation and maintenance requirements.

In accordance with WDR 2006-0003, each wastewater collection agency shall identify minimum design and construction standards and specifications for the installation of new sewers, pump stations, force mains, and other appurtenances, and for the rehabilitation and repair of existing sewer systems. In addition, procedures and standards for inspecting and testing the installation of new sewers, pump stations, and other appurtenances, shall be described in the SSMP.

The following sections describe the District's method of utilizing design and construction standards, along with a routine inspection and testing program, to ensure the quality of the sewer collection system is maintained.

Design and Construction Standards

The District prepared Standard Construction Specifications governing all construction work both under the direct and indirect inspection of the District and for construction of private improvements within the Districts rights of ways or easements. These standards, which were adopted in 1993, can be purchased through the District office.

Sections GS-1 through GS-11 cover contractual issues, while material and construction specifications are provided in Sections SS-1 through SS-127. Sections SS-65 through SS-80 (pages 162 through 176 of the District Standard Construction Specifications) outlines the design and construction criteria that shall be used for sewer installations within the District service area. Further standards are required that are not included in the District's Standard Construction Specifications such as installation and rehabilitation of pump stations, and design criteria specific to gravity piping and forcemains. For such standards the District utilizes Sacramento County Design Specifications, which can be found on Sacramento County's sewer website (www.sacsewer.com).

A copy of the District's Standard Construction Specifications Table of Contents, Sewer Design Specifications, and pertinent standard drawings are provided in Exhibit 5-1, 5-2, and 5-3, respectively.

Inspection and Testing

Per the District Code and General Specifications section GS-5, the District maintains the right to have access to any part of the collection system within the District's service at any reasonable time for the purpose of inspecting or taking any other necessary action with regards to the collection system.

During construction, the General Manager preserves the right to inspect all work and materials used on the collection system during and subsequent to its construction. The District requires that all work be inspected, tested, and approved, in writing, by the General Manager before the newly constructed facilities may be connected to the District's collection system.

EXHIBIT 5-1

Standard Construction Specifications

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RANCHO MURIETA
COMMUNITY SERVICES DISTRICT

STANDARD CONSTRUCTION SPECIFICATIONS

PRICE: $35.00 (Tax Included)

Note: Copies of these specifications may be obtained at the District office located at 14670 Cantova Way, Rancho Murieta, California. Mail orders should be sent to Rancho Murieta Community Services District, P.O. Box 1050, Rancho Murieta, California 95812. There will be an additional charge of $10.00 for mail orders to cover postage and handling.

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT

STANDARD CONSTRUCTION SPECIFICATIONS

The Rancho Murieta Community Services District deems it necessary and advisable and in the public interest to update and revise the District's existing standards governing the construction of drainage, sewage, and water facilities and related public improvements within the District's boundaries to provide for the coordinated and proper construction of facilities to be dedicated to the public and accepted by the District for maintenance or operation, as well as improvements to be installed within the District's rights of way and easements. The attached specification and standard drawings dated May 1, 1993 for said improvements are hereby adopted as the Rancho Murieta Community Services District Standard Construction Specifications.

The General Specifications, Section G-1 through Section G-11 of these Specifications and all portions of the Standard Specifications, Standard Forms Specifications and Standard Drawings which place any duty or responsibility upon the Rancho Murieta Community Services District are intended for use in those contracts entered into and administered by the Rancho Murieta Community Services District. Any use of these General Specifications and the Standard Specifications, Standard Forms Specifications and Standard Drawings by any other person, persons, or entity shall not create or imply the assumption of any liability or responsibility by the Rancho Murieta Community Services District.

Unless otherwise excluded, the Standard Specifications, Sections SS-1 through SS-127 of these specifications shall apply to all materials and construction methods for all construction work both under the direct inspection of the Rancho Murieta Community Services District for contracts awarded, administered and inspected by the Rancho Murieta Community Services District, and for those contracts under the District's indirect inspection awarded by other parties for future dedication or incorporation into the District's facilities, and for construction of private improvements within the District's rights of way or easements.

These Standard Specifications shall be in full force and effect on and after May 1, 1993, but shall not be applicable to any District contracts advertised for bids prior to May 1, 1993 or to any Improvement Plans received for checking on or after June 1, 1993.

Approved:

Date: 4/22/93

Kenneth C. Giberson, District Engineer
Giberson & Associates, Inc.

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EXHIBIT 5-2

Standard Construction Specifications

Sewer Design Specifications

If the pipe material is vitrified clay, the pipe shall be plain end connected with compression type couplings. The bore shall be just large enough to pass the couplings and need not be backfilled. The maximum length of bore shall be 15 feet unless otherwise specified.

Boring shall not be used on sewer services when the required slope is such that probable deviation of the bore from the intended line would result in a final slope of less than 1/4 inch per foot.

SS64-09. WET BORING OF SMALL DIAMETER PIPELINES-- Where expressly specified in the contract documents, 6-inch and smaller pipelines may be installed by wet boring. Pipe material shall be ductile iron as specified in Section SS-55 of these Specifications, with push-on joints. PVC Pressure Class 200 (DR-14) pipe conforming to the requirements of AWWA C900 may be used in lieu of iron pipe. The pipe joint for PVC pipe shall be as specified in Section SS57-03 of these Specifications.

If the diameter of the bored hole is more than 0.1 foot greater than the outside diameter of the pipe to be installed, the void shall be backfilled with sand, soil cement, or grout as directed by the District. The limitation on grade deviation as specified in Section SS67-01 shall apply.

SS-65. PIPE INSTALLATION (SEWER AND DRAINAGE)

SS65-01. PIPE LAYING-- Sewer pipe shall be laid in strict conformity to the prescribed line and grade, with grade bars set and each pipe length checked to the grade line. Three consecutive points on the same rate of slope shall be used at all times to detect any variation from a straight grade. In case any discrepancy exists, the work shall be stopped and the discrepancy immediately reported to the District. In addition, when requested by the District, a string line shall be used in the bottom of the trench to insure a straight alignment of the sewer pipe between manholes. The elevation of the pipe invert shall not deviate from the design elevation by more than $\pm$ 2 percent of the pipe size concerned, or 1 inch whichever is greater. The rate of deviation from grade or returning to grade shall be limited to 1/16-inch per foot of pipe.

For drainage pipes less than 36 inches in diameter, allowable deviation in profile shall be 0.05 foot. For drainage pipes greater than 36 inches in diameter, allowable deviation in profile shall be 0.10 foot; allowable deviation in slope shall be 0.15 foot in any 10 feet length of pipeline.

Pipe laying shall proceed upgrade with the bell ends of bell and spigot pipe placed upstream. Each section of pipe shall be laid to line and grade as herein specified and in such a manner as to form a watertight, concentric joint with the adjoining pipe. The interior of the pipe shall be cleared of all dirt and debris and excess joint sealing material as the work progresses. Pipe shall not be laid when the condition of the trench or the weather is unsuitable. All open ends of sewer pipe and fittings shall be adequately and securely closed whenever the work is

discontinued for more than one-half hour. If pipe with elliptical or quadrant reinforcement is used, care shall be taken to properly orient the axis.

Where plain end vitrified clay pipe with the compression coupling is installed, the Contractor shall tighten the compression bands as pipe laying proceeds. The first length of pipe laid on any run, except where a connection is made to an existing line, shall be anchored securely to prevent movement when each succeeding length is pushed home. After each compression band is torqued, the Contractor shall replace and tamp any bedding material that may have been displaced under the pipe and particularly under the coupler before proceeding with the initial backfill.

All joint surfaces shall be cleaned before joints are made.

The Contractor shall expose the end of existing pipe to be extended, for verification of alignment and elevation, by the District, prior to trenching for any pipe which may be affected. All cost of such excavation and backfill shall be included in the price paid for various items of work. Trench excavation, bedding and backfill shall conform to Section SS-10 and Section SS-12 of these Specifications.

SS65-02. SEWER & DRAINAGE SYSTEM PLUGS-- Temporary plugs of brick or mortar shall be installed on all sewer projects at points of connection to existing facilities. These plugs shall remain in place until completion of the balling and flushing operation. The plugs, intended to prevent water from the balling and flushing operation, drainage, or any other condition from entering the existing system, shall be installed or removed in the presence of and under the direct supervision of the District. Until the system has been pumped clear of accumulated water, the plugs shall not be removed. This water must not be allowed to enter adjacent sewer or drainage systems.

SS65-03. EXISTING UTILITIES-- All utility, service, or other conflicting lines which are not in direct physical conflict with the facility under construction, are to be worked around by the Contractor, and no additional compensation will be made therefor. However, the Contractor for their convenience, may arrange with the owner of the utility to temporarily disconnect house service lines or other facilities along the line of work, and the cost of disconnecting and restoring such utilities shall be borne by the Contractor.

Utility or other lines which are in direct physical conflict with the structural section of the facility being constructed or appurtenant structures thereto, and which cannot be avoided by rerouting the facility being constructed, or for which relocation is not provided for in the plans and Specifications, will be relocated by the owner of the utility prior to or during construction of the project. If these relocations have not been accomplished at the time the contract is awarded, the Contractor shall schedule their work and cooperate with the owner of the utility for the relocation of the conflicting utility so as to cause a minimum of interference with the Contractor's operations.

Should it become necessary to reroute the facility being constructed to avoid an existing utility or other obstruction and such rerouting is ordered by the District, compensation for the installation of such rerouted line shall be made at the unit price bid for the installation of said facility and no additional compensation will be made except as provided for in Section G6-14 of these Specifications. In addition to the above, the Contractor's attention is directed to the other provisions of Section G6-14 of these Specifications.

SS65-04. SEQUENCE-- In all sewer and drainage projects, excepting new subdivision improvements, no more than 3000 lineal feet of pipe shall be installed before starting manhole construction, installation of service sewers on sewer projects, placement of first lift of pavement, and cleanup with this sequence being maintained throughout the construction period unless otherwise directed by the District. The work set forth above at any given location is to be completed within 15 working days after starting construction at that location. No longer than 30 calendar days shall elapse from the time the trench is backfilled until placement of final paving, unless delayed by weather.

SS65-05. INTERNAL INSPECTION-- Upon completion of construction and prior to final inspection, the Contractor shall clean the entire new pipeline of all dirt and debris. Any dirt or debris in previously existing pipes or ditches in the area, which in the opinion of the District resulted from the new installation, shall also be removed by the Contractor. Pipes up to and including 24 inch diameter shall be cleaned by the controlled balling method, except where cover over the top of the pipe at the upstream manhole is three (3) feet or less, alternate means of cleaning may be used if approved by the District in writing. Pipes over 24 inch diameter shall be cleaned as approved by the District. Temporary plugs shall be installed and maintained during cleaning operations at points of connection to existing facilities to prevent water, dirt, and debris from entering the existing facility. Temporary plugs for sewer systems shall also conform to Section SS65-02 of these Specifications. Water from the drainage system operations shall be routed through a suitable trap to collect any dirt and debris prior to discharging into any downstream facility. The Contractor shall notify the District immediately after completion of the pipe cleaning operations. Cleaning of drainage pipes by the controlled balling method will not be required.

As soon as possible after the completion of the pipe cleaning, and prior to placement of pavement, the District may make a visual internal inspection of the new pipeline either manually or with television equipment.

SS65-06. MEASUREMENT AND PAYMENT-- Measurement of pipe shall be the total distance along the centerline of the pipe as installed from center to center of manholes and shall include the straight run of all wyes and tees where used.

The price per lineal foot of pipe includes the furnishing of all materials for construction of the pipe, fittings and connections and all labor, materials, and equipment necessary to excavate the trench, remove all obstructions, remove and replace all utilities where necessary, bed, place and joint the pipe, backfill the trench, restore the surfaces, test the pipe lines, connect to existing manholes or pipes, furnish preconstruction photographs when applicable, and do all other work

necessary to produce a complete and finished job in accordance with the drawings and Specifications. The unit price bid shall be the average price for lines of all depths and bedding types of a given size.

SS-66. PRECAST CONCRETE MANHOLES

SS66-01. ITEM-- Under these items of the Proposal, the Contractor shall bid a price each for constructing the various sizes and types of precast concrete manholes as indicated on the plans and in the Proposal.

SS66-02. DIMENSIONS-- Precast manholes shall consist of cylindrical sections, all with joints and base construction as detailed on Standard Drawing No. S-1 or S-1A for sanitary sewer manholes and No. R-25 for drainage manholes.

SS66-03. SPECIFICATION-- Precast manhole barrels, risers, cones, flat tops, and grade rings shall conform to ASTM Designation: C478 with the additional requirement that the cement used shall be Type II. Twenty-four inch manholes may be precast or cast-in-place as shown on Standard Drawing No. R-27. Manhole sections shall be manufactured without provision for steps.

Flat slab tops shall be constructed of Class A concrete with Type II cement and shall conform to Standard Drawing No. R-25 if Type A standard 60" manhole or S-2 if Type B standard 60" manhole.

Manhole bases may be precast or cast-in-place. If precast, they shall be placed on a minimum of 4 inches of crushed rock of 3/4 inch maximum size. Elevation differentials of inlets and outlets must conform to the plans. Channelization shall conform to the detail on Standard Drawing No. S-1 and to Section SS66-08 of these Specifications. Stubs or couplings provided in precast bases shall be of the same material as the pipe to which they connect unless otherwise approved by the District. The use of a precast base with 6-inch stubs for the connection of 4-inch service sewers is not allowed. If a precast base is installed with a manhole at the end of a cul-de-sac, it shall be manufactured with 4-inch stubs for the service sewers with the crown of the services a minimum of one inch above the crown of the exit pipe. Connection may be made using a resilient connector conforming to ASTM Standard C923 such as Kor-N-Seal, A-LOK, or equal.

Mortar used in finishing the manhole and method of placing shall conform to Section 51 of the State Specifications. An 'Ordinary Surface Finish' as specified in said Section 51 will be required.

SS66-04. CONES-- Standard concentric cones conforming to ASTM Designation: C478 shall be used on all manholes shown on the plans unless otherwise specified. Where depth is insufficient for cones, flat slab tops shall be used. Eccentric cones shall be used where specified

on the plans. An 18-inch high cone, as shown on Standard Drawing No. R-25, may be used for a sanitary sewer manhole where the depth is less than four feet. Lifting holes in precast cones and grade rings shall be plugged with dry-packed mortar.

SS66-05. JOINTS-- Joints in precast manhole shafts shall be made by buttering the joint space previously laid with mortar, or shall be made with preformed plastic sealing gaskets conforming to Federal Specifications SS-S-00210 and installed as recommended by the manufacturer. All joint surfaces shall be thoroughly cleaned prior to placing the sealing compound or buttering with mortar. Both the inside and outside of mortared joints shall be plastered with mortar and the inside brushed to a smooth finish with a wet brush. Special precautions shall be taken to see that the entire joint space is filled with mortar and is watertight.

SS66-06. FRAMES AND COVERS-- Manhole frames and covers shall be of the type and size shown on the plans and shall conform to Standard Drawing No. R-24, or R-24B and Section SS-75 of these Specifications, unless otherwise stated on the plans or in the Special Provisions. Drainage grate manhole covers shall conform to Standard Drawing R-23; if not subjected to vehicular traffic the cover may conform to Standard Drawing R-24A. Frames and covers shall be set flush with the finish grade unless otherwise herein specified or otherwise stated on the plans or in the Special Provisions. In improved areas, there shall be a minimum of a four-inch width collar of concrete placed around the frame after it is set to final grade. The concrete shall extend from two inches below the top of the manhole cone to a point one inch beneath the top of the casting. The joint between the manhole frame and the cone or grade ring shall also be made by buttering the joint space with mortar, except that where a sewer manhole is constructed in a location to remain unpaved, the frame shall in addition be bolted in place using 4-1/2 inch diameter bolts or the joint shall be made using an epoxy adhesive. The adhesive shall be as described in Section 95-2.05 of the State Specifications for Pavement Marker Epoxy Adhesive, Standard Set (Spec. 8040-51B-09). In such unimproved areas, the rim of the frame should be set 12 inches above existing ground level.

SS66-07. CONNECTIONS-- Pipe connections to drainage manholes shall be made so that the pipe is flush with the inside face of the manhole. These connections shall be finished so that entrances are smooth. Unless the manhole is cast around the pipe, connections shall be dry packed with cement mortar as directed by the District.

Pipe connections shall not be made into the cone section of the manhole unless approved by the District.

Pipe stubs for lateral sewers shall be built into the structures as shown on the plans. The outer ends of the stubs shall be sealed securely by a cap or stopper of material compatible with the pipe.

SS66-08. FLOW CHANNELIZATION-- Unless otherwise indicated, flow channels shall be provided in the sanitary sewer manhole base by fillets as shown on Standard Drawing No. S-1. Special care shall be taken to form a smooth transition between inlets and outlets, with good hydraulic properties. Any sharp corners or significant departure from the dimensions indicated

shall be cause for reconstruction. Pipe may be laid continuously through straight run manholes and the top 1/2 of the pipe subsequently cut out inside the manhole, prior to forming the channelization.

SS66-09. CAST PORTION-- The Contractor may, at their option, cast the lower portion of drainage manholes in place. The cast-in-place portion shall not be placed higher than 6 inches above the outside tops of the main incoming and outgoing pipes. Concrete used for construction shall conform to Section SS30-03 of these Specifications. Slump shall not exceed 2 inches as determined by the slump cone method of ASTM Designation: C143, or an equivalent slump as determined by Test Method No. California 533. Minimum and maximum wall thickness for the cast-in-place sections shall conform to the following table:

Manhole Diameter	Minimum Wall Thickness	Maximum Wall Thickness
48"	5"	7"
60"	6"	8"
72"	7"	9"

Inside diameters of cast-in-place portions shall equal the diameter of the manhole specified. Standard precast manhole riser sections and/or cones shall be placed above the cast-in-place section to bring the manhole rim up to grade.

Maximum and minimum wall thickness for cast-in-place portion of manholes shall be strictly adhered to. Concrete on the cast portion may be placed neat against undisturbed earth provided wall thickness requirements are met; otherwise, outside forms shall be required.

SS66-10. DROP CONNECTIONS-- Inside and outside drop sewer connections are detailed on Standard Drawing No. S-2 and shall be installed at all manholes where the plans show sewer connections to be placed. Outside drop connections shall be constructed only at manholes where the plans specifically indicate their construction.

SS66-11. CAST-IN-PLACE GRADE ADJUSTMENT-- Grade adjustment may be made by utilization of precast grade rings or in new subdivisions only by a cast-in-place ring. The latter shall have a minimum height of 4 inches and a maximum of 15 inches. The concrete pour shall extend to one inch beneath the top of the casting. The minimum height of the precast rings shall be 3 inches and the maximum 12 inches.

SS66-12. PAYMENT-- The contract unit price paid for precast reinforced concrete manholes shall be paid at the unit price bid, and shall include excavation, precast concrete items, pipe and fittings for stubs and stoppers and for inside and outside drop sewer connections as detailed on the Standard Drawings, flat top covers, cast iron frames and cover (bolt on type where specified), concrete, backfill, restoration of street surfaces, and all other labor, equipment and material necessary for completion of the structure in accordance with the drawings and Specifications. The unit price bid shall be the average price for manholes of all depths and types indicated on the plans and in the Proposal.

SS-67. SADDLE MANHOLES

SS67-01. ITEM-- Under these items of the Proposal, the Contractor shall bid a price each for constructing the various types of saddle manholes as indicated on the plans and in the Proposal.

SS67-02. SPECIFICATION-- Saddle manholes shall be constructed in accordance with Standard Drawing No. R-26. Risers, cones, and grade rings, flat tops, eccentric cones, and other features of the manholes, shall be constructed in accordance with Section SS-68 of these Specifications.

Manhole frame and cover, Standard Drawing R-24 shall be used unless otherwise specified on the plans or in the special provisions.

Portland cement concrete and reinforcing steel shall conform to Section SS30-03 and Section SS-31 of these Specifications.

SS67-03. PAYMENT-- The contract unit price paid for saddle manholes shall be paid at the unit price bid, and shall include excavation, concrete, precast items, flat top covers, cast iron frames and cover (bolt-on type where specified), concrete reinforcing backfill, restoration of street surfaces, and all other labor; equipment and material necessary for completion of the structure in accordance with the drawings and the Specifications. The unit price bid shall be the average price for manholes of all depths as indicated in the plans and in the Proposal.

SS-68. DROP CONNECTIONS EXISTING MANHOLES

SS68-01. ITEM-- Under this item of the Proposal, the Contractor shall bid a unit price per each for constructing inside and outside drop connections at existing manholes.

SS68-02. SPECIFICATION-- Drop sewer connections shall conform to Standard Drawing No. S-2 of these Specifications unless otherwise detailed on the plans. Outside drop connections shall be constructed only at manholes where the plans specifically indicate their construction.

SS68-03. PAYMENT-- The cost of both inside and outside drop connections to all existing manholes shall be paid for at the unit price bid, and shall include excavation, pipe and fittings, concrete, connections to existing pipes or structures, backfill, restoration of surfaces, and all other labor and equipment necessary for completion of the drop connection in accordance with the plans and Specifications. The cost of inside and outside drop connections constructed with new manholes shall be included in the unit price for precast reinforced concrete manholes as specified in these Specifications.

SS-69. DROP INLET

SS69.01. ITEM-- Under these items of the Proposal, the Contractor shall bid a price per each for constructing the respective types of drop inlets as indicated in the plans and the Proposal.

SS69-02. SPECIFICATION-- Drop inlet types shall conform to the Standard Drawings.

Concrete for inlets shall be Class "B" and conform to Section SS30-03 of these Specifications. Reinforcing steel shall conform to Section SS-31 of these Specifications. The concrete box portion of the drop inlet shall be cast to the proper grade in a maximum of two placements of concrete. Use of grout to adjust the drop inlet frame to the proper grade will not be permitted without specific approval of the District.

Reinforcing bar supports or other approved means shall be used to hold the frame at proper grade during final placement of concrete. Broken pieces of concrete, or other debris, shall not be used for this purpose.

Concrete construction, including formwork, shall conform to Section 51 of the State Specifications. The interior of the drop inlet shall have an Ordinary Surface Finish; exposed top surfaces shall have a Class I Surface Finish. Grate and frame assemblies shall conform to Section SS-83 of these Specifications.

SS69-03. PAYMENT-- The price bid per drop inlet shall be paid at the unit price bid, and shall include all excavation and backfill, concrete, steel, grate, frame, and connections to place the complete unit as set forth on the plans and Specifications. The unit price bid shall be the average price for drop inlets of all depths for the type indicated in the Proposal. Cost of removal and replacement of the required amount of any existing curb and gutter to obtain the standard depression, as shown on Standard Drawing R-6, shall be included in the unit price bid per each drop inlet.

SS-70. INLET AND OUTLET STRUCTURES

SS70-01. ITEM-- Under these items of the Proposal, the Contractor shall bid a price each for construction of inlet structures with trash racks and outlet structures with access control racks.

SS70-02. SPECIFICATION-- Inlet structures with trash racks and outlet structures with access control racks, shall conform to Standard Drawings R-15, R-16, R-17, and R-18. Concrete for inlet and outlet structures shall be Class "B" and shall conform to Section SS30-03 of these Specifications. Reinforcing steel shall conform to Section SS-31 of these Specifications.

SS70-03. PAYMENT-- The price bid each for construction of inlet and outlet structures with racks shall be paid at the unit price bid, and shall include full compensation for all materials, labor, equipment, excavation, and backfill necessary to place the unit, complete, as shown on

the plans and in the Specifications. The unit price bid shall be the average for all sizes of the type of rack shown on the plans.

SS-71. EROSION CONTROL APRONS

SS71-01. ITEM-- Under these items of the Proposal, the Contractor shall bid a price each for constructing pipe or ditch erosion aprons in those locations shown on the plans.

SS71-02. MATERIAL AND PLACEMENT-- The materials for constructing erosion control aprons shall conform to Section SS-37 of these Specifications. Details of placement shall conform to Standard Drawings No. R-19 and No. R-20.

When specified on the plans or in the Special Provisions, erosion control aprons shall be constructed of grouted cobbles conforming to Section SS-82 of these Specifications. No reinforcing will be required in grouted cobble aprons.

SS71-03. PAYMENT-- The unit price bid for pipe or ditch erosion control aprons shall be full compensation for all labor, materials, excavation, backfill and equipment necessary to place the aprons, complete, in accordance with the Specifications and drawings. The unit price bid shall be the average price for all pipe or ditch erosion control aprons of the sizes and types indicated on the plans and in the proposal.

SS-72. GUTTER DRAINS

SS72-01. ITEM-- Under this item of the Proposal, the Contractor shall bid a unit price per each for construction of gutter drains.

SS72-02. SPECIFICATION-- The gutter drain shall conform to Standard Drawing No. R-14.

SS72-03. PAYMENT-- The unit price bid shall include full compensation all excavation, backfill, concrete, frame, grate, connecting elbow and all other work necessary to complete the installation.

SS-73. CASTINGS

SS73-01. MATERIALS-- Castings for manhole frames and covers, drop inlet frames, gutter drain frames, open-back hoods, flushing branch frames and covers, or other purposes, shall be tough grey iron, free from cracks, holes, swells, and cold sheets, and be of workmanlike finish. A "Certificate of Compliance" signed by an authorized agent of the manufacturer or supplier

shall be required and be delivered to the District as specified herein. Each certificate so furnished shall be accompanied by a copy of test results stating that the material has been sampled, tested, and inspected in accordance with the provisions of the latest issue of ASTM A-48, Gray Iron Castings. Test bars shall be cast and tested for the first lot of casting and every four (4) months thereafter. If production is interrupted for any period longer than four months, test bars shall be cast and tested from the initial lot after production is resumed and every four (4) months thereafter. The first lot is defined as the first castings produced after January 1st of each year. The tension tests specified shall be performed and the results certified by an independent testing laboratory located in the United States of America. The cast iron shall meet the requirements of ASTM Designation: A 48, Class 25. The seating faces of manhole covers and frames shall be machined as shown on the drawings to assure a tight fit and prevent rocking. The name of the manufacturer shall be cast on the manhole cover and on the frame. In addition, the day, month and year of manufacture shall be cast on the frame and cover adjacent to the name of the manufacturer. Twenty-four inch diameter manhole frames and covers shall conform to Standard Drawing No. R-23, R-24 or R-24A unless otherwise specified on the plans or in the Special Provisions. Thirty-six inch diameter manhole frames and covers should conform to Standard Drawing R-24B.

When required by the District, proof-load tests shall be performed on manhole frames and covers in accordance with paragraph 4.7.1 and paragraph 3.11.1 of Federal Specifications RR-F-621C (August 10, 1977) or the latest issue.

When locking type covers are specified, they shall be standard covers drilled and tapped on 120° centers and bolted to the frame with 7/16" x 1-1/4" brass hex head cap screws.

Exposed edges of castings shall be chamfered or rounded, and all exposed surfaces shall be smooth unless otherwise shown.

Manhole frames and covers shall be clearly marked with the country of origin as specified in the Trade and Tariff Act of 1984.

At the Contractor's option, drop inlet frames and open back hoods may be fabricated from steel plate and structural shapes in lieu of cast iron. If the Contractor elects to use fabricated steel drop inlet frames or open back hoods he shall submit drawings of these items to the District for approval prior to fabrication. This submittal requirement does not apply to the drop inlet frame shown on Standard Drawing R-5.

SS73-02. PAYMENT-- The cost of furnishing and placing manhole frames and covers, flushing branch frames and covers, drop inlet frames, gutter drain frames and hoods shall be included in the contract unit price bid for manholes, drop inlets, gutter drains and/or other items of work.

SS-74. ADJUST MANHOLES TO GRADE

SS74-01. ITEM AND PAYMENT-- Under this item of the Proposal, the Contractor shall bid a price per each for adjusting manholes and flusher branches to grade or elevation as indicated on the plans and as directed by the District. Adjustment may be made by utilization of precast grade rings or by a cast-in-place ring, in accordance with Section SS66-11 of these Specifications.

SS74-02. SPECIFICATIONS-- Method and payment for adjusting manholes shall conform to Section 15-2.05A of the State Specifications, except that raising devices are not allowed and the unit price bid shall include all necessary excavation, backfill, sealing and concrete and that the unit price shall be the average of all depths and limits of adjustment required.

SS74-03. MANHOLES WITHIN TRAFFIC LANES-- Adjusting manholes to grade within marked traffic lanes shall be completed, including placing paving material around and to the level of the ring and cover, by the end of the same day on which work is started. If permanent pavement backfill cannot be completed by the end of the work day, the Contractor shall place temporary paving material to the level of the cover.

SS-75. FLUSHING BRANCHES

SS75-01. ITEM-- Under this item of the Proposal, the Contractor shall bid a unit price per each for flushing branches.

SS75-02. SPECIFICATIONS-- Flushing branches shall be constructed as shown on Standard Drawing No. S-6 of these Specifications and at the locations shown on the plans. Size and kind of pipe and fittings shall be the same as the sewer to which the flushing branch connects.

SS75-03. PAYMENT-- The unit price bid for flushing branches shall include excavation, pipe, precast concrete items, cast iron frame and cover, concrete, backfill, restoration of surfaces, and all other labor, equipment and materials necessary for completion of the structure in accordance with the plans and Specifications.

SS-76. PIPE CONNECTIONS TO STRUCTURES

SS76-01. METHOD-- Unless otherwise specified, pipe connections to existing manholes and other structures shall be made in a neat and workmanlike manner. Removal of interfering portions of the concrete manhole or structure shall be made with a masonry saw or other acceptable cutting tools. The "cut-out" area shall not exceed an area greater than the outside connecting pipe diameter plus 2 inches. Damage to an area greater than the outside connecting

pipe diameter plus 2 inches shall be repaired to the satisfaction of the Engineer and may require the replacement of the damaged manhole barrel section.

The minimum spacing between pipes connecting into manholes or structures shall be 10 inches outside pipe diameter to outside pipe diameter or 6 inches outside annular cutout edge to outside annular cutout edge, whichever is greater.

The annular space between the connecting pipe and manhole barrel or other structures shall be tightly packed with concrete. Concrete shall be Class "A" Portland Cement concrete aggregate gradation of fine aggregate, No. 16 sieve size per State Specification, Section 90-3, as directed by the Engineer. Surfaces in contact with the annular concrete seal around the connection pipe shall be thoroughly moistened and then scrubbed with Portland Cement paste. The concrete seal shall be trowelled smooth and flush with the interior surface of the manhole or structure.

All sewer pipe shall be connected to existing structures and manholes by means of a flexible joint within one pipe diameter or two feet of the structure, whichever is greater, unless otherwise shown on the drawings or herein specified.

Channelizing of the flow through sanitary sewer manholes shall conform to the details shown on the standard drawing for new manholes.

The Contractor shall notify the District one working day in advance before a connection is made to an existing structure or manhole. He shall schedule his work so that interruption of flow is held to a minimum.

SS76-02. PAYMENT-- The cost for constructing connections to existing manholes or structures shall be included in the cost per lineal foot of the size and type of pipe to be connected and no additional compensation will be allowed therefore.

SS-77. PIPE CONNECTIONS TO OTHER PIPES

SS77-01. FIELD CONNECTIONS-- When a lateral drainage pipe is to be connected directly into a larger drainage pipe, the connection shall be made so that the lateral pipe is flush with the inside face of the larger pipe. Field connections between concrete pipes or concrete pipes and metal pipes shall be dry packed with cement mortar and a concrete collar shall be placed around the pipe as shown on Standard Drawing No. R-4. Field connections between metal pipes shall be made as specified in Section SS-50 of these Specifications.

SS77-02. SERVICE SEWER-- When a service sewer is to be connected to an existing lateral or trunk sewer, the Contractor shall make the tap into the existing sewer. Application should be made to the District, and the required fees paid, at least 5 working days in advance of the time the tap is desired. All excavation, shoring and bracing, and backfill, and the installation of the remainder of the service sewer shall be done by the Contractor. (Note: The above applies

only when the service sewer is constructed as part of an improvement contract. For rules regarding the installation of an individual service sewer, contact the District.)

SS77-03. PAYMENT-- No separate payment will be made for connections into existing pipes and the cost thereof shall be included in the price bid per lineal foot for the respective sizes, grades and types of pine to be placed.

SS-78. SERVICE SEWERS

SS78-01. ITEM-- Under these items of the Proposal, the Contractor shall bid a price per each for the respective sizes of service sewers.

SS78-02. INSTALLATION-- Service sewers shall be installed as detailed on Standard Drawing No. S-5 and at the locations shown on the plans. Unless otherwise specified, they shall be 4 inch diameter and constructed to the property line or easement line. Service sewer material shall be the same as the lateral to which it is connected except that ABS-DWV (schedule 40, ASTM D2661) may be connected to a VCP "T" or "Y" as shown on Standard Drawing No. S-5. A regularly manufactured "T" or "Y" fitting shall be used in the lateral sewer for each service sewer and shall be inclined upwards at a minimum angle of 10 degrees from the horizontal. The ends of all service sewers shall be securely sealed by stoppers in such a manner that the stoppers can be removed for extending the line without damage to the pipe. Unless otherwise noted on the plans, the depth of cover of the service sewer at the easement or property line shall be a minimum of 4 feet and a maximum of 5 feet below existing ground or edge of adjacent roadway, whichever is at the lower elevation, except that the minimum depth of cover shall be 5 feet and the maximum 6 feet where a water main is to be installed at back of sidewalk as part of the subdivision improvements. In such cases, as detailed on Standard Drawing No. S-5, the service shall also be extended to 4 feet back of curb or if sidewalk is to be constructed, 2 feet back of sidewalk. An elevation shown on the plans with a service sewer represents the house service invert elevation at the easement or property line. The elevation given shall be a maximum allowable elevation, and the minimum slope of the service shall be 1/4 inch per foot. If the service is to be bored, the tolerance of the operation must be within these limits.

Service sewers entering a manhole shall be set to an invert to crown match with the outgoing pipe, or internal drops shall be used, except at the end of cul-de-sacs as specified in Section SS66-03 of these Specifications. Standard Drawing No. S-3 indicates the required channelization.

Where the plans and Specifications require the reconnection of an existing service sewer to a pipeline to be installed with the improvements, only the inspection of that portion of the construction within right-of-way or easement shall be the responsibility of the inspector for the improvements. The remainder of the work shall be inspected by the Building Inspection Division, subject to issuance of necessary permits.

SS78-03. CLEANOUT TO GRADE-- Unless otherwise noted on the plans, cleanouts shall be provided for all service sewers which do not require a manhole at property or easement line. The cleanout shall be installed two feet back of the sidewalk or at the easement line if the service is located within a side or back of lot easement. A concrete or PVC box shall be set to finish grade of the property. The cleanout and service shall be of like material and diameter. For details, see Standard Drawing No. S-9.

Where the plans delete the requirement for the installation of the cleanout to grade with the improvements, a 4" x 4" post shall be placed at the end of the service sewer, extending from the flow line to not less than 12 inches above ground surface. If construction of the cleanout is deferred and ABS or PVC pipe and fittings are subsequently used, see Standard Drawing Nos. S-10 or S-11 for details.

SS78-04. LOCATION-- Where curb and gutter exists, or is to be constructed concurrently with the sewer facilities, the location of each service sewer shall be permanently indicated by inscribing the letter "S" in the curb directly above the line when the service is perpendicular to the street centerline. Otherwise, the "S" mark for a skewed or angling service shall be placed at a right angle to the end of the service. When service sewers are installed in an existing street, the curb mark shall be placed at the time the service is installed to assure proper location.

The Contractor shall also furnish this information to the inspector. The Contractor may arrange with the Consulting Engineer for the subdivision, to resurvey and reestablish the end of each service before the curb and gutter is placed in lieu of the above requirements to insure that the "S" is properly placed.

SS78-05. PAYMENT-- The unit price bid for service sewers shall include the furnishing of materials necessary for construction of the services and all labor and materials necessary to excavate the trench, connect to existing manholes or lateral sewers, bed, place, and joint the pipe and fittings, backfill the trench, restore the surface, inscribe the letter "S" on the curb, install the cleanout and all other work necessary to produce a complete installation in accordance with the drawings and Specifications. The unit price bid shall be the average price for service sewers of all lengths as indicated on the plans and in the Proposal.

SS-79. SANITARY SERVICE SEWER RELOCATIONS

SS79-01. ITEM AND PAYMENT-- Under these items of the Proposal, the Contractor shall bid a lump sum price each for relocating sanitary service sewers which would be in conflict with the structural section of drain lines or other features of the project. The lump sum price bid under this item shall include removal of existing sewer pipe and all labor, materials, equipment, and incidentals necessary for placing the new sewer pipe and connecting to the existing sewer. When specified on the proposal that a new tap is to be constructed with the service, the price bid shall include the permit and construction cost for the new tap. If a new tap is required but

is not specified in the Proposal, the permit and construction costs of the tap shall be paid for as extra work as specified in Section G8-03.

The exact locations of these services may not be known; therefore, quantities shown on the Proposal are approximate only, and may be reduced, increased, or deleted as required during construction.

SS79-02. INSTALLATION-- Sanitary service sewer relocations shall be constructed in conformance with Section SS-78 of these Specifications and other applicable sections of these Specifications and as directed by the District. When the relocation requires placing the service sewer above the storm drain line, ductile iron sewer pipe of the appropriate size, conforming to Section SS-55 of these Specifications, shall be placed in accordance with Standard Drawing No. S-7. PVC Pressure Class 200 (DR-14) pipe conforming to the requirements of AWWA C900 may be used in lieu of iron pipe. No additional payment will be made for the iron or PVC pipe.

Ductile iron sewer pipe or PVC pipe as above specified shall also be used when the service sewer is relocated beneath the drain pipe and clearance between the pipes is 0.5 foot or less.

If a service sewer relocation requires that a tap be made to an existing lateral or trunk sewer, such tap will be made by the Contractor in accordance with Section SS78-02 of these Specifications.

SS-80. SANITARY SEWER CROSSINGS

SS80-01. ITEM AND PAYMENT-- Under these items of the Proposal, the Contractor shall bid a price per lineal foot for replacement of each of the respective sizes of sanitary sewer pipe, including service sewers, which cross over the proposed utility or drain pipe, as indicated on the plans or in the Special Provisions and as directed by the District. The bid price per lineal foot shall include removal of existing sewer pipe, and all labor, pipe, couplings, and other material necessary for placing the pipe and connecting to the existing sewer pipe.

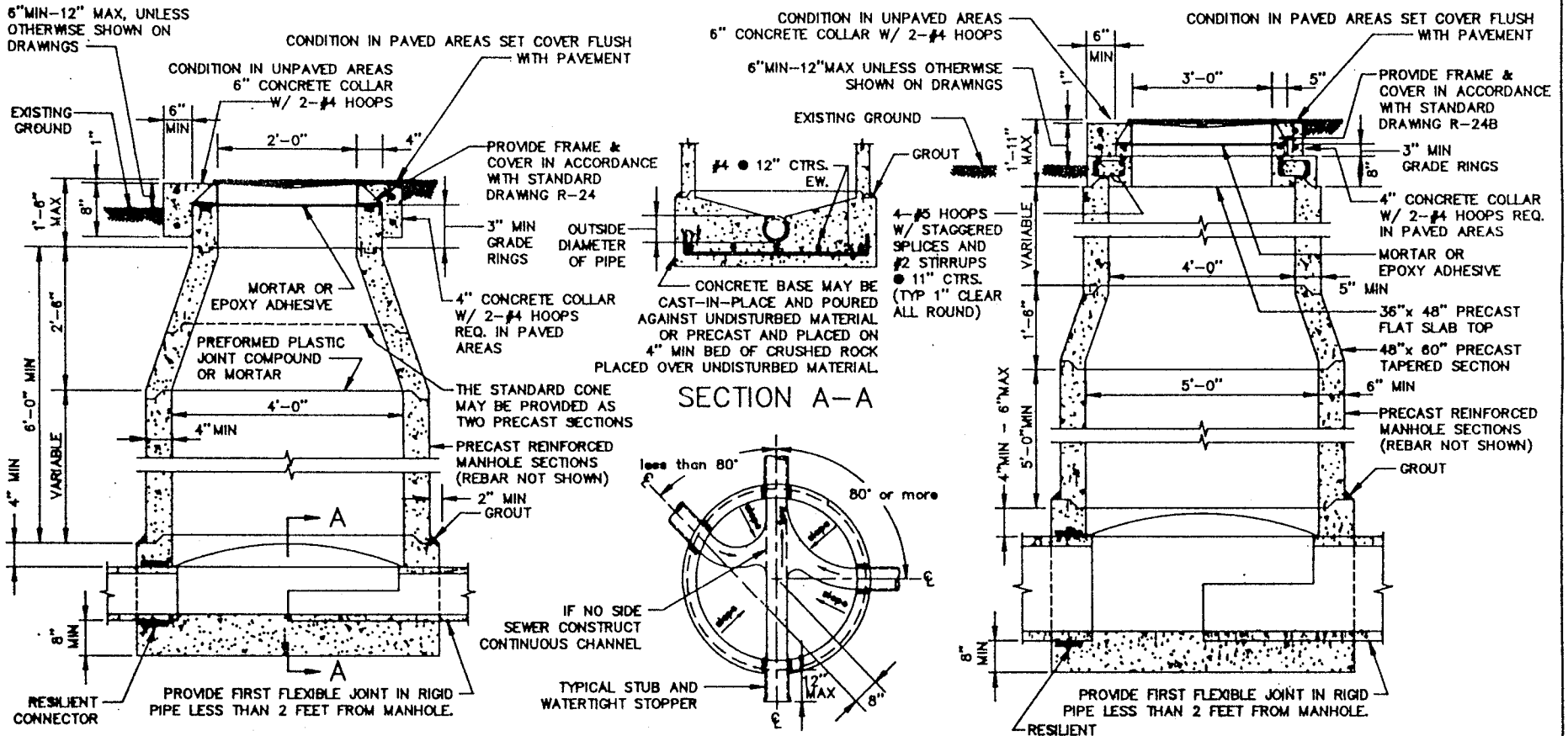
Quantities shown on the Proposal for these items are approximate only and may be reduced, increased, or deleted as required during construction.

SS80-02. INSTALLATION-- Sanitary sewer pipe crossings shall be constructed in accordance with Standard Drawing No. S-7. Ductile iron sewer pipe used for replacing existing pipe shall conform to Section SS-55 of these Specifications. PVC Pressure Class 200 (DR-14) pipe conforming to the requirements of AWWA C900 may be used in lieu of iron pipe.

EXHIBIT 5-3

Standard Construction Specifications

Select Standard Drawings



(TYPE A)

GENERAL NOTES -

1. CLASS A CONCRETE SHALL BE USED FOR MANHOLE BASES.
2. PIPE MAY STOP AT INSIDE FACE OF MANHOLE OR MAY BE CONTINUOUS THROUGH MANHOLE. IF PIPE LAID CONTINUOUS, TOP HALF SHALL BE BROKEN AWAY AFTER BASE IS POURED.
3. JOINTS FOR THE BARREL SECTION SHALL BE TONGUE AND GROOVE. ALL JOINTS MUST EITHER BE MADE WITH PREFORMED PLASTIC JOINT SEALING COMPOUND OR BY BUTTERING THE JOINT SPACE WITH MORTAR.

MANHOLES EIGHT OR MORE FEET IN DEPTH ARE TO USE ECCENTRIC CONES WITH THE STRAIGHT SIDE DOWN STREAM.

ALL MANHOLE EXTERIORS SHALL RECEIVE KOPPERS BITUMASTIC NO. 500M (16 MILLS MIN.), OR EQUAL WATER-PROOF PROTECTION.

- CONNECTION OF THE PIPE TO THE MANHOLE MAY BE MADE USING A RESILIENT CONNECTOR CONFORMING TO ASTM STANDARD C923 SUCH AS KOR-N-SEAL, A-LOK, OR EQUAL.
- ANY SERVICE SEWER ENTERING A MANHOLE SHALL BE INSTALLED WITH THE INVERT ELEVATION OF THE SERVICE PIPE MATCHING THE CROWN ELEVATION OF THE EXIT SEWER EXCEPT WHEN AN INTERNAL DROP CONNECTION IS USED. IF THE MANHOLE AT THE END OF A CUL-DE-SAC IS CONSTRUCTED WITH A PRECAST BASE, THE CROWN OF ANY SERVICE STUBS SHALL BE A MINIMUM OF ONE INCH ABOVE THE CROWN OF THE EXIT PIPE.

APPROVED BY:

RANCHO MURIETA COMMUNITY SERVICES DISTRICT

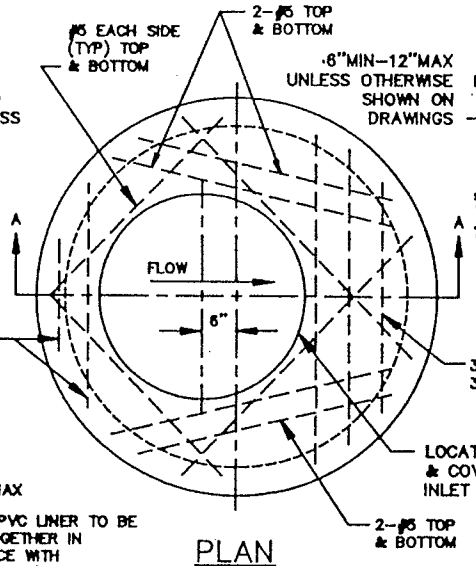
STANDARD 48" & 60" SEWER MANHOLES (TYPE A)

DATE:
DRAWN BY:

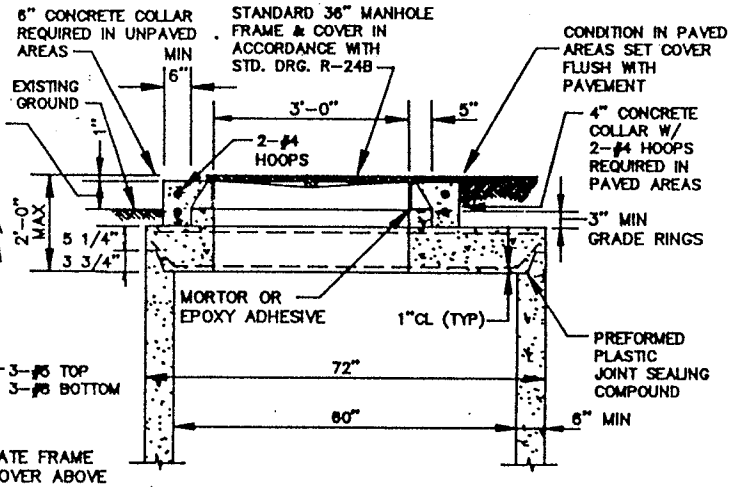
S-1

GENERAL NOTES –

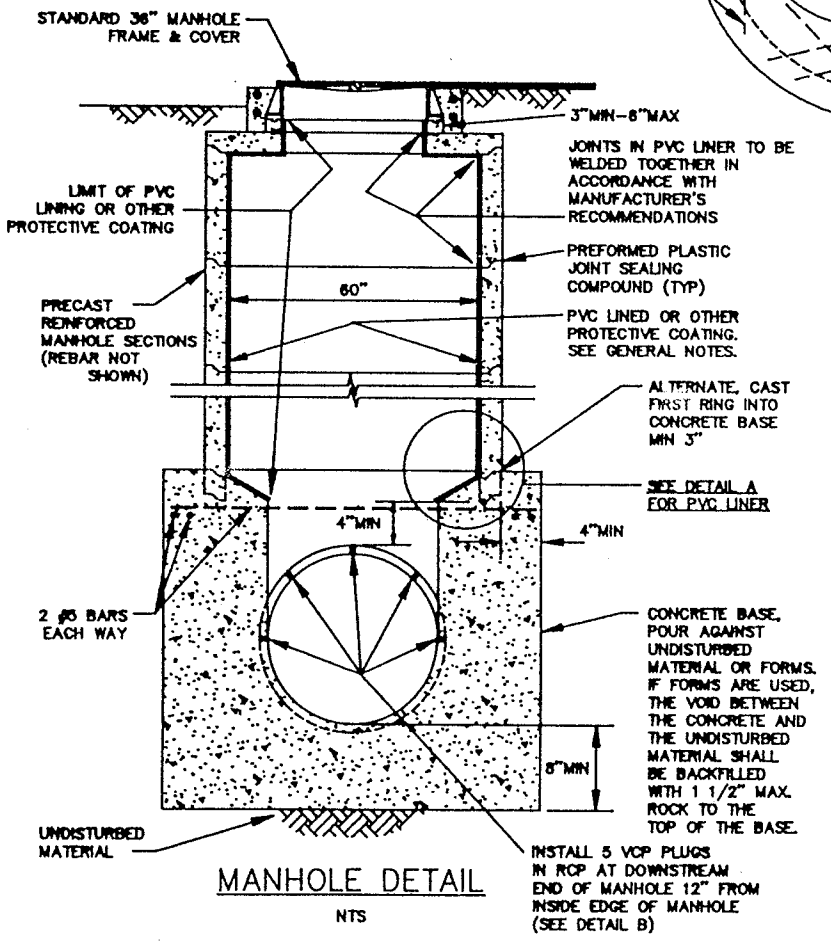
1. PROTECTIVE COATING SHALL BE (a) QUANTUM AS MANUFACTURED BY POLYMORPHIC POLYMER'S CORP. OF MIAMI SHORES, FL. MINIMUM THICKNESS OF MULTILAYERED MODIFIED UNSATURATED POLYESTER COATING SHALL BE 125 mil. (b) CONCRESIVE 1305 AS MANUFACTURED BY ADHESIVE ENGINEERING CO. OF SAN CARLOS CA. MINIMUM THICKNESS OF MULTILAYERED, SPRAY APPLIED AMINE CURED EPOXY SHALL BE 40 mils. (c) OR EQUAL.
2. BOTH PVC LINING AND PROTECTIVE COATINGS SHALL BE SPARK TESTED FOR INTEGRITY AFTER INSTALLATION.
3. PROTECTIVE COATING SHALL BE APPLIED TO MANHOLE SHELVES, UNDERSIDE OF COVER SLAB, INSIDE OF GRADE RINGS AND ALL OTHER PLACES WHERE PVC IS SHOWN ON DETAIL BELOW.



PLAN



SECTION A–A



MANHOLE DETAIL

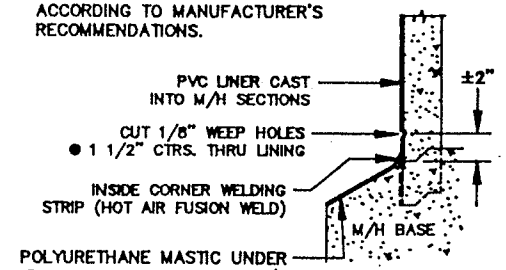
NTS

STANDARD SLAB TOP DETAILS

NTS

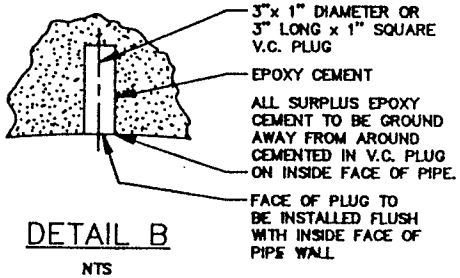
INSTALLATION REQUIREMENTS FOR PVC SHELF LINER

1. 30 mil PVC SHELF LINER SHALL BE PRECUT AND PREPARED ABOVE GROUND PRIOR TO INSTALLATION WITH SAND EMBEDDED NON-SKID SURFACE 1"± IN FROM EDGE, ACCORDING TO PVC SHEETING MANUFACTURERS RECOMMENDATION.
2. COAT CLEAN AND DRY CONCRETE SURFACE OF M/H SHELVES w/LINABOND PRIMER EP30 AND LINABOND POLYURETHANE MASTIC TO A MIN. THICKNESS OF 125 mil. ALSO COAT CONTACT SIDE OF THE PRECUT PVC SHEETING WITH LINABOND CLA –1 ACTIVATOR ALL AS MANUFACTURED BY ALLIED COATINGS CO. OF HOLLYWOOD, CA OR EQUAL (SUBMITTAL WILL BE REQUIRED)
3. ALL MATERIALS SHALL BE APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.



DETAIL A

NTS



DETAIL B

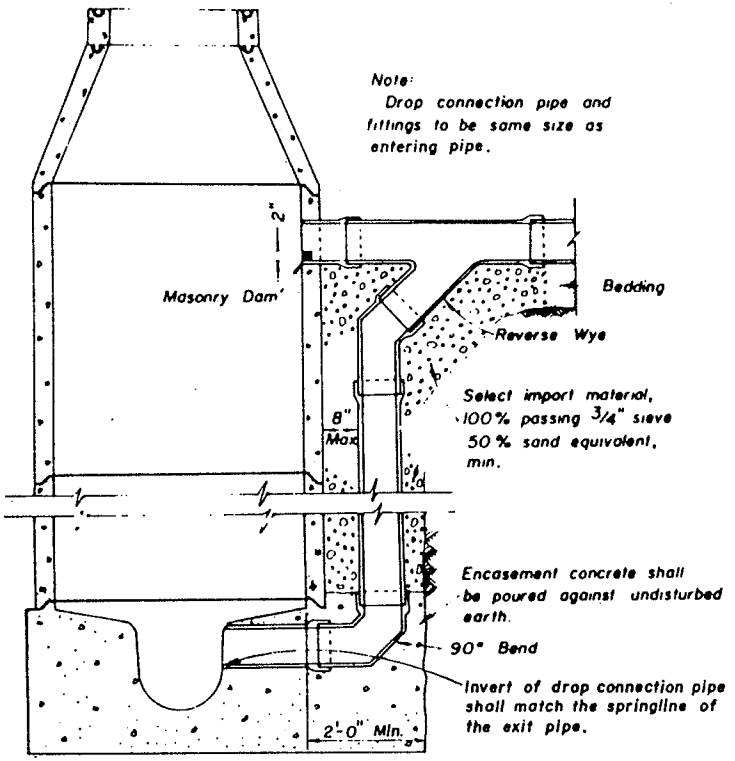
NTS

APPROVED BY:

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT

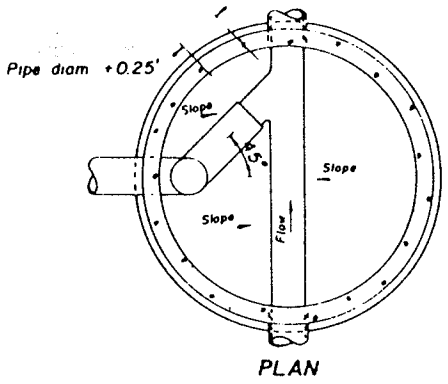
STANDARD 60'' MANHOLE (TYPE B)

NO SCALE DATE: DRAWN BY:	S–2



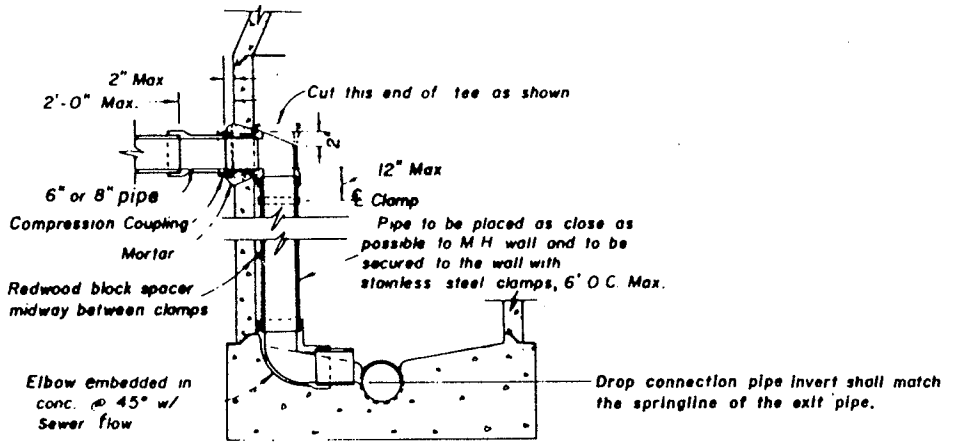
OUTSIDE DROP CONNECTION

For 10" or larger drop or where specifically indicated on the drawings.



PLAN

Note
1. All inside drop piping to be PVC or ABS.
2. Cement all joints
3. Drop connection pipe and fittings to be same size as entering pipe.
4. Clamps to be 1 1/2" x 12 ga stainless steel, anchored to M H wall with 2 - 1/2" cadmium plated bolts.



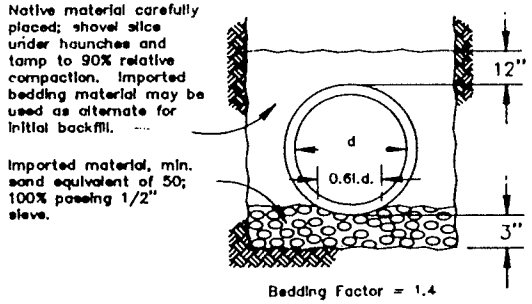
INSIDE DROP CONNECTION

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT

DROP CONNECTIONS

NO SCALE DATE: DRAWN BY	S-3

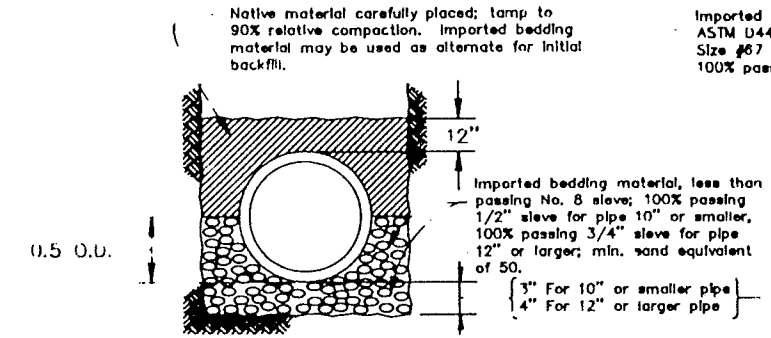
APPROVED BY:



Bedding Factor = 1.4

TYPE I

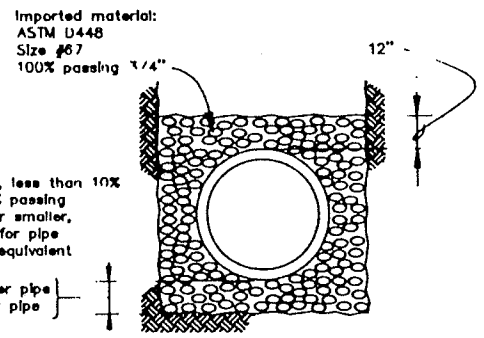
(This type of bedding is to be used only for 10 inch or smaller pipe unless written approval is granted by the



Bedding Factor = 1.9 for Type II;

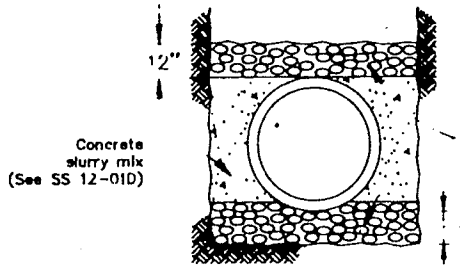
TYPE II

(See Note 8)



Bedding Factor = 2.2 for 36"or less; for greater than 36" dia. field condition only (see note 3).

TYPE II ALTERNATE

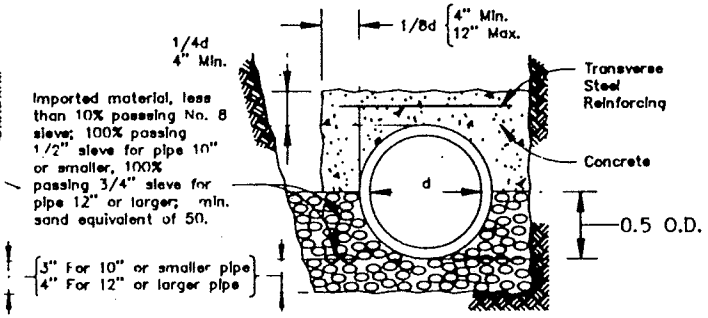


Bedding Factor = 2.3

TYPE III

(See Note 4)

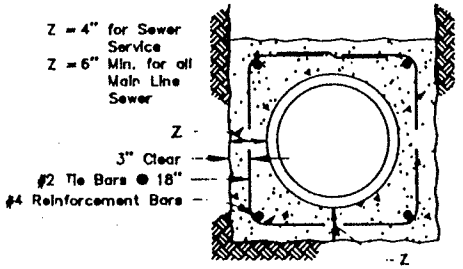
(Concrete must extend from pipe to the trench walls. Type III not allowed where soils are expansive)



Bedding Factor = 3.4
P = 0.4%

TYPE IV

(See Notes 4 & 5)



COMPLETE ENCASEMENT DETAIL

GENERAL NOTES:

1) See Sections SS12-01, 04 and 05 for backfill limits.

2) Minimum depth of bedding and material under pipe bells shall be 1 1/2 inches.

3) For Type II Alternate, bedding and initial backfill shall be crushed stone with a sieve analysis listed as Size #67 in ASTM Designation D448, except that 100 percent shall pass the 3/4 inch sieve. For pipe greater than 36" in diameter Type II Alternate shall be allowed only when field encountered construction conditions have resulted in the allowable trench width for Type II being exceeded and calculations must be submitted for the Engineer's approval to determine the appropriate bedding factor for the situation. Design Method No. 38 as published by the American Concrete Pipe Association shall be the basis for the calculations. Maximum allowable Bedding Factor is 2.2.

4) Types III and IV may be used only when construction conditions encountered in the field have resulted in the allowable trench width for Type II and Type II Alternate being exceeded. Written approval of the Engineer is necessary.

5) For reinforced concrete, P is the percentage of the area of transverse steel to the area of concrete above the top of the pipe barrel. Use wire mesh or uniformly distributed small diameter rebar.

6) For all flexible (non-rigid) pipe, imported material must be used for bedding and initial backfill to 12 inches over pipe bell.

7) Increase pipe bedding to 6" below pipe when rock or boulders are encountered.

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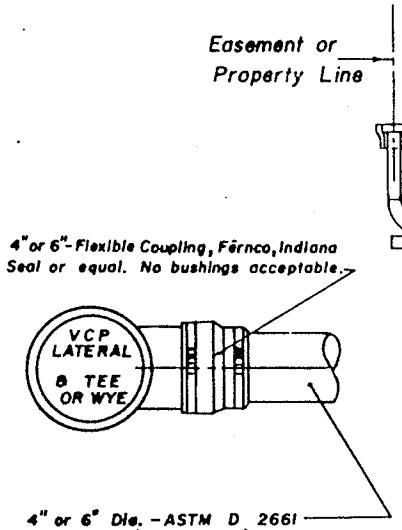
RANCHO MURIETA COMMUNITY SERVICES DISTRICT

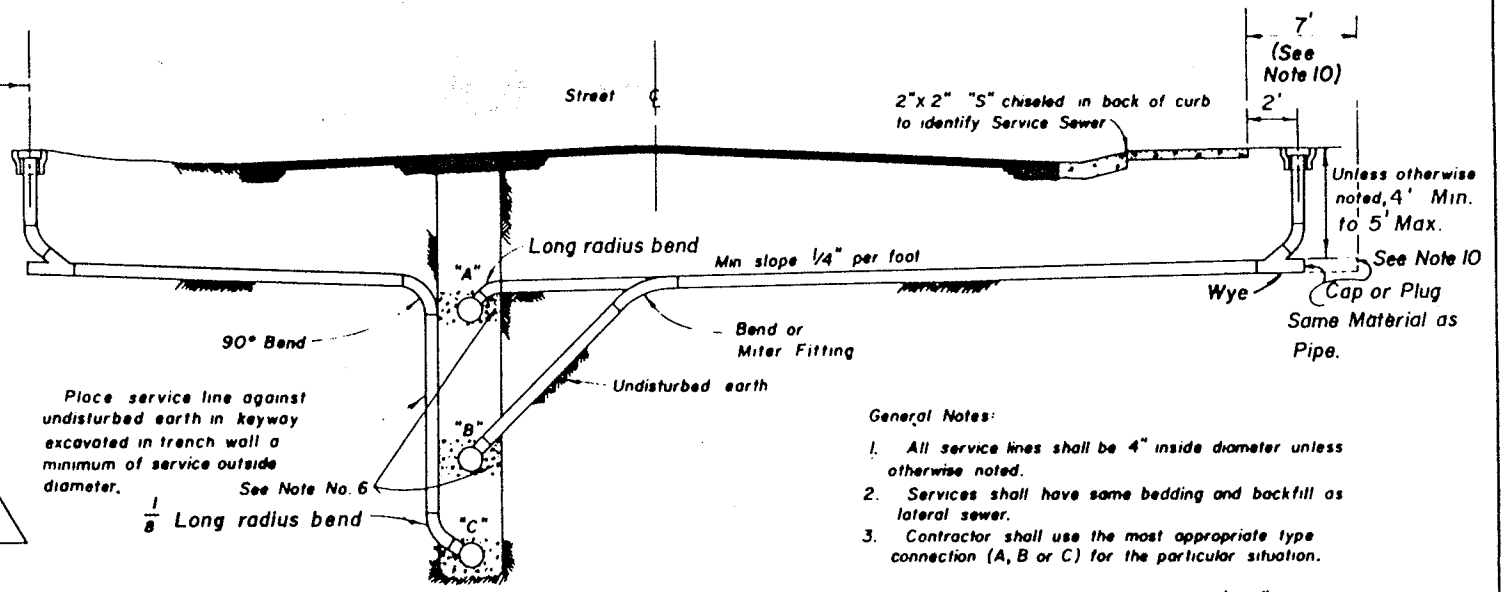
SEWER PIPE BEDDING & INITIAL BACKFILL

NO SCALE
DATE:
DRAWN BY:

S-4



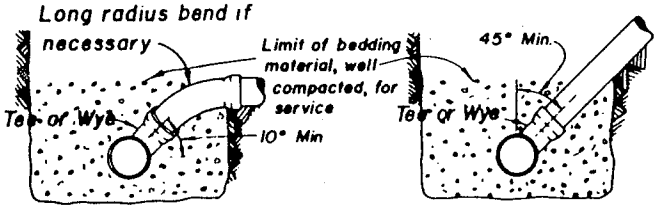
ALTERNATE ABS SERVICE SEWER CONNECTION TO VCP



ELEVATIONS

General Notes:

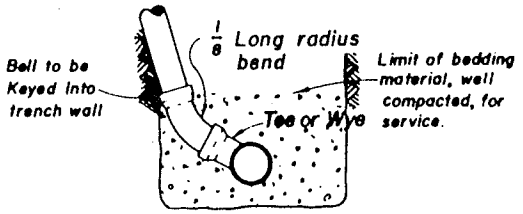
1. All service lines shall be 4" inside diameter unless otherwise noted.
2. Services shall have same bedding and backfill as lateral sewer.
3. Contractor shall use the most appropriate type connection (A, B or C) for the particular situation.
4. Service sewer shall have minimum 4'-0" cover at property line whenever lateral depth and service sewer slope of 1/4" per foot (minimum) permit. See note 10.
5. When the lateral sewer depth is such that minimum cover at property line cannot be met, the minimum slope of 1/4" per foot shall govern the cover.
6. Place concrete 12" wide or well compacted bedding material 18" wide under the tee or wye, the fitting, and unsupported pipe. When bedding material is used, place additional bedding material to top of bend, the full width of the trench
7. Min. specified cover at the property line shall be measured from existing ground surface or edge of adjacent roadway, whichever is lower.
8. A specific elevation at the property line, when shown on the plans or designated by the engineer, shall govern.
9. Miter fittings shall be max 45°



TYPE A

TYPE B

CONNECTION DETAILS



TYPE C

10. Minimum depth of cover to be 5'-0" and maximum 6'-0" where water main is to be installed at back of sidewalk as part of the subdivision improvements. In such cases, service is to be extended to 7' back of sidewalk; cleanout to grade to remain 2' back of sidewalk and optional installation of 4"x 4" post not alloweble.

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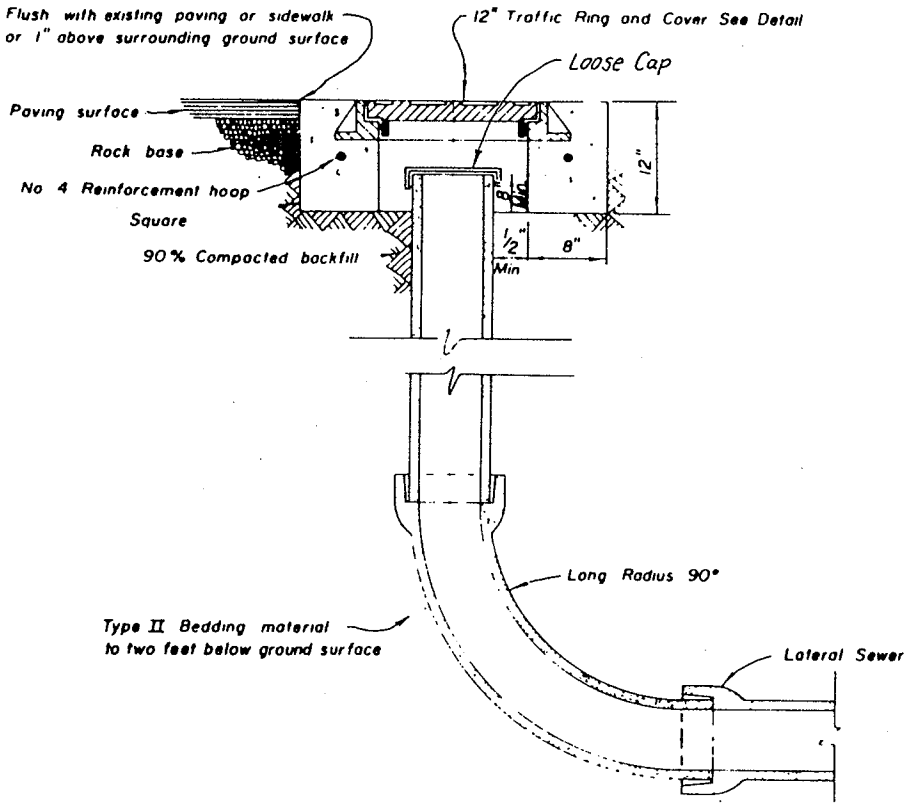
COMMUNITY SERVICES DISTRICT

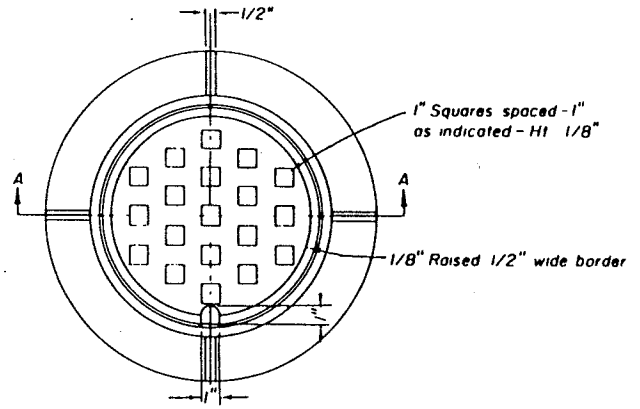
SERVICE SEWERS

NO SCALE
DATE:
DRAWN BY

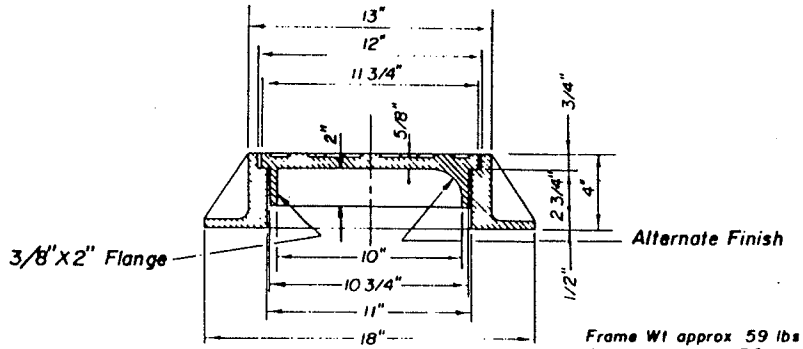
S-5



FLUSHING BRANCH



TYPICAL 12" TRAFFIC RING & COVER



Frame Wt approx 59 lbs
Cover Wt approx 28 lbs

SECTION A-A

NOTE

All pipe and fittings shall be the same size and material as the horizontal pipe to which they connect

Joint shall be as specified for the type of pipe used

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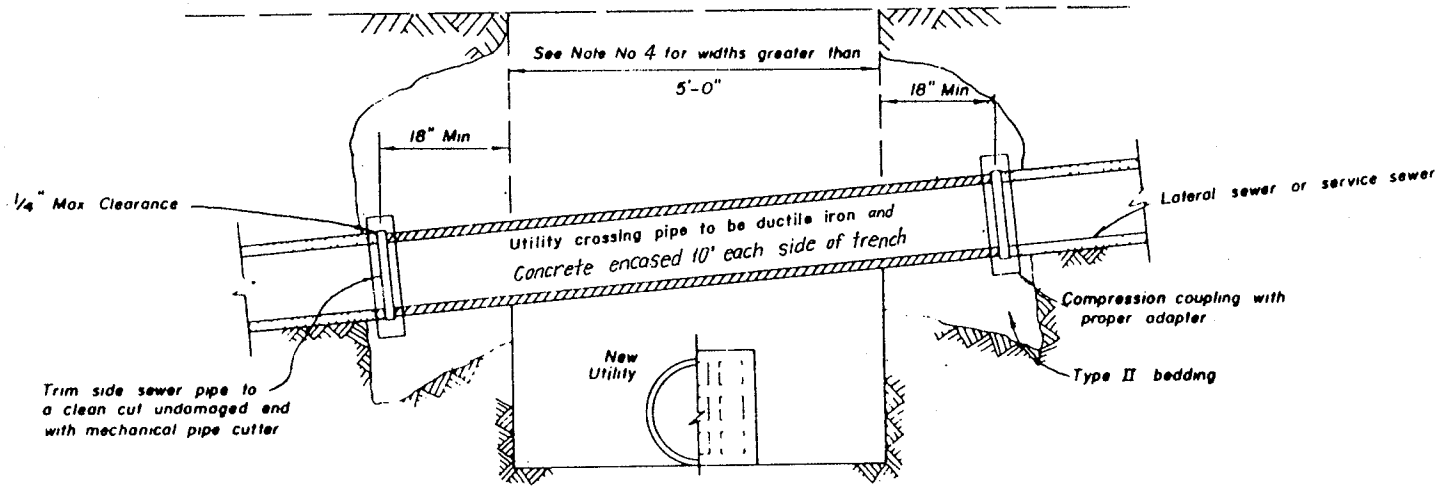
COMMUNITY SERVICES DISTRICT

FLUSHING BRANCH

NO SCALE
DATE:
DRAWN BY

S - 6



Notes:

1. Inside diameter of utility crossing pipe to be the same as the pipe to which it connects.
2. This detail shall apply whenever the lateral or service sewer is cut or damaged when construction passes beneath the lateral or service sewer.
3. Alteration of sewer grades will be permitted only after written permission has been received from the Engineer.
4. Whenever the span, whether caused by trench width or crossing angle of the utility crossing pipe exceeds 5'-0", place Type II bedding to 12" above the pipe and 18" each side of its center line.

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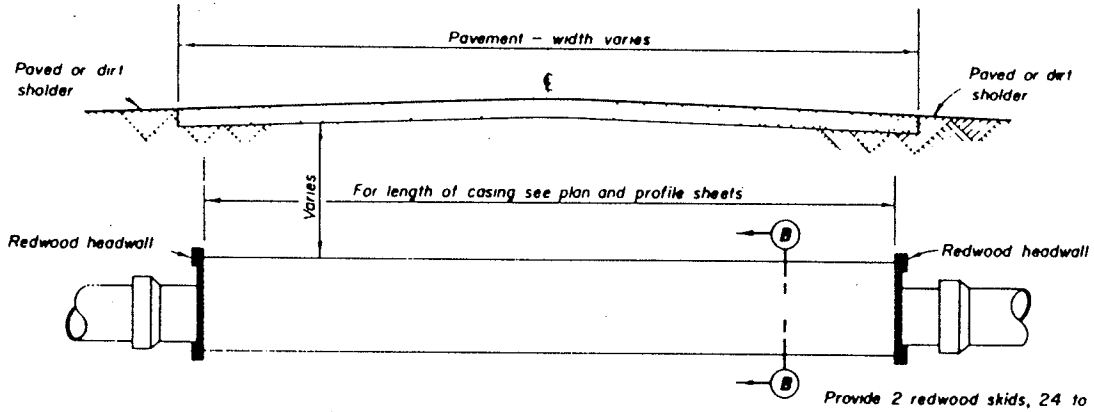
COMMUNITY SERVICES DISTRICT

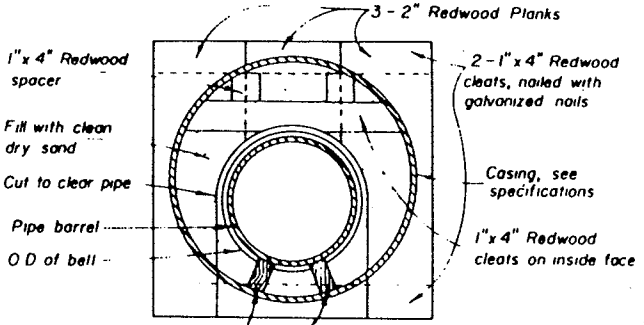
UTILITY CROSSING

NO SCALE
DATE
DRAWN BY

S-7



PROFILE



Note In lieu of 3 - 2" redwood planks, headwall may be of redwood plywood of thickness approved by the Engineer

SECTION B – B

Provide 2 redwood skids, 24 to 30 inches in length, near the center of each section of conducted V.C sewer pipe

Conducted water pipe shall have two pairs of skids, each 24 to 30 inches in length, centered approximately one – fifth the pipe length from each end

Skids to be of size such that bell clears conductor Skid height not to be more than 50% more than width Skids are to be secured to pipe by straps, one at each end Groove skids for strap clearance

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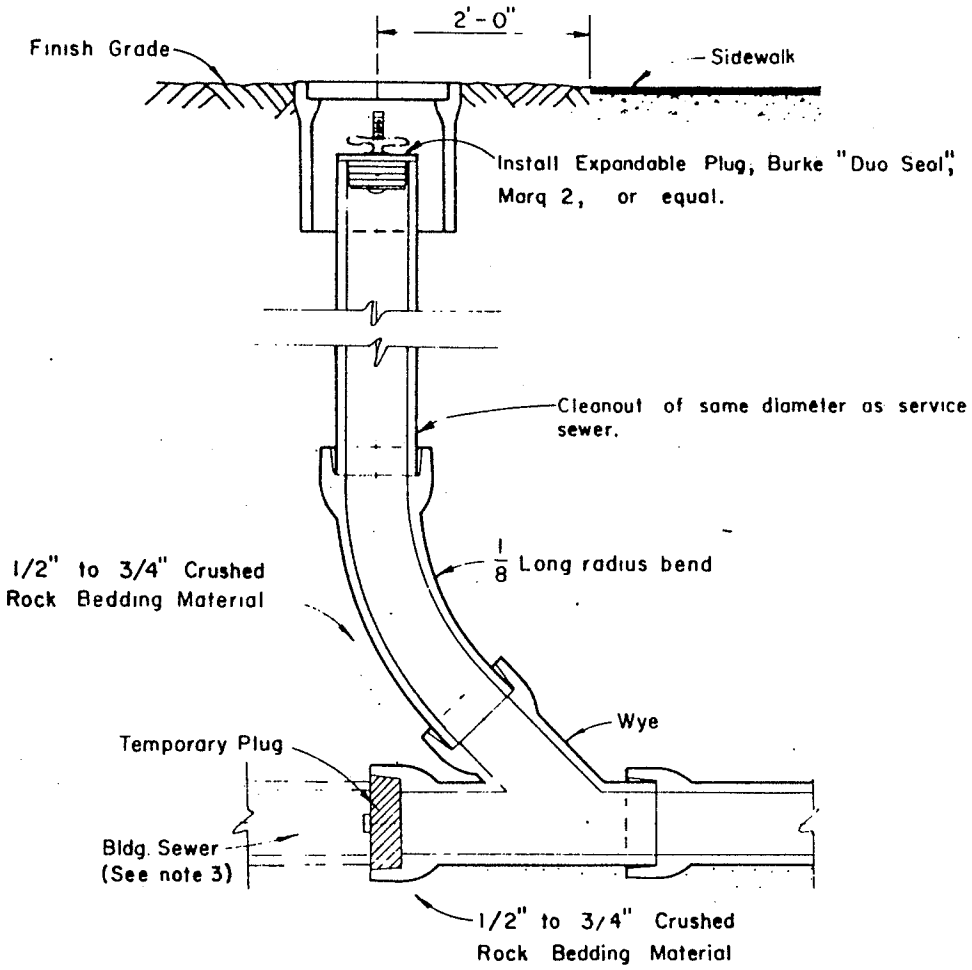
COMMUNITY SERVICES DISTRICT

CONDUCTOR CASING DETAIL

NO SCALE DATE: DRAWN BY	S – 8



1. For 4" services, install round, non-traffic type, concrete or PVC valve box and cover, marked "Sewer". Box inside diameter to be a minimum of 7" and a maximum of 10".

2. For services 6" or larger, install round, concrete, traffic type valve box with cast iron cover to be marked "Sewer".

3. If water main is to be installed at the back of sidewalk, extend service to 7'-0" back of sidewalk; cleanout to grade to remain 2'-0" from back of sidewalk.

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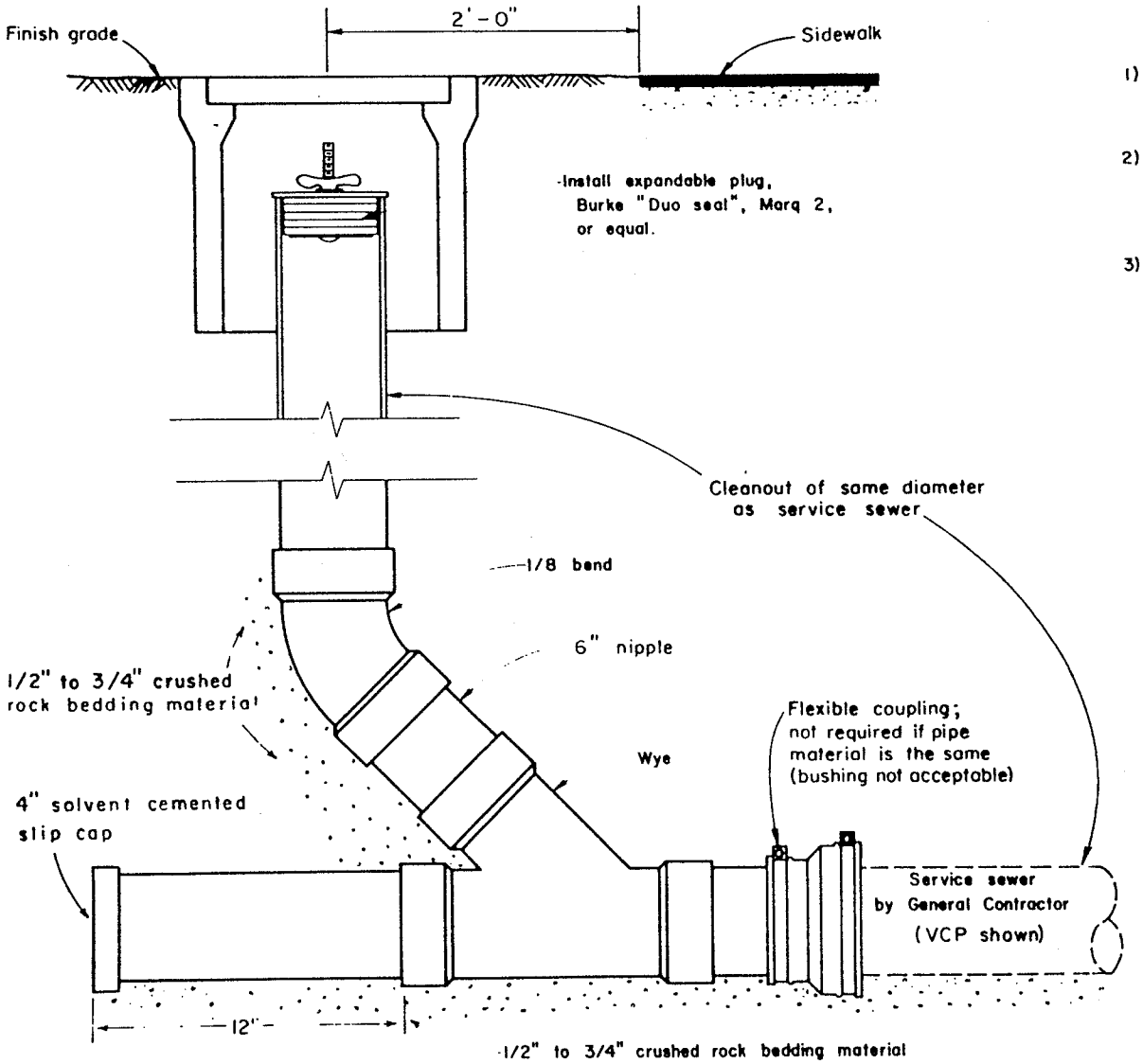
COMMUNITY SERVICES DISTRICT

VCP
CLEANOUT TO GRADE

NO SCALE DATE: DRAWN BY	S-9



1) Cleanout to grade to be plastic DWV type PVC (ASTM D2665) or ABS (ASTM D2661) with solvent weld joints.
2) For 4" services, install round, non-traffic type, concrete or PVC valve box and cover, marked "Sewer". Box inside diameter to be a minimum of 7" and a maximum of 10".
3) For services 6" or larger, install round, concrete, traffic type valve box with cast iron cover. Cover to be marked "Sewer".

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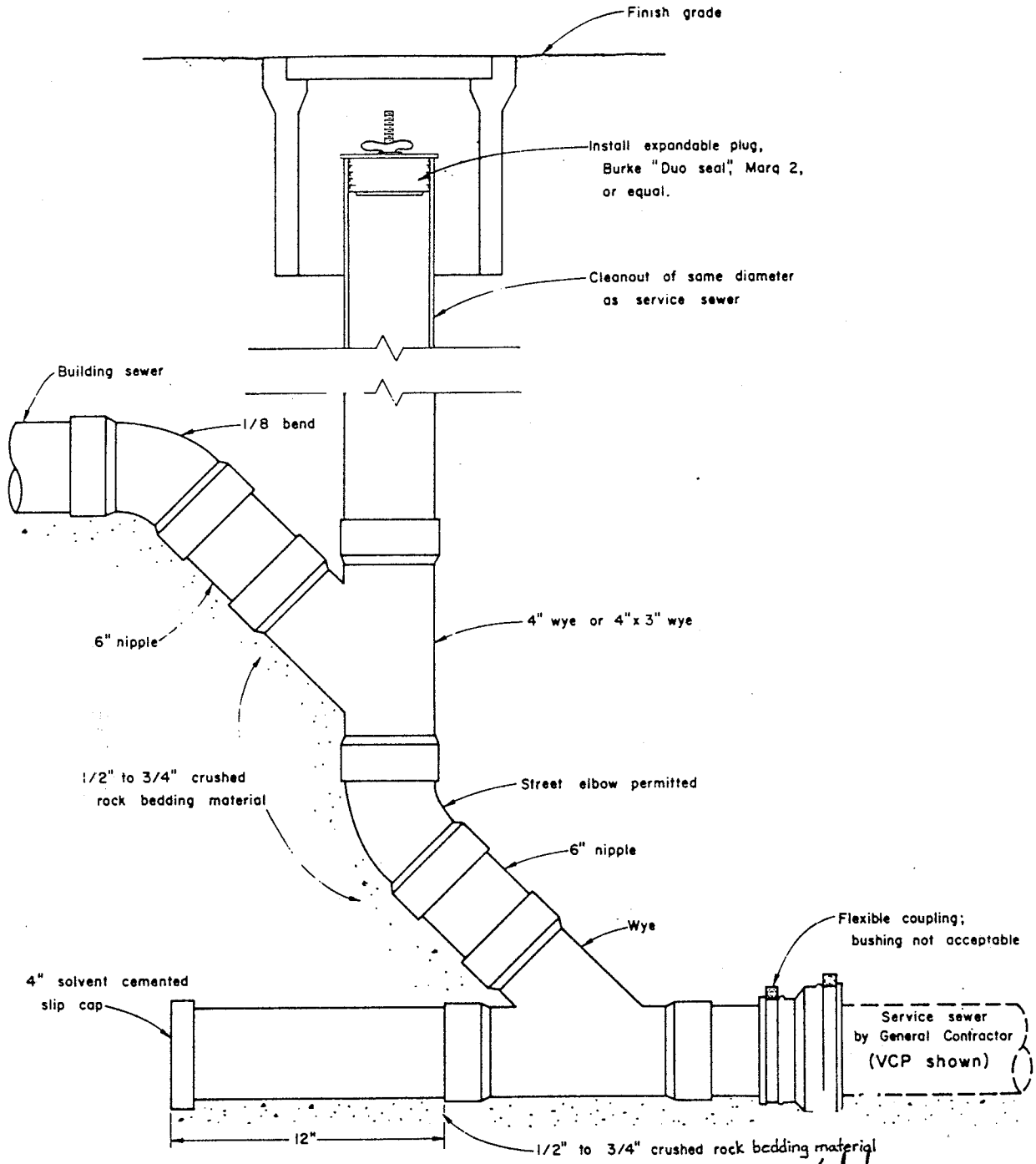
COMMUNITY SERVICES DISTRICT

ABS OR PVC
CLEANOUT TO GRADE

NO SCALE
DATE
DRAWN BY

S-10



APPROVED BY:

1) Plastic cleanout to grade to be DWV type PVC (ASTM D2665) or ABS (ASTM D2661) with solvent cement joints.

2) For 4" services, install round, non-traffic type, concrete or PVC valve box and cover, marked "Sewer". Box inside diameter to be a minimum of 7" and a maximum of 10".

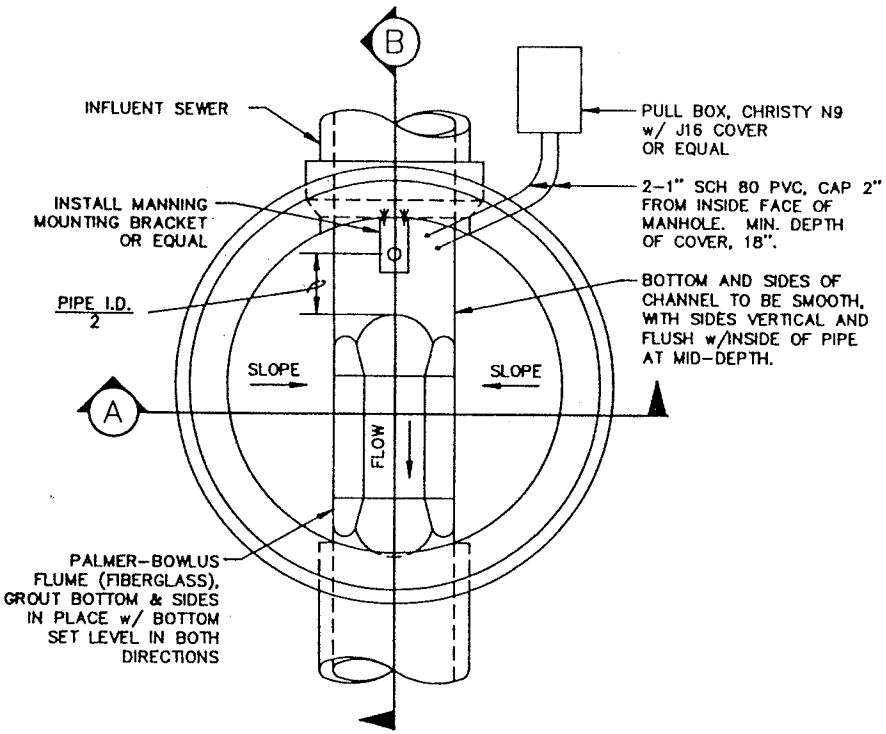
3) For services 6" or larger, install round, concrete, traffic type valve box with cast iron cover. Cover to be marked "Sewer".

RANCHO MURIETA
COMMUNITY SERVICES DISTRICT

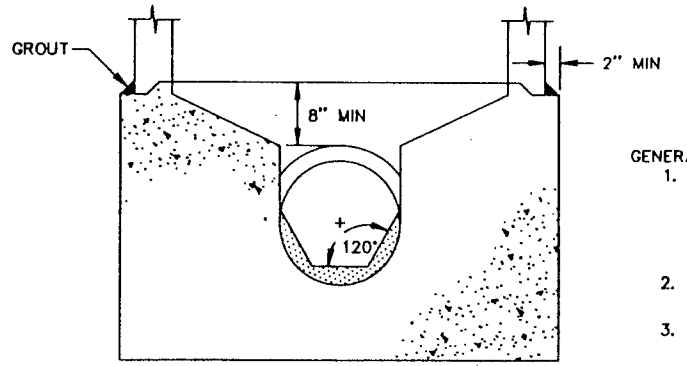
ABS or PVC
CLEANOUT TO GRADE
(BUILDING SEWER CONNECTED TO RISER)

NO SCALE
DATE
DRAWN BY

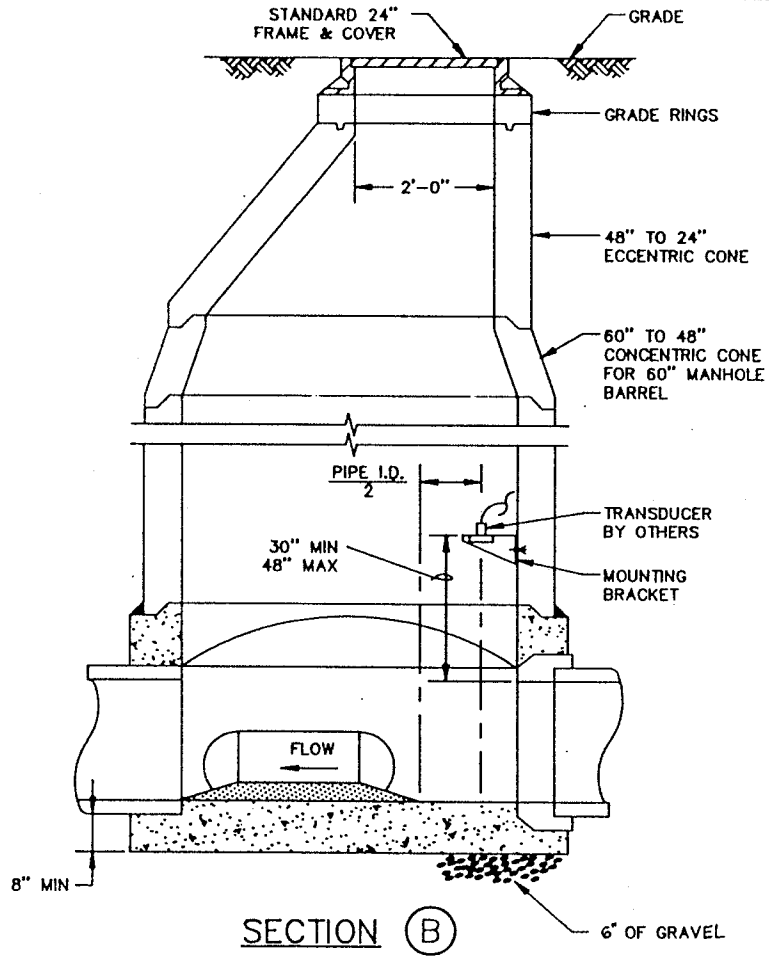
S-11



PLAN



SECTION (A)



SECTION (B)

GENERAL NOTES –

1. UNLESS OTHERWISE SPECIFIED, FOR 18-INCH OR SMALLER FLUMES MANHOLE CONSTRUCTION SHALL CONFORM TO 48" TYPE A STANDARD MANHOLE CONSTRUCTION DETAILS. FOR LARGER THAN 18-INCH INSTALLATIONS, 60" TYPE A STANDARD MANHOLE CONSTRUCTION DETAILS SHALL APPLY.
2. NO SERVICE SEWER OR ADDITIONAL LATERAL SEWER CONNECTION SHALL BE MADE TO METERING MANHOLE.
3. A PRECAST BASE MAY BE PROVIDED WITH THE PALMER-BOWLUS FLUME FACTORY INSTALLED.
4. FLUME SHALL BE OF SAME SIZE AS PIPELINE UNLESS OTHERWISE SPECIFIED.
5. IF THE DISTANCE FROM THE TOP OF PIPE TO BOTTOM OF THE 60"x 48" BARREL REDUCER SECTION IS LESS THAN 36", USE SLAB TOP MANHOLE PER DRAWING S-2, EXCEPT LINING IS NOT REQUIRED.

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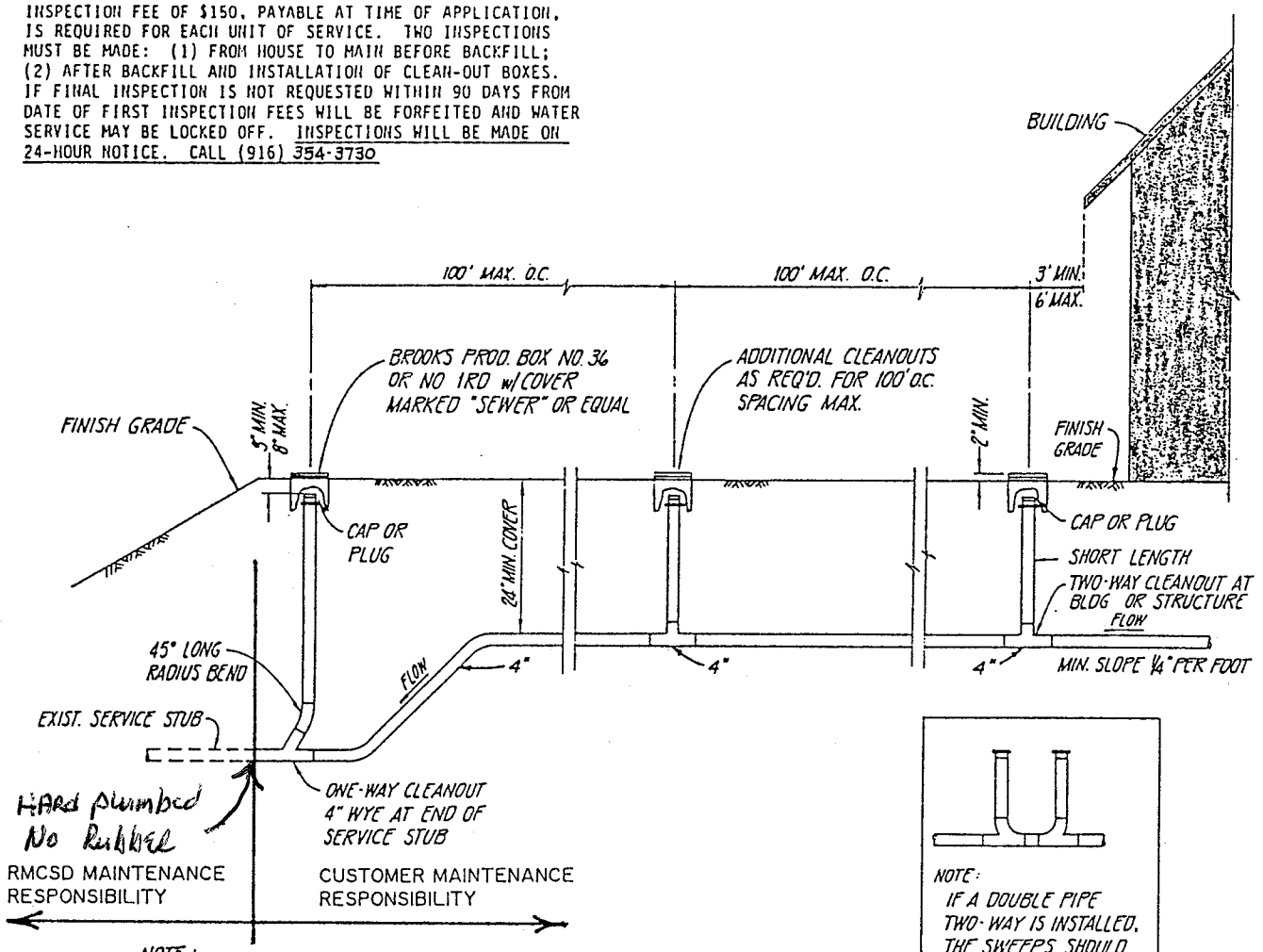
FLOW METERING MANHOLE

NO SCALE
DATE:
DRAWN BY:

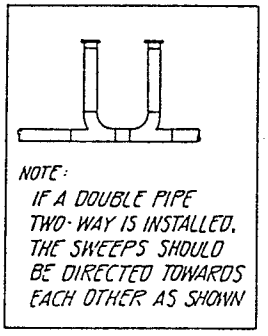
S-12

SEWER SYSTEM AND INSPECTION REQUIREMENTS

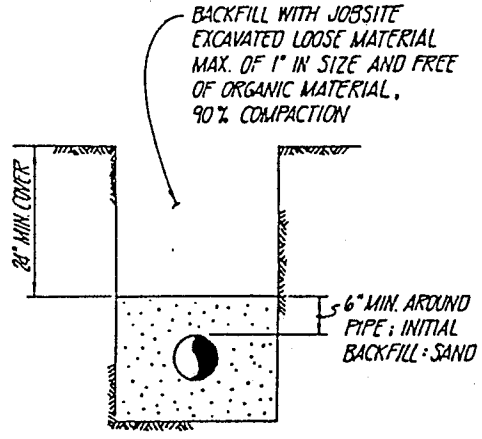
INSPECTION FEE OF $150, PAYABLE AT TIME OF APPLICATION, IS REQUIRED FOR EACH UNIT OF SERVICE. TWO INSPECTIONS MUST BE MADE: (1) FROM HOUSE TO MAIN BEFORE BACKFILL; (2) AFTER BACKFILL AND INSTALLATION OF CLEAN-OUT BOXES. IF FINAL INSPECTION IS NOT REQUESTED WITHIN 90 DAYS FROM DATE OF FIRST INSPECTION FEES WILL BE FORFEITED AND WATER SERVICE MAY BE LOCKED OFF. INSPECTIONS WILL BE MADE ON 24-HOUR NOTICE. CALL (916) 354-3730



NOTE:
1. CAST IRON LIDS ON CLEANOUT WILL BE USED IN TRAFFIC AREAS.
2. ALL PIPE AND CLEAN-OUTS WILL BE 4".



NOTE:
IF A DOUBLE PIPE TWO-WAY IS INSTALLED, THE SWEEPS SHOULD BE DIRECTED TOWARDS EACH OTHER AS SHOWN



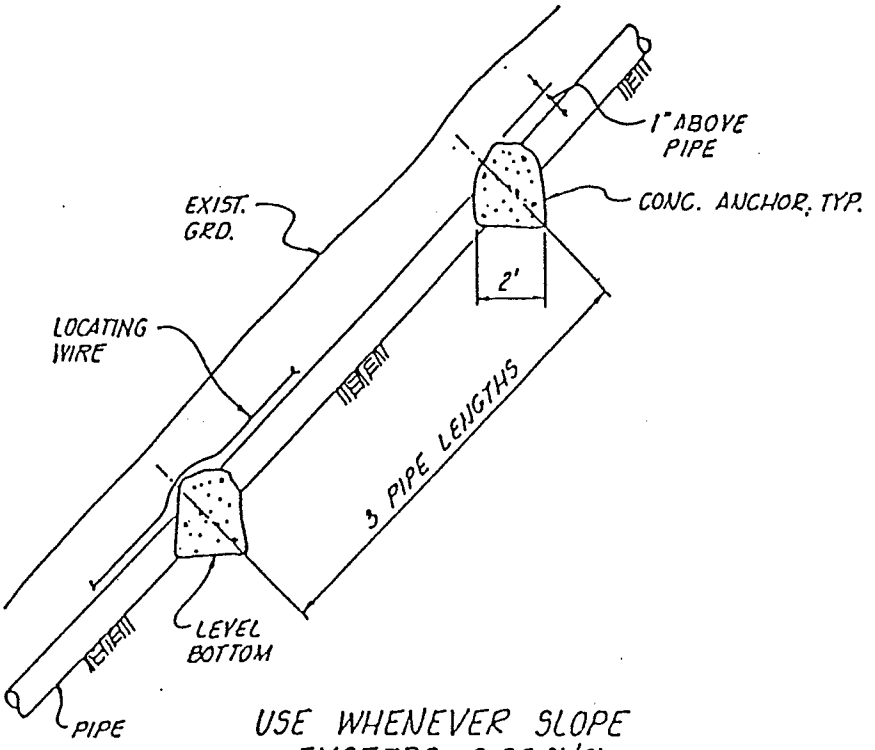
TRENCH DETAIL
NO SCALE

APPROVED BY:

RANCHO MURIETA COMMUNITY SERVICES DISTRICT

SEWER SERVICE DETAIL
ONE-WAY & TWO-WAY CLEANOUT
FULL SEWERAGE

Scale NONE Date Drawn By	S-13



USE WHENEVER SLOPE EXCEEDS 0.35 ft/ft.

WATER STOPS & PIPE ANCHORS

N.T.S.

APPROVED BY:

RANCHO MURIETA COMMUNITY SERVICES DISTRICT	
WATER STOPS & PIPE ANCHORS	
Scale NONE Date Drawn By	S-14

Element 6 - Overflow Emergency Response Plan

Sewer System Management Plan

Requirements

This chapter describes the sanitary sewer Overflow Emergency Response Plan (OERP) for the District. The following overflow response plan includes:

- Procedures for reporting and notifying Sanitary Sewer Overflows (SSOs);
- Implementation plan to respond to SSOs;
- Steps to prevent overflows from reaching surface waters, and to minimize or correct any adverse impact from SSOs; and
- Training program to familiarize staff with OERP procedures

Notification

Reporting Requirements

All SSOs are reported on the State of California Waterboard's Sanitary Sewer Overflow eReporting Program (http://ciwqs.waterboards.ca.gov/). The following is the latest notification and reporting requirements based on the State Water Resources Control Board Order No. WQ 2008-0002-EXEC, Adopted Amended Monitoring and Reporting Requirements for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. This report replaces the previous Monitoring and Reporting Requirements for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems Order No. 2006-0003-DWQ. The amended WDR requires the District to report any SSO to:

(a) the State Office of Emergency Services;

(b) the local health officer(s) with jurisdiction over affected water bodies; and

(c) The appropriate Regional Water Quality Control Board.

The SSO must be reported within two (2) hours of the District becoming aware of the SSO. In addition, the District must submit to the appropriate Regional Water Quality Control Board

within twenty-four (24) hours a certification that the State Office of Emergency Services and the local health officer(s) have been notified of the SSO.

The applicable agencies for this reporting requirement are listed in Table 1.

Table 6-1. SSO Reporting Parties

Party	Telephone Number
Sacramento County Health Officer	916-875-5000
Central Valley Regional Water Quality Board, Sacramento Office	916-464-3291
State Office of Emergency Services	800-852-7550

Sanitary Sewer Overflow Reporting

SWRQCB SSO Categories

The State Water Resources Control Board (SWRQCB) defines SSOs based on the quantity of sewage spilled and/or the location that the spill occurred. The following are the defined SSO Categories:

1) Category 1 – All discharges of sewage resulting from a failure in the Enrollee's sanitary sewer system that:

    a. Equal or exceed 1,000 gallons, or

    b. Result in a discharge to a drainage channel and/or surface water; or

    c. Discharge to a storm drain that was not fully captured and returned to the sanitary system.

2) Category 2 – All other discharges of sewage resulting from a failure in the Enrollee's sanitary sewer system.

3) Private Lateral Sewage Discharges – Sewage discharges that are caused by blockages or other problems within a privately owned lateral.

SWRQCB Reporting Timeframes

Per Order No. WQ 2008-0002-EXEC, the following reporting timeframes must be adhered to for each SSO Category:

1) Category 1 – Initial reporting of Category 1 SSOs must be reported on the Online SSO System as soon as possible but no later than 3 business days after the Enrollee is made aware of the SSO. A final certified report must be completed through the Online SSO System, within 15 calendar days of the conclusion of SSO response and remediation. SSOs that meet the criteria for Category 1 must be reported as soon as:

a. The Enrollee has knowledge of the discharge,

b. Reporting is possible, and

c. Reporting can be provided without substantially impending cleanup or other emergency measures.

2) Category 2 – All SSOs that meet the criteria for Category 2 SSOs must be reported to the Online SSO Database within 30 days after the end of the calendar month in which the SSO occurs (e.g. all SSOs occurring in the month of January must be entered into the database by March 1st).

3) Private Lateral Sewage Discharges – All sewage discharges that meet the criteria for Private Lateral Sewage Discharges may be reported to the Online SSO Database based upon the Enrollee's discretion. If a Private Lateral sewage discharge is recorded in the SSO Database, the Enrollee must identify the sewage discharge as occurring and caused by a private lateral, and a responsible party (other than the Enrollee) should be identified, if known.

4) No-Spill Reporting – If there are no SSOs during the month, the Enrollee will provide, within 30 days after the end of the calendar month, a statement through the Online SSO Database certifying that there were no SSOs for the designated month. This process is described in more detail in the Monthly No-Spill Reporting Procedures section below.

Reporting Documentation

Formal documentation of the SSO event shall include, at a minimum:

- Specific location of the spill (GPS coordinates)
- OES Control Number
- Whether or not the spill entered a surface water
- Estimated volume, in gallons
  - Total volume
  - Amount recovered
  - Amount entering a surface water
- Time and date the spill was discovered
- SSO Source (manhole, cleanout, etc.)
- SSO Cause (mainline blockage, roots, etc.)
- Corrective action taken

- Whether or not samples were taken
- Which agencies were contacted

The report must also include any additional details gathered and copies of reports submitted to other agencies. See Exhibit 6-1 for sample report form.

Monthly No-Spill Reporting Procedure

The State Department of Water Resources requires that monthly reports shall be filed online to document that no sewer overflow events occurred during that specific month. The website for filing the monthly no-spill report is: https://ciwqs.waterboards.ca.gov/

The District submits no-spill reports online for every month they do not have an SSO event.

SSO Standard Operating Procedure

Notification & Response

Working Hours

During working hours, personnel are notified of an overflow by phone from the District's Security personnel, who are typically notified by the public or by the pump station's alarm systems.

Upon arrival to the site, District personnel will investigate the situation to verify that it is a sewer overflow. During normal work hours, they will then notify the on-duty supervisor who will then have the closest person to the shop respond to the overflow site with the utility trailer loaded with the sewer spill equipment, Jetting Trailer, or Ditch Witch Vacuum Trailer. The supervisor will also have other staff respond to the site of the overflow, as needed.

After Hours

If the SSO is detected after hours call the person responding to the call will call out at least one other person for help to resolve the problem. If necessary, Roto Rooter may be called out to clear the blockage.

Figure 6-1 is the District's Emergency Response Chain of Command for SSOs.

Clean Up Procedure

Once the trailer has arrived on site, the 3-inch trash pump is set up and initiated to pump sewage from the manhole up gradient of the blockage to the next manhole down gradient. Once pumping has been started, or if there are available responders to assist, the 2-inch trash pump is taken down stream, along with sand bags. Sand bags will be assembled in the drainage ditch, in a location safely away from where the ditch may discharge into a body of water. The

2-inch pump will be used to remove all the remaining sewage that may have spilled into the drainage ditch or collected behind the assembled sandbags. Once the majority of the spill has been removed with the 2-inch trash pump, flow from a nearby fire hydrant is used to flush the drainage ditch, while the 2-inch pump continues to withdraw the flow from the ditch. Flow from the hydrant is continued until there are no signs of the overflow detected in the flush water. The drainage ditch is walked and any remaining debris this removed.

Clean Up Response & Warning Sign Posting

Dry Weather Conditions

1) Warning Signs: Signs warning the public of a sewage release are to be posted in the affected area. Signs shall include, at a minimum, the wording of "Raw Sewage." These signs can be obtained at the wastewater treatment plant. In the event that a sign needs to be posted immediately and one is not readily available, a sign can be hand written and posted until it can be replaced.

2) Warning Sign Removal: Warning signs shall remain posted until County Health or Regional Board staff authorizes their removal, or until receiving water sample results indicate background levels (levels as determined by upstream samples) have been attained.

3) Sewage Flow Containment: If possible, all sewage flows are contained and diverted to the nearest sanitary sewer or removed by vactor truck.

4) Sewage Solids Cleanup: After the flows have been stopped and repairs made, rake and/or vactor up any sewage solids.

5) Cleanup Flushing: The affected area shall be flushed with clean water. All flush water and any disinfectants shall be contained and subsequently pumped to the nearest sanitary sewer or removed by vactor truck. Disinfectants may be used so long as runoff does not occur that may cause toxicity to fish and wildlife.

6) Receiving Water Sampling: If the spill or overflow volume exceeds 10,000 gallons, sampling should be conducted both upstream and downstream of the point where sewage has entered the receiving water. Samples are to be analyzed for Fecal Coliform, Dissolved Oxygen and Ammonia Nitrogen.

Wet Weather Conditions

The response cleanup and warning sign posting procedures given above for Dry Weather Conditions should be followed, except that step 5 (Flushing) may be omitted if deemed impractical.

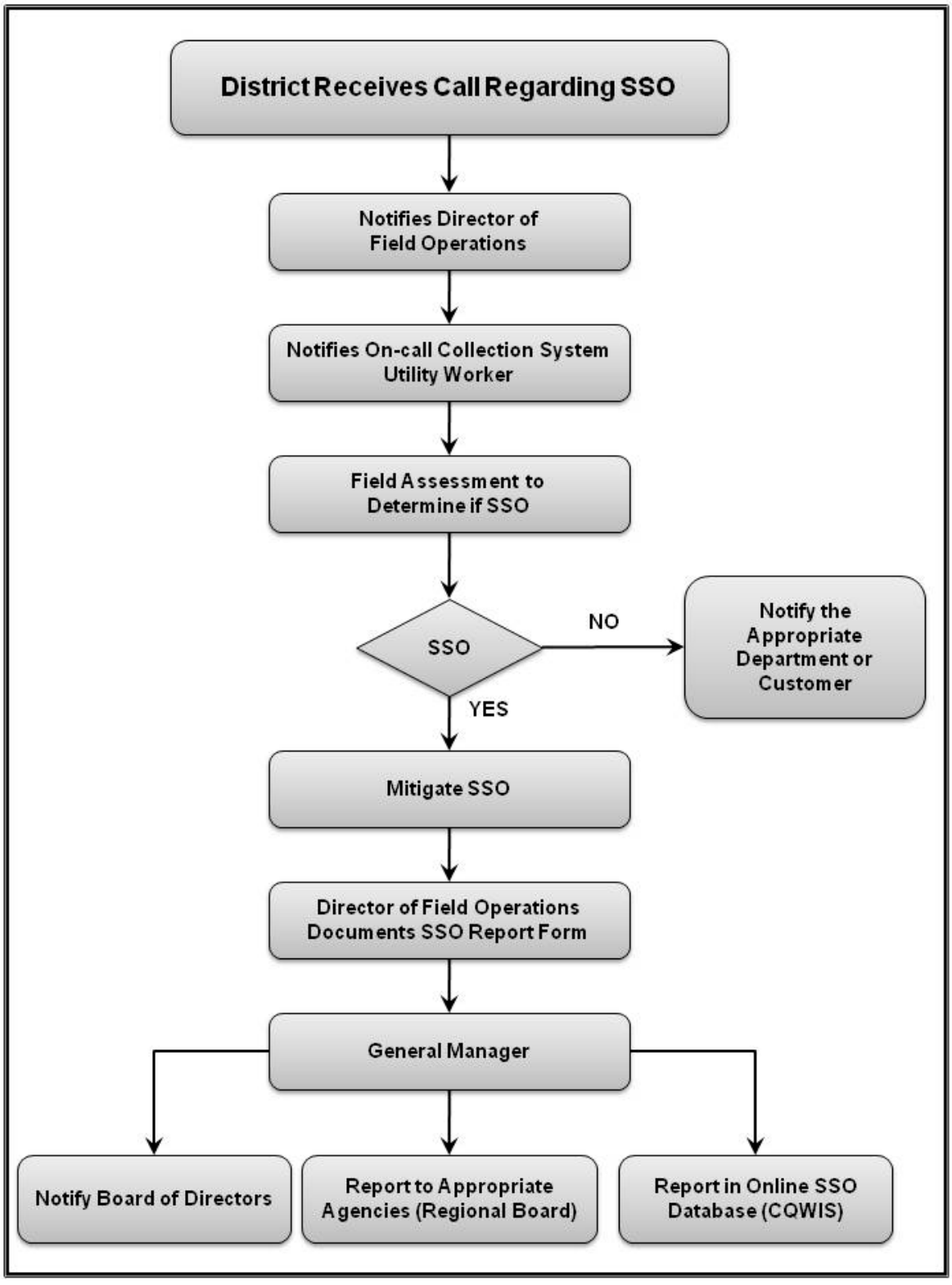


Figure 6-1. Emergency Response Chain of Command

Sewer Intrusion into a Private Residence

The District will take reasonable measures to ensure the habitability of a residence or business should there be an intrusion of sanitary sewage into the building caused by a blockage of a District-owned sanitary sewer main. The following is an overview of the procedures to be utilized by the District in the event of an overflow that occurs on a private residence:

Operating Procedure (Response)

Upon notification of a sanitary sewer main blockage with an accompanying back-up onto private property, the Director of Field Operations will immediately dispatch the on-call collection system utility worker to the event site, who will take appropriate measures to identify whether the cause of the blockage is within the district-owned sewer system or within the privately-owned building lateral. If the blockage is determined to be in the sewer main, then the District personnel will remove the blockage from the District's main.

Operating Procedure (Clean up)

If it is determined, upon assessment of the situation, that the SSO was caused by a blockage of the District's sewer main and not the private residence lateral, and the SSO presents a health or safety threat to the inhabitants of the residence, as determined by the Director of Field Operations, a contracted clean-up and restoration company will be called out to clean the area where the SSO occurred. The District will not be responsible for clean-up of an SSO that occurs due to the blockage of a private sewer lateral pipeline.

Overflow Emergency Response Plan Training

The District's collection system staff is trained in OERP by senior staff members as new employees are hired onto the crew. Staff must also keep current on emergency procedures such as confined space entry, flagging, traffic control, and first aid/CPR.

EXHIBIT 6-1

Sample SSO Report Form

Sewage Spill Response Evaluation

Rancho Murieta Community Services District

Incident Ended: (Date/Time) _____/_____ Estimated Duration (Time)

_____

First knowledge of incident: (Date/Time) _____/_____

Estimated volume of spill/bypass _____ gallons. Show rational for volume.

_____

_____

If spill is ongoing, please notify Office of Emergency Services and Regional Water Quality Control Board on a daily basis until spill can be stopped.

Reported to: California Office of Emergency Services (Date/time) _____

Name of person _____

Reported to: California Regional Water Quality Control Board (Date/time) _____

Name of person _____

Weather conditions: _____

Source of spill/bypass (check one): _____Sanitary Sewer _____Pump Station _____WWTP

Level of treatment (check one): _____ None _____Primary Treatment

_____ Secondary Treatment _____ Tertiary Treatment _____ Chlorination Only

Did spill/bypass reach surface waters? _____Yes _____No (If Yes, please list the following)

Volume reaching surface waters _____ gallons

Name of surface water_____

Did spill/bypass result in a fish kill? _____Yes _____No

If yes, what is the estimated number of fish killed? _____

Sewage Spill Response Evaluation

Please provide the following information:

1. Location of spill/bypass: _____

_____

_____

2. Cause of spill/bypass: _____

_____

_____

_____

3. Did you have personnel available to perform initial assessment 24 hours/day (including weekends and holidays)?
Yes _____ No _____

4. How long did it take to make an initial assessment of the spill/overflow after first knowledge?

_____ Hours _____ Minutes

How long did it take to get a repair crew onsite?

_____ Hours _____ Minutes

Please explain the time taken to make initial assessment: _____

_____

_____

Sewage Spill Response Evaluation

5. Action taken to contain spill, clean up waste, and/or remediation of the site: _____

_____

_____

_____

_____

_____

6. Were the equipment and parts needed to make repairs readily available?

Yes _____ No _____ If no, please explain why: _____

_____

_____

_____

_____

_____

7. If the spill/overflow occurred at a pump station, or was the result of a pump station failure, was the alarm system functional at the time of the spill? Yes _____ No _____ if the alarm system did not function, please explain why: _____

_____

_____

_____

_____

Sewage Spill Response Evaluation

8. Repairs made are: Permanent _____ Temporary _____

Please describe what repairs were made. If the repairs are temporary, please indicate a date by which permanent repairs will be completed, and notify the Regional Office within 7 days of the permanent repair: _____

_____

_____

_____

_____

9. What actions have been made to prevent this discharge from occurring again in the future?

_____

_____

_____

10. Comments: _____

_____

_____

_____

Other agencies notified: _____

Person reporting spill/bypass: _____ Phone Number: _____

Signature_____ Date: _____

Element 7 - Fats, Oils, and Grease (FOG) Control Program

Sewer System Management Plan

Requirements

Fats, oils, and grease (FOG) are discharged to sanitary sewer systems by residential users, food handling facilities, and other commercial and industrial establishments. Commonly, FOG can cause pipe blockages leading to sanitary sewer overflows (SSO). The State Water Resources Control Board (SWRCB) requires that each wastewater collection system agency evaluate its service area to determine whether a FOG control program is needed to reduce the risk of SSO. If it is determined that a FOG control program is required, it shall be developed as part of the SSMP and include the following:

- An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;
- A plan 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, Best Management Practices (BMPs) requirements, record keeping and reporting requirements;
- Authority to inspect grease producing facilities, enforcement authorities, and whether the City of Reedley (City) has sufficient staff to inspect and enforce the FOG ordinance;
- An identification of sewer system sections subject to FOG blockages and establish 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 a problem.

The District has determined that a FOG control program would be beneficial. This Element of the SSMP outlines the District's procedure for minimizing and monitoring FOG in their

collection system, fulfilling the requirements of both the SWRCB and the Regional Water Board.

Public Outreach

The District has developed a flyer discussing the detrimental affects FOG can have on a collection system. The flyer also outlines important facts with regards to FOG and simple methods the public can employ to be responsible with household FOG. The flyer is included in Exhibit 7-1 and is available to all District users through the Rancho Murieta Community Services District website (www.ranchomurietacsd.com).

FOG Disposal

The District typically requires that oil and grease interceptors and traps be maintained by the owner, and describes in the aforementioned flyer how to properly dispose of the waste product from household cooking oils and grease. Vehicular oils are collected from users and appropriately disposed of free of charge for District users.

Legal Authority

Both the District and sewer system customers have the responsibility to minimize the amount of FOG that enters the sanitary and storm sewer systems from residential, commercial, and industrial sources. Section 8.07 of The Sewer Code outlines the requirements for grease, oil and sand interceptors within the District's sewer system and is summarized in Element 3, Legal Authority.

Design & Construction Standards

Design and installation specifications and maintenance requirements of sand, oil and grease interceptors are outlined in Section 8.07 of the District Code, which is presented in Element 3.

Inspection and Staffing

The Districts upholds the right to periodically test and inspect any interceptor. It is required that all customers with installed interceptors to conduct monthly maintenance and cleaning of interceptors and to provide documentation of these activities on an annual basis. Should it be discovered that a customer is improperly disposing FOG, they shall be liable for the cost of any damage caused to the District, per The Sewer Code Sections 8 and 10, which are presented in Element 3.

Identification and Sewer Cleaning

Thus far, problem areas have not been identified within proximity of commercial food handling facilities, which would indicate FOG-related blockages. However, should a segment be

identified as a problematic area due to FOG, it will be added to the District's routine cleaning schedule along with other problematic sections.

Source Control

In an effort to control the amount of deleterious wastes discharged into the sewer system, District customers who are required to have a sand, oil and grease interceptor must have it installed and approved by the District prior to connecting with the District's water or sewer system.

If it is necessary for an entity, such as food handling facilities, to discharge FOG into the collection system, the District will likely require pretreatment to a predetermined condition prior to discharge, establish a limit of the quantity discharged, or institute payment to the District to account for the additional cost associated with handling and treating of the supplemental waste.

EXHIBIT 7-1

"No FOG" Public Outreach Flyer

NO FATS NO OILS NO GREASE

COOKING GREASE

is one of the primary causes of residential pipeline and District sewer main clogs, which could result in sewer spills throughout the District's Wastewater Sewerage area. The spilled sewage has the potential to reach the Cosumnes River, causing unsafe conditions and temporary closures. All cooking oils disposed of improperly can cause problems in the sewer system. These include

- Frying oil
- Salad oil
- Meat drippings
- Bacon fat
- Greasy leftovers

IMPORTANT FACTS

- Cooking grease coats pipelines similar to the way that fatty foods clog human arteries. The grease clings to the inside of the pipelines, eventually causing complete blockage.
- Costly home plumbing bills are often the result of grease-clogged pipelines. Residential pipelines clog easily since they are only 2" to 4" in diameter.
- Many people are unaware that pouring hot water and detergent down the drain only breaks up grease temporarily. Grease should NEVER be poured down the drain. If small amounts of grease accidentally get into our drain, flush immediately with COLD water.
- Flushing grease down the toilet also causes sewer backups.

By following a few simple steps, you can help prevent costly sewer problems in the future.

Step 1 All cooking oil should be poured into an old milk carton, frozen juice container or other non-recyclable package, and disposed of in the garbage.

Step 2 Dishes and pots that are coated with greasy leftovers should be wiped clean with a disposable towel prior to washing or placement in dishwashers.

Step 3 Instead of putting fat trimmings from meat in the garbage disposal, put them in a trashcan. Always put cooking grease containers and greasy towels in a plastic bag before disposing of them in your trash bag. NEVER dispose of cooking grease directly into your automated trash compactor.

Report Spills

If you see or smell something you think might be a sewer spill, report it immediately by calling 916-354-3700. Be prepared to describe the location and the nature of the problem.

Rancho Murieta Community Services District

Element 8 - System Evaluation and Capacity Assurance Plan

Sewer System Management Plan

Requirements

The requirements for the System Evaluation and Capacity Assurance Plan (SECAP) section of the SSMP are as follows:

- Each wastewater collection system agency shall establish a process to assess the current and future capacity requirements for the collection system facilities.
- Each wastewater collection system agency shall prepare and implement a capital improvement plan to provide hydraulic capacity of key sewer system elements under peak flow conditions.

Service Area

The service area of the District collection system is essentially the incorporated limits of the 3,500 acres or the Rancho Murieta community. In 2003, when the Master Plan was developed, the community serviced approximately 2,500 residential units and a population of over 4,500 persons.

WWTP Flows

A summary of historical total wastewater production at the WWRP is provided in Table 8-1, as depicted by the Rancho Murieta Integrated Water Master Plan, which was prepared for the District by HDR Engineering in 2006 and can be found on the District's website (www.ranchomurietacsd.com).

Table 8-1. Historical WWTP Flows

Year	Population	AAD Flow (MGD)
1997		0.34
1998		0.42
1999		0.40
2000	4193	0.39

Year	Population	AAD Flow (MGD)
2001		0.43
2002		0.42
2003		0.48
2004		0.47
2005		0.46
2006		0.51

AAD = Annual Average Daily
MGD = Million Gallons per Day

The Integrated Water Master Plan projected future wastewater flows using an average value per dwelling unit (DU) over the 10 year period from 1997 to 2006, which was calculated to be 210 gallons per day.

System Evaluation

In August of 2003, the District had an Infrastructure Master Plan (Master Plan) prepared by MacKay and Somps Infrastructure Group. This Master Plan provided an evaluation of the District's existing water, sewer and drainage systems in order to determine the required improvements needed for development of the two remaining undeveloped parcels within Rancho Murieta North.

According to the Master Plan, the collection system piping is sized to accommodate the peak wet weather flow (PWWF) at 70% full. The system is designed to meet a minimum velocity of two feet per second during peak dry weather flow (PDWF) and a maximum velocity of ten feet per second at PWWF. These criteria were used to identify potential improvements. The master plan estimates the capital cost of the improvements to be $4.1 million (2003 $).

Additionally, a Wastewater Facilities Expansion and Financing Plan was developed for the District by HydroScience Engineers in 2006 which identified facilities required to account for future growth in the District.

An overview of these potential capital improvement projects (CIP) for various areas within the District is presented below.

Potential Capital Improvements per Master Plan

Murieta Hills

- Increase pipes along the west side of Laguna Joaquin and within Lago Drive from 8 inches to 10 and 12 inches to accommodate additional flows from Murieta Hills development.
- Utilize abandoned 12 inch forcemain along Stonehouse Drive by installing a 6 inch forcemain carrier pipe within the existing 12 inch pipe casing to accommodate additional flows from Murieta Hills development. Utilizing this improvement recommendation would necessitate constructing a pump station near Escuela Drive.

Commercial Site

- Construct pump station at development of commercial site, to discharge wastewater to existing pump station located near the firehouse.

Estates at Lake Calero

- Route wastewater flows from the estates at Lake Calero through Murieta Hills. This alternative would require an assessment of the pump station, gravity piping, and forcemains in Murieta Hills to ensure adequate capacity.

River Canyons

- Two pump stations (#3 and #4) are required to convey wastewater to existing pump station #5, from where it is pumped to the sewage treatment plant. These two pump stations would also accommodate wastewater flows from Clementia, Chesbro, and the Highlands.

The Highlands

- Wastewater will flow through piping, located between Bass Lake and Lake Clementia, towards pump station #3. A local pump station may be required to service low areas next to Lake Clementia.

Clementia

- Wastewater will flow from the Estates at Lake Clementia toward pump station #3. A local pump station may be required to service low areas next to Lake Clementia.

Chesbro

- Wastewater from the Estates at Lake Chesbro will flow towards pump station #2, from which flows will be directed towards the collection system in the Highlands.

Potential Capital Improvements per Wastewater Facilities Expansion Plan

Disinfection Facilities

- The current layout in the chlorine contact basin provides adequate contact time, per Title 22 requirements, for only 2.3 mgd. Capacity must be increased to build out conditions of 3 mgd by replacing the chlorine contact basin or implement the use of an ultraviolet (UV) disinfection system. The Wastewater Facilities Expansion Plan estimated the capital costs to be $2.7 million and $2.2 million (2006 $) for chlorine and UV system disinfection alternatives, respectively.

Storage Capacity

- Approximately 360 ac-ft of additional seasonal storage capacity is required at build-out for the District service area. Approximately 200 ac-ft of storage can be provided on site; therefore 160 ac-ft of storage must be developed off-site. A preliminary cost estimate for additional storage capacity is $15.3 million and $14.6 million for a covered and uncovered storage reservoir, respectively.

Disposal Capacity

- Anticipated additional wastewater produced by new growth requires that discharge capacity be increased by 868 ac-ft. Alternatives for this increase with their associated preliminary cost estimates (in 2006 $) are as follows: spray irrigation on nearby grazing land ($17.4 million), title 22 landscape irrigation ($19.4 million), seasonal discharge to the Consumnes River - which would require an NPDES permit (up to $2.5 million), and connection to the Sacramento Regional Sanitary District ($28.6 million).

Historical Performance of the Collection System

No sanitary sewer overflows have occurred in the District from 2007 to present. There are currently no known specific reaches of hydraulic restriction in the District collection system.

Element 9 - Monitoring, Measurements, and Program Modifications

Sewer System Management Plan

Requirements

In accordance with SWRCB requirements, each wastewater collection system agency shall monitor the effectiveness of the SSMP and update and modify SSMP elements to keep them current, accurate, and available for audit, as appropriate. The following describes the District's procedure for monitoring the effectiveness of the SSMP and the procedures used to minimize Sanitary Sewer Overflows.

Monitoring

In order to monitor the effectiveness of the SSMP, the District has selected a procedure whereby specific parameters are documented and compared on an annual basis. These parameters will provide quantitative, focused results that indicate the overall success of the SSMP, or conversely, the underlying problems that may then be further investigated. Table 9-1 lists each SSMP element, the overall purpose of the SSMP element, and the specific parameters that the District plans to track that will help in evaluating the effectiveness of the SSMP. The District will track each of these parameters, the results of which will be included in the Key Performance Indicator (KPI) Checklist, shown in Exhibit 9-1.

Table 9-1. SSMP Monitoring Parameters

SSMP Element	Summary of Element Purpose	KPI
1.0 Goals	Establish priorities of City and provide focus for City Staff	• As part of Element 10 – Program Audits, reconsider Goals and evaluate potential changes
2.0 Organization	Document organization of City staff and chain of communication for SSO response	• As part of Element 10 – Program Audits, update Organization Chart as staff changes or reorganizations occur
3.0 Legal Authority	Ensure the City has sufficient legal authority to properly maintain the system	• None needed

4.0 Operations and Maintenance Plan	Minimize blockages and SSOs by properly maintaining the system and keeping the system in good condition	• Total number and volume of SSOs • Number of repeat SSOs (same location as any previous SSO, regardless of year of occurrence) • Total number of mainline blockages • Causes of blockages and time since last cleaning • Number of pump station failures • Causes of failures • Number of pipe failures • Causes of failures • Length of pipe CCTV'd 3-yr backlog for rehabilitation and repair projects
5.0 Design & Construction Standards	Ensure new facilities are properly designed and constructed	• None needed
6.0 Overflow Emergency Response	Provide timely and effective response to SSO emergencies and comply with regulatory reporting requirements	• Average and maximum response time • Percent of total overflow volume contained or returned to sewer
7.0 Fats, Oil, and Grease Control	Minimize blockages and overflows due to FOG	• Number of blockages due to FOG • Number of overflows due to FOG (linked to SSO Identification Number) • Number of FOG producing facilities inspected • Percent of FOG producing facilities found to be in compliance
8.0 Capacity Management	Minimize SSOs due to insufficient capacity by evaluating the system capacity and implementing necessary projects	• Number of SSOs due to capacity limitations or wet weather (linked to SSO Identification Number) • Date of completion of most recent capacity evaluation • 3-year backlog for capacity improvement projects
9.0 Monitoring, Measurement, and Program Modifications	Evaluate effectiveness of SSMP, keep SSMP up-to-date, and identify necessary changes	• As part of Element 10 – Program Audits, evaluate tracking of KPI and effectiveness in determining effectiveness of SSMP
10.0 Program Audits	Formally identify SSMP effectiveness, limitations, and necessary changes on an annual basis	• Date of completion of last annual audit
11.0 Communication Plan	Communicate with the public and satellite agencies	• Number of contacts initiated by the public • Percentage of positive comments

The District will use the KPI listed in the above Table 9-1 to assist in completion of the annual SSMP program audit described in Element 10. The District will also continue to track additional information, such as customer complaints and length of pipe cleaned, to assist in evaluation of the SSMP effectiveness.

SSMP Modifications

The SSMP will be updated periodically to maintain current information. The District will review the success and/or necessary improvements of the SSMP as part of the annual SSMP program audit. The District will update critical information, such as contact numbers and the SSO response chain of communication, as needed. A comprehensive SSMP update will occur every 5 years, as required by the SWRCB.

EXHIBIT 9-1

Key Performance Indicator (KPI) Checklist

SSMP Key Performance Indicators

	2009	2010	2011	2012	2013
Total number and volume of SSO's					
Number of repeat SSO's (same location as any previous SSO, regardless of year of occurrence)					
Total number of mainline blockages					
Number of pump station failures					
Cause of pump station failure					
Number of pipe failures					
Cause of pipe failures					
Length of pipe CCTV'd					
Percentage of total overflow volume contained or returned to sewer					
Number of blockages due to FOG					
Number of overflows due to FOG					
Number of FOG producing facilities inspected					
Percent of FOG producing facilities found to be in compliance					
Number of SSOs due to capacity limitations or wet weather					
Date of completion of most recent capacity evaluation					

Element 10 - Program Audits

Sewer System Management Plan

Requirements

State Water Resources Control Board (SWRCB) requirements state that each wastewater collection system agency shall conduct an audit of their SSMP at least every two years. The periodic audits shall be at a level of detail commensurate with the size of the Enrollee and the number of SSOs experienced, and shall identify any deficiencies in the current SSMP and describe the steps required to correct those deficiencies (if applicable). The program audit shall cover the period from the previous program audit to the current date. The Enrollee shall prepare a written report to be kept on file. The report must be made available to employees of the Regional Water Quality Control Board in the event of an investigation.

Audits

The District's Director of Field Operations will lead the audit of the District's SSMP on an annual basis. Calendar year 2010 will be the first year audited.

Each of the major sections of the SSMP will be addressed during the audit. An audit checklist, provided as Exhibit 10-1, shows the categories to be evaluated. Where results of the evaluation indicate deficiencies, corrective measures will be developed. The results of the audit will be included in an Annual Audit Report. A hardcopy of the Annual Audit Report will be printed and filed at the District office.

SSMP Updates

The District will determine the need to update its SSMP based on the results of the program audit and the performance of its wastewater collection system. The overall measurement of program effectiveness will be a reduction in the frequency and volume of SSOs since the previous audit period. Corrective measures will be developed for all Program deficiencies identified, and the corrective actions, including a schedule for implementation of changes, will de documented in the Annual Audit Report. The full SSMP will be updated every five (5) years, at a minimum, in accordance with the requirements of WDR 2006-0003.

EXHIBIT 10-1

Audit Checklist

Sewer System Management Plan Annual Audit Checklist
(Adapted from format developed by Bay Area Clean Water Agencies)

Name of agency	Rancho Murieta Community Services District
Date of audit	
Name of auditor	
System Overview	
LF of gravity sewer mains	
LF of force mains	
Total LF of all City sewer lines	
Number of pump stations	
LF of private sewer mains, excl. laterals	
LF of private sewer laterals	
Population served	
Current average monthly single family residential sewer rate	

1. GOALS

1.	Are the goals stated in the SSMP still appropriate and accurate?	**YES / NO**
2.	If you answered NO to question 1, describe content and schedule for updates, or provide additional comments for a YES response.	

2. ORGANIZATION

Reference Material
- Organization Chart
- Phone list

3.	Is the SSMP up-to-date with agency organization and staffing contact information?	**YES / NO**
4.	If you answered NO to question 3, describe content and schedule for updates, or provide additional comments for a YES response.	

3. LEGAL AUTHORITY

Reference Material
- Municipal Code
- Enforcement actions

5.	Does the SSMP contain up-to-date information about the District's legal authority?	**YES / NO**
6.	Does the District have sufficient legal authority to control sewer use and maintenance?	**YES / NO**
7.	If you answered NO to questions 5 or 6, describe content and schedule for necessary changes, or provide additional comments for a YES response.	

4. OPERATIONS AND MAINTENANCE

A. COLLECTION SYSTEM MAPS

Reference Material
- Collection system map

8.	Does the SSMP contain up-to-date information about the District's maps?	**YES / NO**
9.	Are the District's collection system maps complete, up-to-date, and sufficiently detailed?	**YES / NO**
10.	If you answered NO to questions 8 or 9, describe content and schedule for necessary changes, or provide additional comments for a YES response	

B. RESOURCES AND BUDGET

Reference Material
- Current Capital Improvement Plan (CIP)
- Current operating budget

11.	Does the SSMP contain up-to-date information about the District's resources and budget?	**YES / NO**
12.	Are the District's resources and budget sufficient to support effective sewer system management?	**YES / NO**

13. Do the District's planning efforts support long-term goals? **YES / NO**

14. If you answered NO to questions 11, 12, and/or 13, describe content and schedule for necessary changes, or provide additional comments for a YES response.

C. PRIORITIZED PREVENTATIVE MAINTENANCE

Reference Material

- Cleaning schedules
- List or map of potential problem area
- Work orders
- Incident reports
- Customer feedback

Table 1. Annual Preventative Maintenance Activities

Maintenance Activities	Linear Feet/Year			
	2009	2010	2011	2012
CCTV				
Rodding				
Flushing				
Dye - Smoke testing				

15. Does the SSMP contain up-to-date information about the District's preventative maintenance activities? **YES / NO**

16. If you answered NO to question 15, describe content and schedule for necessary improvements to preventative maintenance activities. **YES / NO**

D. SCHEDULED INSPECTIONS AND CONDITION ASSESSEMNT

Reference Material

- Inspection reports
- Infiltration and Inflow (I/I) monitoring studies and reports
- Pipe and manhole condition data

17. Does the SSMP contain up-to-date information about the District's inspection and condition assessment? **YES / NO**

18.	Are the District's scheduled inspections and condition assessment system effective in locating, identifying, and addressing deficiencies?	**YES / NO**
19.	If you answered NO to questions 17 and/or18, describe content and schedule for necessary changes, or provide additional comments for a YES response.	

E. CONTINGENCY EQUIPMENT AND REPLACEMENT INVENTORIES

Reference Material
- Funds spent on equipment and materials
- Equipment and parts inventory

20.	Does the SSMP contain up-to-date information about equipment and replacement inventories?	**YES / NO**
21.	Are contingency equipment and replacement parts sufficient to respond to emergencies and properly conduct regular maintenance?	**YES / NO**
22.	If you answered NO to questions 20 and/or 21, describe content and schedule for necessary arrangements, or provide additional comments for YES response.	

F. TRAINING

Reference Material
- Employee training records

23.	Does the SSMP contain up-to-date information about the District's training expectations and programs?	**YES / NO**
24.	Do supervisors believe that their staff is sufficiently trained?	**YES / NO**
25.	Are staff satisfied with the training opportunities and support offered to them?	**YES / NO**
26.	If you answered NO to questions 23, 24, and/or 25, describe contend and schedule for necessary improvements, or provide additional comments for YES response.	

G. OUTREACH TO BUILDING CONTRACTORS

Reference Material
- Fliers/mailings
- Mailing lists

27.	Does the SSMP contain up-to-date information about the District's outreach to plumbers and building contractors?	**YES / NO**
28.	Has the District conducted or participated in any outreach activities to plumbers and building contractors?	**YES / NO**
29.	If you answered NO to questions 27 and/or 28, describe content and schedule for future activities, or provide additional comments for YES response.	

Table 2. Number of Permits issues to plumbers or contractors

Year	No. Permits*
2009	
2010	
2011	
2012	
2013	

*Specifically permits that could impact District facilities.

5. DESIGN AND CONSTRUCTION STANDARDS

Reference Material
- Design and construction standards
- Ordinances

30.	Does the SSMP contain up-to-date information about the District's design and construction standards?	**YES / NO**
31.	Are design and construction standards, as well as standards for inspection and testing of new and rehabilitated facilities sufficiently comprehensive and up-to-date?	**YES / NO**
32.	If you answered NO to questions 30 and/or 31, describe content and schedule for necessary revisions, or provide additional comments.	

6. OVERFLOW EMERGENCY RESPONSE PLAN

Reference Material
- Data submitted to CIWQS
- Service call data

Table 3. Annual SSO Statistics

Indicator	2009	2010	2011	2012	2013
Number of SSOs (total)					
Wet season SSOs					
Dry season SSOs					
Number of SSOs by volume (gallons)					
<10					
10 – 99					
100 – 999					
1000 – 9999					
>10,000					
Total SSO Volume					
Volume reaching waters of the State					
Volume not contained but not reaching waters of the State					
Volume recovered					
Net volume (total minus recovered)					
Number of SSOs per 100 mile of sewer per year					
Volume of SSOs per 100 mile of sewer per year					
Total Volume conveyed to the plant (million gal)					
Total volume SSO / Total volume conveyed (gal)					
Number of SSOs (by Cause)					
Blockages:					
Roots					
Grease					
Debris					
Debris from Laterals					
Animal Carcass					
Construction Debris					
Multiple causes					
Infrastructure failure					
Inflow & Infiltration					
Electrical Power Failure					
Flow Capacity Deficiency					
Natural Disaster					

Indicator	2009	2010	2011	2012	2013
Bypass					
Cause Unknown					
Average Emergency Response Times, minutes					
Business Hours					
Notification to arrival on site					
Notification to complete clearage					
Non-business hours					
Notification to complete clearage					
Number of locations with multiple SSOs					

33.	Does the SSMP contain an up-to-date version of the District's Overflow Emergency Response Plan?	**YES / NO**
34.	Considering the information in Table 3, is the Overflow Emergency Response Plan effective in handling SSOs?	**YES / NO**
35.	If you answered No to questions 33 and/or 34, describe content and schedule for necessary revisions and implementation, or provide additional comments for YES response.	

7. FATS, OILS, AND GREASE (FOG) CONTROL PLAN

Reference Material
- List or map of FOG sources in service area
- List or map of potential problem areas
- Cleaning schedules
- Restaurant inspection reports or summaries
- Data submitted to CIWQS
- Service call data

Table 4. FOG Control Statistics

	2009	2010	2011	2012	2013
Number of SSOs caused by FOG					
Number of FOG inspections completed					

36.	Does the SSMP contain up-to-date information about the District's FOG program?	**YES / NO**
37.	Considering the information in Table 4, is the FOG program effective in documenting and controlling FOG sources?	**YES / NO**

38.	If you answered NO to questions 36 and/or 37, describe content and schedule for necessary changes, or provide additional comments for YES response.	

8. CAPACITY MANAGEMENT

Reference Material
- Capacity assessment reports
- CIP
- SSO data

Table 5. SSOs Caused by Hydraulic Limitations

	2009	2010	2011	2012	2013
Number of SSOs caused by capacity limitations					

39.	Does the SSMP contain up-to-date information about the District's capacity assessment?	**YES / NO**
40.	Has the District completed a capacity assessment and identified and addressed any hydraulic deficiencies in the system?	**YES / NO**
41.	If you answered NO to questions 39 and/or 40, describe content and schedule for necessary activities, or provide additional comments for YES response.	

9. MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS

42.	Does the SSMP contain up-to-date information about the District's data collection and organization?	**YES / NO**
43.	Is the District's data collection and organization sufficient to evaluate the effectiveness of the SSMP?	**YES / NO**
44.	If you answered NO to questions 42 and 43, describe content and schedule for necessary improvements, or provide additional comments for a YES response.	

10. SSMP AUDITS

45. Will this Audit be completed annually and filed with the SSMP report? **YES / NO**

11. COMMUNICATION PROGRAM

Reference Material
- Mailings and mailing lists
- Website
- Other communication records such as newspaper ads, site postings, or other outreach
- Customer feedback

46. Does the SSMP contain up-to-date information about the District's public outreach activities? **YES / NO**

47. Does the SSMP contain up-to-date information about the District's communications with satellite and tributary agencies? **YES / NO**

48. Has the District effectively communicated with the public and other agencies about the SSMP, and addressed feedback? **YES / NO**

49. If you answered NO to questions 46, 47, or 48, describe content and schedule for necessary improvements, or provide additional comments for YES response.

Element 11 - Communication Program

Sewer System Management Plan

Requirements

The State Water Resources Control Board requires that the District communicate, on a regular basis, with the public on the development, implementation, and performance of the SSMP. The communication system shall provide the public the opportunity to provide input to the District as the program is developed and implemented.

This section of the SSMP outlines the process involved in communicating with interested members of the public regarding development, implementation, and performance of this plan.

Communication During Development

During the development of the SSMP, the District will develop a webpage dedicated to inform the public about the District's SSMP process. The website will provide useful information on the District's SSMP such as upcoming dates for completion of the SSMP document as well as information regarding where the public may comment and inquire about the SSMP process.

Communicating Sewer System Performance

As the SSMP document is completed, the SSMP website will provide a link to the finished document for the public to download, access, and review. Information on the District's periodic SSMP audits will also be posted on the website as they become available.

The District is required to report SSOs to the California Integrated Water Quality System (CIWQS). The electronic SSO data, as well as information regarding regulatory actions, is available to everyone at: https://ciwqs.waterboards.ca.gov.

The District will report the performance of its sanitary sewer system to the Board of Directors annually at a regular scheduled meeting, and the performance information will be included in the minutes of that public meeting.

In addition to the website and the annual update, the District may consider utilizing several different strategies to determine the best avenue for public outreach and education for their customers. The District may develop advertising material such as posters, flyers and/or brochures that will be used to communicate the proper use and maintenance of residential and commercial sewer lines.